July-August 2010

Fires

A Joint Professional Bulletin for U.S. Field and Air Defense Artillerymen

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ADAPTING TO EVOLVING OPERATIONAL ENVIRONMENTS

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Soldiers from U.S. Army Europe's Alpha Battery, 5th Battalion, 7th Air Defense Artillery Regiment, familiarize members of the Polish military on how to conduct preventive maintenance on the PATRIOT Missile Systems in Morag, Poland, June 1. (Photo by SSG Lawree Washington, U.S. Army)

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PURPOSE: Founded in 2007, ***Fires*** serves as a forum for the professional discussions of U.S. Army and Marine Field Artillery (FA) and Army Air Defense Artillery (ADA) professionals, both active and Reserve Component (RC); disseminates professional knowledge about the FA's and ADA's progress, developments and best use in campaigns; cultivates a common understanding of the power, limitations and application of joint fires, both lethal and nonlethal; fosters joint fires interdependency among the armed services; and promotes the understanding of and interoperability between the FA's and ADA's active and RC units—all of which contribute to the good of the FA and ADA, Army, joint and combined forces, and our nation.

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SUBSCRIPTIONS: Those not eligible for official distribution may subscribe to ***Fires*** via the U.S. Superintendent of Documents, P.O. Box 37154, Pittsburgh, PA 15250-7954 (1-866-512-1800).

SUBMISSIONS: Email to the Editor, ***Fires***, at firesbulletin@conus.army.mil; mail to P.O. Box 33311, Fort Sill, OK 73503-0311; overnight to Building 758, Room 7, McNair Road, Fort Sill, OK 73503-5600; or call at DSN 639-5121/6806 or commercial (580) 442-5121/6806.

REPRINTS: ***Fires*** is pleased to grant permission to reprint; please credit ***Fires***, the author(s) and photographers.

POSTMASTER: ***Fires*** (USPS 309-010) (ISSN 1935-4096) is published bimonthly; periodical postage paid by Department of the Army at Lawton, OK 73501 and an additional mailing post office. Send address changes to ***Fires***, P.O. Box 33311, Fort Sill, OK 73503-0311.

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From the desk of the Co

COMMANDING GENERAL, U.S. ARMY FIRES CENTER OF EXCELLENCE AND FORT SILL
BLDG 455 McNair Avenue, Suite 100, Fort Sill, OK 73503

July 15, 2010

To the entire Fires community,

Thank you for making the 2010 Fires Seminar: *Adaptable Fires* for Full-Spectrum Operations a colossal success. Here, at the Fires Center of Excellence, we have received a massive amount of positive feedback from all of our Fires partners, both military and civilian, on how well the seminar was facilitated and presented. So once again – thank you everyone – for a job well done.

It's definitely an exciting time to be a Fires professional. New doctrine is emerging at a record pace so I encourage you, as Fires professionals, to keep up to date. For example, in December 2009, the Training and Doctrine Command released DA Pam 525-3-0, *The Army Capstone Concept Operational Adaptability – Operation under Conditions of Uncertainty and Complexity in an Era of Persistent Conflict*. I also recently revealed my *Fires Warfighting Functional Concept*, which will set the foundation for Fires in the 2016-2028 timeframe. It is nested with the *Army Operating Concept* and the *Army Capstone Concept* as they are being developed in parallel. This concept will serve as the overarching framework for Air Defense Artillery and Field Artillery branches.

A new version of FM 5-0, *The Operations Process*, has also recently been released. This revamped FM introduces "Design" into Army Doctrine, which gives us a new ideology to understand complex problems more fully before we seek to solve them through our traditional planning processes. Change 1 to FM 3-0, *Operations*, is also scheduled to

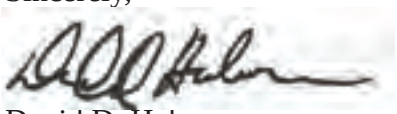
be released by October 2010. This change replaces Command and Control with Mission Command as a warfighting function. It further refines Inform and Influence Activities and their application across full-spectrum operations. Finally, Change 1 will introduce the concept that nonlethal fires, traditionally a Fires responsibility, will now be applied as scalable capabilities available to all warfighting functions.

I also want to take the time to encourage everyone to actively engage in intellectual discussions. I firmly believe we must all be involved, take ownership and share our combined wisdom in order to continuously evolve and adapt. A great way to facilitate this is to fully embrace our Fires social networking forums. As we move deeper into the 21st Century, cyberspace and its associated technologies offer unprecedented opportunities, but it is imperative upon us, as Fire professionals, to fully understand every possibility – both offensive and defensive within this domain.

The bottom line is we must continue *"Adapting to Evolving Operational Environments,"* which is also the theme of the July-August 2010 of the *Fires* Bulletin. This edition is full of articles proving as a Fires force we have the willingness and the aptitude to do what it takes to dominate in full-spectrum operations. Thank you for all you do.

Fit to Fight – Fires Strong!

Sincerely,



David D. Halverson
Major General, U.S. Army
Commanding

Adapting to evolving operational environments: ADA provides 360-degree Fires for full-spectrum operations

By CSM James T. Carr Sr.,
command sergeant major of the U.S. Army Air Defense Artillery
and Air Defense Artillery School

"Operational adaptability requires a mindset based on flexibility of thought calling for leaders at all levels who are comfortable with collaborative planning and decentralized execution, have a tolerance for ambiguity, and possess the ability and willingness to make rapid adjustments according to the situation."

GEN Martin E. Dempsey
U.S. Army Training and Doctrine Command Commanding General

Operational adaptability is a key concept that will continue to guide the U.S. Army for years to come. In December 2009, the Training and Doctrine Command released DA Pam 525-3-0, *The Army Capstone Concept Operational Adaptability – Operation under Conditions of Uncertainty and Complexity in an Era of Persistent Conflict*. This pivotal document will not only guide the Air Defense Artillery and Air Defense Artillery School but the U.S. Army as a whole. We will continue to evolve our leader development strategy, which is central to Officer Education System and NCO Education System training, as we field future systems, develop new techniques, tactics and procedures, to hone our training programs and warfighting capabilities.

Recently, MG David D. Halverson, commanding general of the Fires Center of Excellence and Fort Sill, Okla., revealed his Fires Functional Concept, which will set the foundation for Fires in the 2016-2028 timeframe. It is nested with the Army Operating Concept and the Army Capstone Concept. The Fires Functional Concept will serve as the overarching framework for Air Defense Artillery and Field Artillery capabilities for future support to our Army. We all need to stay informed as this key concept evolves, and to develop our courses accordingly that will see us through operations in the future operating environment.

But what does all this mean to the Air Defense Artillery branch?

The Air and Missile Defense is being looked at as a key player of the Fires Warfighting Function. ADA, together with the FA, is pushing forward and placing more emphasis on providing a wide range of conventional to precision capabilities.

The multitude of Army missions requires operationally adaptable Fires. This in essence means matching a wide range of targets with any sensor and the right effects to achieve timely, effective and efficient Fires in a wide range of environmental and operational conditions, including homeland defense. This is definitely the ADA's functional area of expertise.

ADA forces will continue to rapidly deploy to global locations and will plan, integrate and execute offensive and defensive counter-air with joint and multinational forces at tactical to strategic levels. ADA will provide a mix of weapon systems to include multi-mission sensors and shooters. We will provide the right set of air defense capabilities to support maneuver and other supported commanders' operations. We will continue to exemplify 'operational adaptability' in providing 360-degree, persistent aerial coverage and protection – wherever and whenever.

The concept of 'operational adaptability' is made up of several principles: versatile and agile, expeditionary, sustainable, interoperable, and lastly, lethal and nonlethal. Each of these tenets play a key role in inculcating 'operational adaptability' into our fighting force for the next few years.

Versatile and agile. I believe our ADA Soldiers and leaders have this concept down to a science. For the past year, versatile and agile has been our mainstay as we have deployed into the U.S. Central Command area of operations, sustained 24/7 operations in the National Capitol Region and, this is especially true as we completed the move from Fort Bliss, Texas, to Fort Sill. Our school's move became permanent as our 'First to Fire' statue also took up residence at Fort Sill. This statue is a significant piece of our culture and history and with its placement here we unequivocally now call Fort Sill 'home.' It is a new environment, but our Soldiers have proven to be very adaptable. We are good from every angle of our foxhole. The Fort Sill and Lawton community, as a whole, have been great to the ADA. Our community partnership with Lawton is the best I've seen in my 30-plus years in the Army. It is phenomenal.

Expeditionary. While some air defenders are participating in combat operations in Iraq and Afghanistan, others are protecting the United States against terrorist attacks. On a rotational basis, ADA battalions from the Army National Guard are serving as America's 'palace guard,' employing Avengers, Sentinel radars and surface-to-air missile systems.

Sustainable. Our challenge is to continue to go to school while at war. Ninety percent of our classes are now being held at Fort Sill. We are producing

innovative staffs and commanders who understand how to interact with other services' leaders and how to get the most out of the full set of joint and interagency capabilities.

Being a professional of your branch means continuing to pursue educational opportunities inside and outside the Army. We have continued to work with civilian institutions to ensure credit for our military occupational specialty courses.

Lethal and nonlethal. Although nonlethal effects fall outside our arena, we will continue to support composite organizations that will provide the right mix of capabilities at the right time. The ADA will continue to provide specific effects in conjunction with the field artillery. ADA will provide offensive and defensive Fires through contributions to joint concepts and doctrine such as Joint Fire Support, Global Missile Defense, Integrated Air and Missile Defense, and Offensive and Defensive Counter Air Operations.

Interoperable. We will continue to leverage our sister services' mobility, reach and lethality to satisfy mission requirements. From our air defense airspace management cells to manning our Ballistic Missile Defense System, we never go to war alone. We will continue to serve with our sister services and coalition partners to get the mission done. We will continue to evolve to manage the diverse air and missile threats that continue to be seen in the 21st century.

Adaptable Fires. ADA Soldiers will stand ready to defend deployed U.S. forces, allies and host population centers against uncertainty and complexity around the globe. We will continue to deploy and man Counter Rocket, Artillery and Mortar systems to counter indirect-fire attacks on forward operating bases in Iraq and Afghanistan. ADA Soldiers assigned to ADAM cells will continue to manage the airspace above the battlefield in Iraq and Afghanistan, coordinating combat air support missions with friendly rocket, mortar and artillery fire missions.

At home, in Europe and across the Pacific, ADA Soldiers will continue to operate newly fielded Terminal High Altitude Area Defense and combat-proven PATRIOT and Avenger systems and stand ready to defend against air and missile attack anywhere around the globe. Similarly, Army National Guard ADA units continue to operate Ground-Based Interceptors in Alaska and California to defend America against long-range ballistic missile strikes.

In summary, our skills and our units have never been in so much demand as they are today. We will continue to grow as the missions and demands on our force continue to grow more complex. No matter where maneuver forces find themselves we will be there – providing a layered air defense shield with our joint and coalition partners from mud to space.

First to fire!

Soldiers from U.S. Army Europe's Alpha Battery, 5th Battalion, 7th Air Defense Artillery Regiment, familiarize members of the Polish military on how to conduct preventive maintenance on the PATRIOT Missile Systems in Morag, Poland, June 1. This is the first time a U.S. missile system has come to Poland for a new rotational training program intended to familiarize Polish armed forces on the PATRIOT Missile System. The training is designed to provide mutual benefits for improving Polish air defense capabilities while also developing the skills of U.S. PATRIOT crew members. This type of mutual training helps to expand U.S. and Poland air and missile defense cooperation while helping to strengthen the partnership between the U.S. and Poland. (Photo by SSG Lawree Washington, U.S. Army)

An A-TEAM ON A BUDGET

12 steps toward advising the Iraqi army

By LTC Joel E. Hamby

Being selected as an advisor is a tough duty, arguably more intellectual in its tasks than physical; it surely will stress your image of yourself as a Soldier and professional and either undermine or uplift your faith in your Army and the army you are advising. In many ways, advising is equivalent to many of the 'faith based' 12-step rehabilitation programs that seem to abound these days. If advising is anything, it is truly a faith-based operation. You often have to believe and care more in the ultimate outcome of the mission than it appears your counterparts in the coalition forces and Iraqi security forces do. And believe it or not, you are just as well equipped as any other Soldier in the Army for this mission.

Photo by SPC Maurice Galloway, U.S. Army

The 11th Brigade, 3rd Iraqi Army Division, is, in many ways, a typical Iraqi army brigade, and it is unique in many ways. Building rapport with your Iraqi counterpart means respecting and trusting each other's culture and traditions; it's not just simply participating in a one-way trade to get what the coalition desires. Your past experiences in Army tactical units will come in handy in your tour as an advisor, but it will be far and away from what you've done all of your conventional Army career in most cases. That being said, this duty can be extremely similar to being an observer/controller in combat.

Both militaries have a lot to teach each other, but it will require more patience, understanding, cultural understanding and more guile than you ever believed you had in yourself to complete your tour successfully. I used T.E. Lawrence's *The Seven Pillars of Wisdom*, which still truly embodies what an advisor to Arab militaries should strive to be; the U.S. Marine

Corps 1940 *Small Wars Manual*; and Raphael Patai's *The Arab Mind* as primary sources for the basis of this article as these were the books that formed my outlook and decisions for my team during our tour with the Iraqi army. I hope they will guide you as well.

Our experiences as advisors are encapsulated here in 12, loosely-based rules in no particular order. They are from our experiences and should be modified immediately by the advisor on the ground to fit emerging circumstances. As a field grade officer in these troubled times, you stand a very good chance of ending up as an advisor before the end of your military career. Just remember everything you do has consequences, and the advisor has to be on the lookout for the deadly outcomes of short-term thinking. Your team's mission will endure from one team to the next. It's a long distance run and not a short sprint, so short-term success might portend long term failure.

Don't mirror image. The Iraqi army is not the U.S. Army. Memorize that statement and repeat it every morning and night. As Lawrence said in his immortal *27 Articles*, "Do not try to trade on what you know of fighting. The Hejaz confounds ordinary tactics. Learn the Bedu principles of war as thoroughly and as quickly as you can, for till you know them your advice will be no good to the Sherif." This is not to say that the Bedouin tribes that Lawrence advised and the tactics they used will be reflective of the Iraqi army today, but the Bedouin is as reflective of the Iraqi character and Arab mind as is the frontier influence on the American character and temperament.

There is tendency among new advisors to go over to the Iraqi army side and immediately dictate to them how to solve all their problems by simply adopting the U.S. method. "The belief that inside the heart of every Iraqi there is a tiny American trying to get out then reinforces the natural human tendency to project one's values and priorities onto others," (Lawrence, *27 Articles*). This doesn't work as well as most think it will.

Part of your role as an advisor is to get the Iraqis to find their own way to an Iraqi solution. Use their doctrine to help guide you toward what you think the end result should be. This involves learning their systems and standing operating procedures, and it can be very difficult to find a subject matter expert or a product to use as a baseline. You must become that subject matter expert by whatever means necessary.

U.S. solutions cannot always solve everything for the Iraqi army. The coalition helped the Iraqi army set up identical brigades when they stood up the larger formations of the Iraqi army, but these structures were nearly cookie-cutter, identical brigades. We built the fighting formations first, and only later did we follow up with the logistics formations and specialty units, such as engineers, explosive ordnance disposal, mortars, etc. When the Iraqi army went back under control of the Ministry of Defense, some of the older army officers didn't think a brigade was complete without a commando company under the brigade commander's personal guidance. And so, despite the official organization structure, these companies were formed and equipment given to them from units that had been formed already. Now, we never quite figured out what the commando company did during the previous regime, and sometimes it's not quite sure whether or not the Iraqi leadership did either. But they were bound and determined to have them, so they did it their way.

Get used to this and be happy when they do it themselves. If it's not perfect to your way of thinking, at least they simply did it. Forgetting to mirror image the Iraqi army is one of the most valuable things you can do, but it is a difficult task to unlearn the lessons of your military background. Never forget frustration is the bread and butter of an advisor, and the Iraqi army is not the U.S. Army.

Respect their culture, but make them respect yours as well. You are going to be living with your counterparts in the Iraqi security forces more than with the coalition. You need to understand and respect their culture while making them respect your culture. You must adjust to their battle-rhythm to get anything done.

We found we mostly were able to get things done with our counterparts from 8 a.m. until 1 p.m. in the afternoon, then everyone went down for a nap in the afternoon (except if on a mission) and were ready to go back to work at about 6 p.m. until the wee hours of the morning. Mostly, the mornings were a rush of activity or daily missions while the evenings proved to be the best time for getting down to the intellectual business of advising. You will have to get used to this way of life, so you and your team probably will have to adopt the Iraqi afternoon nap (or kai-lula) to avoid the heat of the day. Don't forget this and don't expect to have a meeting with your counterpart at 3 p.m. on a routine basis.

> "Part of your role as an advisor is to get the Iraqis to find their own way to an Iraqi solution. Use their doctrine to help guide you toward what you think the end result should be."

Your interpreters will be invaluable to you if you incorporate them into the routine of the team and use them extensively as cultural advisors to tell you what is normal and what isn't in your interactions with the Iraqi army. "You must find these inner reasons (they will be denied, but are none the less in operation) before shaping your arguments for one course or other. Allusion is more effective than logical exposition: they dislike concise expression. Their minds work just as ours do, but on different premises. There is nothing unreasonable, incomprehensible or inscrutable in the Arab. Experience of them and knowledge of their prejudices will enable you to foresee their attitude and possible course of action in nearly every case." (See Lawrence, *27 Articles*.)

Every meeting usually is accompanied by Chai tea and other liquid refreshments as a basic part of Iraqi hospitality. If you don't smoke, don't accept that first cigarette or you'll be smoking for the rest of the tour. Make them respect that you don't smoke, even if they continue to offer a cigarette at every meeting. The mostly Kurdish 11th Brigade wasn't big on small talk and greetings, but it was still expected to have that casual and friendly interchange.

You must know the character of your unit. Sunni and Shi'ite officers and soldiers will expect the standard greetings and small talk until they are ready to get down to work. Iraqis, like most Arabs, have a love of their spoken language and often are effusive in their greetings. Staff Brigadier General Rashid didn't appreciate

PowerPoint presentations, but preferred hearing our advice in sessions that normally lasted three to four hours over Kent cigarettes and Chai. He would play devil's advocate through all of it, before he eventually took our advice (or at least most of it). On average, Iraqi soldiers work 21 days and then take seven days of leave (jaza). Not much will get in the way of jaza, and for this reason most formations have a deputy commander who takes over while the commander is on leave. Make sure you plan around this, as most units don't do anything without the commander's approval.

If religion comes up, I would respect the introduction of Islam into the conversation and either steer the talk around it or tactfully discuss the argument on the merits of my personal religion. I suggest to never getting into a point-to-point discussion that compares religions if you are not comfortable debating fine points or if you are agnostic. Personally, I chose the avenue of respect and kept silent on my own religious preferences.

Politics (at least outside the realm of the army) were not much discussed and usually are safely skirted in conversation. Politics are a staple in Iraqi life though, and it has its effect everywhere at the tribal, city and national level. Understand who belongs to what tribe and to whom they owe their allegiances. However, you can't do this through direct questioning, but rather close observation. General Rashid often claimed to be just a simple soldier, but, if that was true, he was a simple soldier with an uncanny instinct for the political realm he was playing in. If I ventured into that topic with him, I would attempt to drive the conversation about how the political environment was influencing our area of responsibility instead of staying on the macro level. In this way, I kept us in the realm of things we could influence under the auspices of the Iraqi security forces. If you take my advice, gradually, a respect and rapport will build based on mutual understanding.

Don't give them anything. As Lawrence said, "Do not let them ask you for things, since their greed will then make them look upon you only as a cow to milk." In setting up the Iraqi security forces during the middle of a full-blown counterinsurgency, the coalition made a set of errors that have compounded with time. We set up the Iraqi security forces fighting units first and supplied them with everything they needed. The logistic units were set up only afterwards, and, for a long time, they were wholly dependent on coalition support. During 2008 and 2009, we were under coalition and Ministry of Defense dictate, letting the Iraqi security forces support themselves so their system can begin to function properly.

Many coalition units and advisors have been circumventing these orders by continuing to give barrier material, ammunition, medical supplies and class IX repair parts to their particular Iraqi units providing them what they need to accomplish the mission at hand. It's American 'can-do-itiveness' at its best, but it also is short-term thinking at its finest. The Iraqi security forces have gotten very used to the fact the coalition will provide when the Iraqi system doesn't and are more than content to say the system is impossible and ask you, sometimes not so politely, to provide their needs for the mission at hand.

Admittedly, the Iraqi system doesn't work very well, if at all. The supply system is dependent on the battalion or brigade submitting the appropriate paperwork (the infamous Iraqi Form 101) that receives the appropriate signature of the commander at each and every level until it reaches the Ministry of Defense where it is either filled or killed (and most often killed). If the submitting officer is lucky, he will get a call when it is killed. There is no tracking system, higher or lower, and no apparent sense of responsibility from higher to help out their subordinate brigades or battalions.

Food and fuel systems actually work well with the ever-present corruption endemic in the system (such as filling your 16k liter tanker of fuel and actually signing for 20k from the division). Repair parts requests are almost never filled, and instead the division issues the brigades millions of Iraqi dinars to purchase the parts for vehicle on local purchase or from the black market. In some cases, the repair parts bought still bear the identification tag from the national depot at Taji.

Every advisor will have his own stories of endemic Iraqi corruption, but corruption is in almost every system, even our own. If the system doesn't work, we need to force the Iraqi security forces to recognize the system is flawed and let it break, if necessary, under the weight of its own incompetence. That is why we must refuse to supply the Iraqi security forces any longer, especially when the Iraqi government has requested we no longer do this.

Many of your team members will disagree with this step, as one of the surest way to get the Iraqi security forces' attention, at least for a day, is to give them the gear and ammo their system cannot or will not provide. But giving them the supplies now only prolongs the life of the flawed Iraqi system. No American system is going to replace the Iraqi way, so when it breaks, the Iraqis will find a way of fixing it so it works. As a division advisor told us at the Phoenix Academy at Taji, "you must have the courage to let them fail." We have to find that courage or the Iraqi security forces system will never repair itself into something workable.

Make the Iraqi army do their mission and train themselves with your advice and support. The coalition has taken on the attributes of a drug dealer toward the Iraqi security forces. The Iraqi security forces are the addict, and if we want them to be able to stand on their own as the coalition draws down, we must wean them off the 'crack' of coalition support to which we have addicted them. "Do not try to do too much with your own hands. Better the Arabs do it tolerably than that you do it perfectly. It is their war, and you are to help them, not to win it for them. Actually, also, under the very odd conditions of Arabia, your practical work will not be as good as, perhaps, you think it is," (Lawrence, *27 Articles*).

You can relate this to two common phrases heard in Iraq: "By, with and through the Iraqi security forces," and "Put an Iraqi face between you and the problem." The Iraqi army and its members have come a long way in the six years since its reestablishment, and they can and will do what they believe to be important when it is obvious they are the ones who will have to do it. Some commanders are more than willing to let the coalition do their fighting for them and will let their U.S. partners do the heavy lifting if it appears they will assume that role.

Your role as the advisor is to get the Iraqi security forces to recognize their mission and do their mission their way. Our brigade, once it realized that fact after the Security Agreement of June 30, 2009 went into effect, did realize the fight was Iraq's with coalition support. During a dual suicide vest event in Sinjar in August of that year, the brigade took action without any coalition help and quickly rolled up a multiple-man cell inside the city. It was still reactive, but they did it the Iraqi way and, as such, probably far better than we could have done in the lead.

The Iraqi army often will rely on their advisors to do their training for them and ask them to provide them the supplies to do this. We have done some train-the-trainer operations and facilitated partnerships for all operations, including the use of limited assets the Iraqi army has limited amount of, notably helicopter air assault operations. But we refuse to provide any support that they reasonably can provide for themselves.

Marksmanship is an obvious failing for the Iraqi army. Most

soldiers in the 3rd Iraqi Army have not re-zeroed or qualified with their M16/M4 rifles since they were issued at basic training unless the coalition provided the ammunition. The ammunition system in the Iraqi army is more obviously broken than any other system, but this is another area where we refuse to resource the Iraqi security forces. There have been several attacks in the past few months where the soldiers of the 11th Brigade have failed to hit anything in small arms contacts, some due to distance, but most due to poor training. The brigade leadership needs to make the point to higher, which we have tried to assist, but it seems broken army-wide.

It is painful to see, because by simply giving them the easily available ammunition in our own containers, we could repair the problem, at least locally. But we have done this for too long already, and it is time for them to start training and operating for themselves. When they realize you are not there to be the supply wagon any longer, they will take the reins and begin doing it themselves. It may take a lot longer than you like for the Iraqi security forces to do this. Don't settle for a short-term victory, as it leads to long-term failure.

5 Learn the language as much as possible. "Get to know their families, clans and tribes, friends and enemies, wells, hills and roads. Do all this by listening and by indirect inquiry. Do not ask questions. Get to speak their dialect of Arabic, not yours," (See Lawrence, *27 Articles*). This is excellent advice and as relevant to the times as when Lawrence committed it to paper approximately 90 years ago. The official language of the Iraqi army is Iraqi Arabic, so it behooves you to know as much of the language as possible. The Rosetta Stone and Iraqi Headstart issued by Defense Language Institute are great beginnings, but the more you know coming in, the better.

Arabic is key to the souls of the Iraqis, and it allows you to frame how they are thinking on the subject based simply on how they speak and how they formulate their arguments. Their language is a mirror of the culture, and through even an incomplete understanding of their language you can gain valuable insight into their actions. The 11th Brigade is mainly a Kurdish unit, with a heavy mixture of Yezidi, Kurds and some Arabs. A knowledge of the Kurmanji dialect is invaluable in northern Iraq as some of the junood (soldiers) only speak Kurmanji with a little bit of Arabic. Your interpreters (most of whom in the north speak both Arabic and Kurmanji) will be invaluable in communicating your intent, but acquiring as much knowledge of both dialects will serve you well in your interactions with your counterparts. Most of the officers understand both dialects, for example General Rashid speaks Arabic, Kurmanji and Sorani (the eastern Kurdish dialect) and will frequently mix the dialects together.

6 Don't set your goals too high. The immediate reaction of most new teams coming in is to try to fix everything immediately. Take a realistic look at what the unit is supposed to be capable of and mold your team goals accordingly. Our team took this to heart early on in our training at Fort Riley, Kan., and structured a philosophy and set of goals to guide us for our tour (See figure 1, figure 2 and figure 3).

We thought we had set modest goals and, as it turned out, all of our goals were wildly unrealistic in the Iraqi environment. Our brigade was still in a counterinsurgency fight, and its logistic and administrative problems were likely to be solved only at the Ministry of Defense level. Your team has to look for the small and sustainable improvements that can be carried into the brigade's future. We were lucky the brigade commander had an excellent grasp on counterinsurgency fundamentals and a long experience as

Figure 1: Mission essential task list

Figure 2: Philosophy

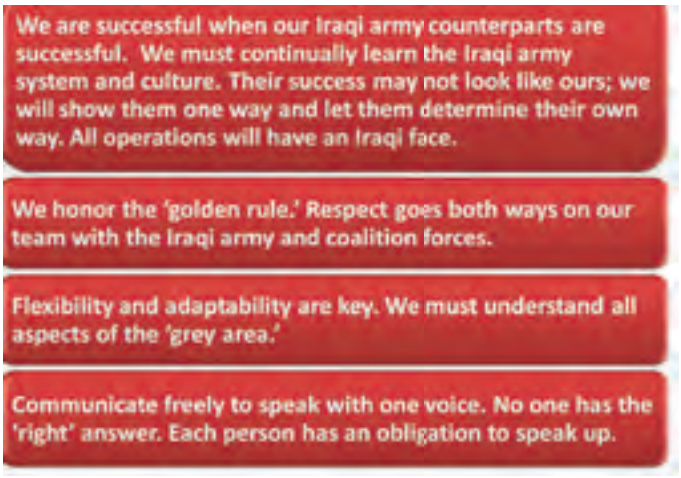
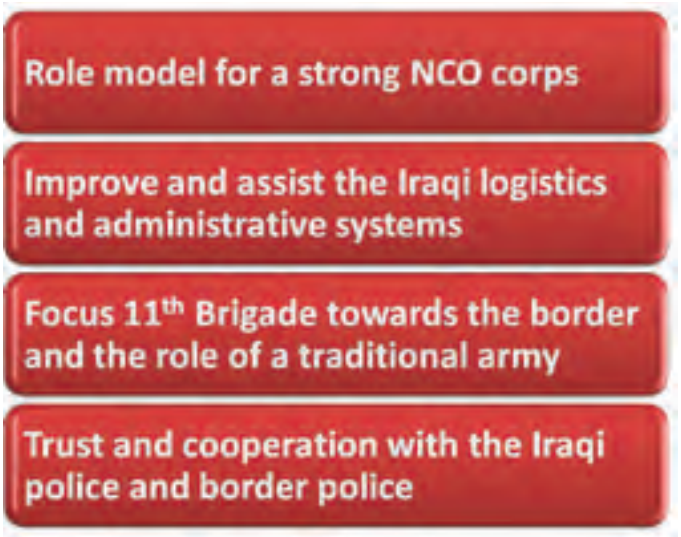


Figure 3: Goals



A group of Iraqi army soldiers assigned to 4th Battalion, 16th Iraqi Army Brigade, 4th Iraqi Army Division, listen to a lecture before having hands-on training in their compound in Tuz Qada,Iraq, January 16. (Photo by SPC Canaan Radcliffe, U.S. Army)

a former regime commander. Unfortunately, while he understood counterinsurgency, he preferred the highly reactive 'whack a mole' tactics, was an incorrigible micromanager that stifled battalion and lower initiative and believed that as a brigade commander he did not have the authority to meet with local officials and politicians to get things done that were essential for a counterinsurgency campaign to be effective. Many of the problems that are endemic with the Iraqi logistics and administrative systems (pay, leave, awards, promotions, repair parts, etc.) cannot be fixed at the lower levels such as battalion and brigade. And simple micromanagement tends to make leaders who are unwilling to take individual action.

This forced us to spend the first month simply defining the problem and then advising our counterparts for small changes leading to small successes. To get General Rashid to see the futility in his current reactive counterterrorist fight, our team spent several three- to four-hour sessions advancing a plan to engage the local city councils in the fight and improve their security, while asking his opinion of that option. We walked away from one long meeting early in the morning believing we had failed utterly in getting our point across as he had fought me verbally at every step. The next day, we came in for another meeting and to our surprise, said he had to cut the meeting short as the city council was coming in. We won our point only after we convinced him his current methods were failing and he was ready to try something new, even if it was outside his authority. Advising is a series of small victories and losses to further your mission, and success will strike you often when you believe you have failed.

7 **Micromanagement is indicative of the Iraqi army process.** The Iraqis in general have lived for 30 years under a dictator, so they have not yet acquired the sense of a democracy, but it must be remembered representative democracy takes time, enough to try the patience of a saint. No one could have predicted the South Koreans could make a functional democracy after the Korean War. It required American protection and approximately 50 years to get them there – their way.

The way this represents itself inside the Iraqi army is extreme micromanagement, especially considering the reinstatement of many old regime leaders. Some of them believe this is the way an army operates, and some believe this experiment with a democracy will fail. Most only take no more initiative than what their orders specify, believing that's the only way to protect themselves and their subordinate officers. Micromanagement was a survival tool in Saddam's army and that habit will take a long time to break. Either way, you need to get used to extreme micromanagement in the Iraqi security forces. Instead, focus on why the Iraqi army works as it does and help make their system better.

The commander authorizes everything and usually delegates only to those officers he has deemed trustworthy. Iraqi army staff work is a series of stovepipes that revolve around the commander's orders, and there is little of a collaborative staff process to help them along. One of our primary goals of role modeling a strong NCO corps hit this obstacle. We continued nevertheless, but it was difficult to break into that old army mindset that officers are responsible for everything. An Iraqi brigade commander is given great power and responsibility in terms of area and subordinate units, but he is limited in the tactical flexibility you would expect of a simple U.S. company commander. BG Rashid could not, for instance, swap battalions in sector when one was worn out or shift his tactical set if he had the idea. Officers are responsible for many of the day-to-day tasks that we naturally see as the NCO's duties. Our persistent model of the senior NCO as indispensable was important in making the small efforts forward into NCO autonomy. The advances were small, but they were there. We did it by always bringing an NCO along for our meetings and operations with the staff officers and commanders, and showed we respected their counsel and their views as much as our own.

Remember always the Arab mind and military process do not work the way ours do. If you believe you will be able to slap down *Field Manual 3-0 Operations* and start instructing on how to conduct a proper mission analysis, you've misread the Iraqi army. The commanders tend to keep the missions close hold to themselves and a few others until just before execution time and then announce there is a mission. Staff planning is limited to either the mind of the commander or perhaps the G2 or G3 (whichever is most trusted). This short circuits staff planning from the start, and it is nearly impossible to stop. 'Staff meetings' are normally either 'bitch sessions' or a one-way handing out of tasks or criticisms. Arabs in general are resistant to criticism; so it takes a deft advisor to frame suggestions that do not injure their pride. You have to get to know the character and makeup of your unit so you can advise the commander and his staff on how to make corrections they actually will implement because they want their unit to improve, rather than to please their advisors.

If we remain in Iraq in some way shape or form, I think the odds are good for, maybe not of democracy, but maybe a government that is 'Iraqi good enough.' If we leave precipitously, I believe the odds are the Iraqis will follow a 'leader on a white horse' to save them and they will fall back into autocracy, slowly but surely. Democracy is hard and requires dedicated leaders and sure principles. There

are many patterns of corruption in the U.S. government mirrored in the Iraqi system. So, we aren't perfect yet. Given time (and six years isn't long enough using U.S. campaigns and history as an example), they can make it work, but it won't look like what we consider to be a democracy. Maybe a strong republic, but they've got to outgrow (or sink back into) the Stalinist system Saddam Hussein used. No takers on any bets yet, but they've come a long way in six short years.

8 Live with your counterparts as much as possible. This almost goes without saying. As an advisor you are not executing your mission when you are not living with your unit. Unless you are building rapport with the partnered coalition unit, you should be there and available to your counterparts. A separate compound on their cantonment area is a great example of this, but there are always distractions that will try to lure you away from your counterparts. Fight those distractions. If possible another unit should handle your logistics, which was, strictly speaking, impossible for externally sourced military transition teams. "Remain in touch with your leader as constantly and unobtrusively as you can. Live with him, that at meal times and at audiences you may be naturally with him in his tent. Formal visits to give advice are not so good as the constant dropping of ideas in casual talk. When stranger sheikhs come in for the first time to swear allegiance and offer service, clear out of the tent. If their first impression is of foreigners in the confidence of the Sherif, it will do the Arab cause much harm," (Lawrence, *27 Articles*). It should be possible to live full time with your Iraqi army counterparts except for required meetings and maintenance at your home forward operating base.

9 Gifts. Don't accept gifts from your counterparts unless it is absolutely necessary; if so, reciprocate to avoid perceived advantages. Unless you cannot avoid it, do not accept logistical support from the Iraqi security forces. Use your coalition contacts to provide the needed support or use outside contractors. "If you can, without being too lavish, forestall presents to yourself. A well-placed gift is often most effective in winning over a suspicious sheikh. Never receive a present without giving a liberal return, but you may delay this return (while letting its ultimate certainty be known) if you require a particular service from the giver," (See Lawrence, *27 Articles*). You are an advisor and should not be able to be bought off or perceived to be bought off by gifts.

10 Small unit dynamics and team cohesiveness. Your team will be an interesting blend of the Army if it is anything close to resembling the structure of many of the external transition teams. Our teams were thrown together from across the Army based off simple military occupational specialty requirements, dwell time, volunteers and 'volun-tolds.' Not everyone was happy to be there, especially the three-tour veterans. While we had all the requisite skill sets we needed to accomplish our mission, how we went about it was different from any other conventional Army unit to which I've ever belonged. We had a uniquely special forces type mission — that of advising foreign security forces — and had none of the required training, experience, language ability, cultural sensitivity, equipment or funding to execute that stated mission properly. We were truly "an A-Team on a budget," as one of our NCO's called it during our training.

Despite this, we tried to form our team to reflect a small-unit dynamic that is inherent in most effective small groups. Everyone had to possess a certain set of skills, and we worked hard to at least pick up a rudiment of each skill between us. Everyone had to be able to fill a radio (for example, a multiband inter/intra team radio or a single-channel ground-air radio system tactical radio), crew a M2 .50 cal and M240B machine gun effectively from the turret,

A group of Iraqi Army soldiers assigned to 4th Battalion, 16th Iraqi Army Brigade, 4th Iraqi Army Division, stand in formation in their compound in Tuz Qada, Iraq, January 16. (Photo by SPC Canaan Radcliffe, U.S. Army)

and a host of other duties. We had no privates to help with the grunt work, and each of us had to be a competent Soldier in our daily Army tasks as well as an advisor. No one was special, but each of us had a job to do and a baseline competence at all daily skills was a requirement.

A good tactical standing operating procedure was a must, not for advising operations, but for effective battle drills. We rapidly learned who was better at what and tried to get everyone to that level. To do that, we had to forego the tradition hierarchal Army structure and develop the cohesiveness that allowed the team the initiative to do the job. It isn't easy by any means, but we formed our philosophy together and tried to live it as well. Living in close quarters with your team for up to 15 months, at one point or another everyone will blow up over something or 'lose their mind' temporarily. I can't say we were the happiest team around, but we were very functional and good at what we did.

Part of the guidance we put out was the 'grey area' that exists in all advising operations allowed such a small team that built effective rapport with coalition and Iraqi units alike to accomplish our goals. We allowed ourselves not to act necessarily like a conventional coalition unit except when it was illegal, immoral, unethical or when it adversely affected another Soldier. This gave us quite a bit of latitude to get the job done without getting ourselves into long-term trouble. Even if you can't stand a member of your team, you still have to trust him to get his job done. There will be some members of your team who won't be able to advise effectively either due to inability or unwillingness, and you must find a spot for them either away. Sometimes that entails giving them internal-type activities team so they do not damage your outside mission, activities of this type keeps them out of trouble. The small-unit dynamic will be a part of your life for quite some time. Foster it or not at your peril.

Know the difference between partners and advisors. *Field Manual 3-07.1 Security Force Assistance* states unequivocally, "Advisors are not partners; U.S. Forces act as partners. Advising and partnering are complementary but inherently different activities. Advising requires relationship building and candid discourse to influence development of a professional security force. Partnering incorporates training with combined operations to achieve the same SFA goals. Advisors perform partnership shaping functions, shape discussions with their counterparts, and create opportunities for the partner units." That quote is at the heart of what your team's mission is.

You must build the rapport and trust between the partner unit and your counterparts as much as possible and create the atmosphere that allows an effective partnership to form. A lot of advisors feel threatened when faced with a partner unit, as they see it threatens their role as advisors. Nothing could be further from the truth if the advisors and partnered unit both understand what their functions are. The true money phrase in that quote is "complementary but inherently different activities." A partnered coalition unit can never replace a good advisor team because they will never develop the same kind of relationship and trust the advisors need for day-to-day operations. The advisor can never hope to have the resources, skills or expertise to train or teach like the partner unit. Instead, they must work together to form a synergistic body to accomplish the mission at hand. The fact that some coalition units don't get this, and probably will never understand this, will be addressed next.

The 'care and feeding' of coalition leaders. This is arguably the hardest part of the murky business that is advising, but the simple fact is you must put the same effort into advising your coalition leaders that you do with the Iraqi security forces. I wish it wasn't so, but we had more trouble getting situational understanding and rapport with our higher coalition headquarters than with the Iraqi security forces. We spend more time, on average, explaining simple facts and traditions of Iraqis to the coalition than we did in dealing with the Iraqis. Some of our brigade and battalion commanders don't understand the current fight any more than the Iraqi security forces.

Brought up in the conventional Army, conventional operations are comfortable and easy to frame in reference and a great many of our brother commanders do not want to venture out of their comfort zones. Especially after the security agreement went into effect on Jan. 1, 2009, and Iraqi Sovereignty Day on June 30, 2009, coalition leaders still think and believe they are the battlespace owners and have no interest in the Iraqi security forces beyond which they think appropriate. They want them to bend to our culture instead of simply respecting theirs. I had to explain to a brigade commander and staff, an experienced Iraq veteran with two previous tours and nine months in the current fight here, that three hours, lunch and Chai is the appropriate amount of time to spend with an Iraqi army commander to do a proper meet and greet. He still kept trying to leave early in any case. He didn't understand, and though he said all the right words to the Iraqi army commander, he wasn't interested in understanding.

As our 3rd Iraqi Army Division commander said, "If you only have 15 minutes to spend with me, send me a picture because that's all we will have time for." He said you could get all sorts of wonderful things from the coalition, supplies, ammunition, barrier material, vehicles and aircraft, but in his experience by far the most valuable thing to a coalition commander was time. If the commander wouldn't invest the time to see and respect him as a peer, then he wasn't worth a relationship. In many cases in the past, coalition commanders did not want to spend time with the Iraqi security forces leadership and, instead, treated their advisors as liaisons.

Do not allow yourself to get pulled into that realm and insist if they want a liaison to the Iraqi security forces, they should provide one to you. Take the time to build up the rapport and trust with your conventional forces in your area of responsibility because you are going to need them. You will need to be the intermediary and their American cultural advisor, as it were, as to how the Iraqi security forces function, and be able to interpret the culture for them. You have to be able to bridge the gap acceptably between the two formations and use your relationships with the Iraqi security forces to form opportunities where we can accomplish the mission effectively. You can bypass some leaders who don't get it, but others you will have to work with. And an obstinate coalition commander and a stubborn Iraqi security forces commander can lead to deadly consequences. Effective relationship building from the beginning can only make things easier when obstacles crop up.

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The transformation of a firing battery into an in lieu of target acquisition battery

By CPT Urban Picard

In January 2008, 1st Battalion, 321st Airborne Field Artillery Regiment received orders to deploy its three firing batteries to Afghanistan in support of combat operations in Regional Command East; however, Alpha Battery would leave their howitzers behind and deploy as a targeting and acquisition battery. Transforming a firing battery into a TAB is not an easy task, but feasible when leaders focus on the basics. Five essential elements must exist in order for the transition to be a success: effective personnel management, relevant pre-deployment training, quality sustainment training during deployment, tracking of an accurate essential repair parts stockage list, proper maintenance procedures, and a positive attitude throughout the ranks.

The first step in building a target acquisition battery is setting the task organization through the selection of personnel. Six Soldiers are ideal for steady state operations of a static radar. The section is composed of a staff sergeant as the radar section leader; a sergeant as the radar section chief; a 94M Radar Mechanic; and three specialists or below as the 13R Radar Operators. For an AN/TPQ-37 (Q37) section it is beneficial to have an extra 94M Radar Mechanic, as it is more challenging than the AN/TPQ-36 (Q36) to maintain.

The selection of the Firefinder radar personnel must be selective due to the extremely technical nature of the system. The military occupational skills of the in lieu of personnel are irrelevant for all positions except for the 94M Radar Mechanic; which can be a 63B Light-Wheeled Vehicle Mechanic. The 63B is the most qualified Soldier for the position due to their understanding of troubleshooting techniques and mechanical aptitude. An additional benefit of having a 63B serve as an ILO radar mechanic is their ability to perform services on other types of equipment, such as generators and vehicles. Selection of battery leadership is equally important, a targeting warrant (131A) and a lieutenant should be assigned for every four radars; the warrant officer serves as the radar platoon leader and the lieutenant as the battery executive officer.

SSG Wilson Suarez's section fires a high-angle mission in support of Task Force Denali at Camp Clark, Khowst, Afghanistan, September 2009. (Photo by LTC Gene Meredith, U.S. Army)

The second element is MOS specific training, which 'transforms' MOS mismatched Soldiers into radar operators. The Fires Center offers the majority of the training with Soldiers attending the ILO 13R Radar Operator's Course, which covers the basics of radar operations and is about a month long. Radar section leaders and section chiefs attend the abbreviated ILO 131A course training leaders on field artillery warrant officers tasks and spans just over three months long. The 94M Radar Mechanic conducts two phases of training. First, they attend a one month block of instruction at Redstone Arsenal, Ala., on the basics of electronics. Phase II is at Fort Sill, Okla., consisting of radar specific maintenance based on the type of system they will be assigned, either the Q36 or Q37. Ideally, MOS specific training is completed no later than four months prior to the unit's latest arrival date in theater to allow time to validate and standard operating procedures at home station. The professional training that is conducted at the Fires Center of Excellence at Fort Sill, Okla. is essential, arming Soldiers from various backgrounds and skill sets with the tools to conduct effective radar operations.

The third element is pre-deployment training. All sections must train on the following Army Doctrine and Training Publication tasks:

- Perform unit maintenance on radar (06-4-Q011).
- Perform hasty radar survey (06-4-Q001).
- Reconnoiter a radar position (06-4-Q010).
- Occupy a radar site (06-4-Q009).

Maneuver platoon Soldiers of Bravo Battery, 1st Battalion, 321st Airborne Field Artillery Regiment take a break during refit operations in front of Task Force Steel Headquarters, Forward Operating Base Salerno, Khowst, Afghanistan, April 2009. (Photo by LTC Gene Meredith, U.S. Army)

• Emplace and prepare radar equipment for operations (06-4-Q003).

• March order radar equipment (06-4-Q002).

• Perform surveillance and locate targets (06-4-Q045).

Once trained, the radar sections should be externally evaluated on these ARTEP tasks to ensure competence and instill confidence. Radar operations in Operation Iraqi Freedom and Operation Enduring Freedom are mostly static; however, movement task should be incorporated during the train up to make it challenging and more difficult than what is expected during the deployment.

In addition to ARTEP tasks, the ILO TAB requires: light counter mortar radar training, sling load training, and Firefinder radar alignment training prior to deployment.

There are more than 80 light counter mortar radars in OEF alone. Alpha Battery, 1st Battalion, 321st Airborne Field Artillery Regiment, 18th Fires Brigade (Airborne), provided first responder teams that supplied coverage to the entire RC-East. With the wide spread use of the LCMR, it is very important that all TAB personnel, to include leadership, understand the many capabilities and limitations of the radar. The TAB commander should know the track volume, max range, the difference in modes and the probability of detection on all types of enemy indirect fire ammunition. It is highly recommended that an ILO TAB deploys with at least 10 personnel that have been trained on the emplacement, operations, and maintenance of the LCMR. Fortunately, the field artillery schoolhouse has a very effective mobile training team to train Soldiers on the LCMR.

Air assault training is highly recommended in preparation for assuming an ILO TAB mission. Air assault is the primary movement method for the radar in Afghanistan. The battery must have personnel qualified in rigging, inspecting and hook-up operations for the Q36 shelter and ATG. Rigging exercises are effective training when rotary wing aircraft are unavailable.

Once deployed, the TAB should conduct sustainment training. Sustainment training should include a written exam for the entire section, counter fire battle drill, speed and accuracy training, and cross training at the Soldier level. Cross training means that all ILO 94Ms must be properly trained in operator TTPs, and the radar operators should be familiar with the radar maintenance plan. LCMR training teams also need to conduct sustainment training; constantly communicating with the field service representatives about lessons learned. OIF and OEF both have several LCMR FSRs in theater.

Essential repair part stockage list management is the one element that will make or break a Firefinder radar section. The amount of attention that the 94M dedicates to maintenance and the ERPSL directly correlates with the operational readiness rate that a TAB has throughout a combat tour. The 94M and radar section leader should understand the level of maintenance required to meet the demands of 24 hour operations. The 94M must always strive to improve the quality of climate control in the shelter. Heat is the biggest detriment to the radar in combat; cool air must constantly cycle through the shelter. It is also recommended to have a cooling system for the Q37 ATG.

There are operational differences between the Q36 and Q37 that need to be understood by the TAB's 94Ms. For example, maintenance is required daily on the Q36, but not on the Q37. The ERPSL is also very important to the readiness of the Firefinder radars; section leaders and 94Ms need to know what they have on hand at their radar positions. It is recommended that a daily report be sent to the TAB commander with ERPSL status; the commander can then make decisions to cross-level parts when necessary. The container that holds the section's ERPSL needs to be climate controlled. It is also very important that the 94Ms develop a good rapport with the assigned U.S. Army Communications-Electronics Command logistics assistance representatives, who are the subject matter expert for radar repairs.

The final ingredient for success is a positive attitude throughout the ranks. Radar personnel do not get the same recognition as 13Ds and 13Bs; however, every member of the TAB is just as important as the next and must understand their role which is an essential component of force protection. TAB leadership must stress to each radar section the importance of their job; that they need to continually strive to improve SOPs and conduct position improvement because their business saves lives. With the proper selection of personnel, the proper training and positive leadership the ILO TAB mission is extremely rewarding.

Captain Urban M. Picard Jr. is a graduate of St. Bonaventure University, Western New York, and was commissioned in the Field Artillery in 2004. He is currently enrolled in the Field Artillery Captain's Career Course. Prior to attending the FACCC, Picard served as a member of 1st Battalion, 321st Airborne Field Artillery Regiment, 18th Fires Brigade (Airborne). The positions he has held are firing platoon leader, gun-truck security platoon leader, battery executive, battalion liaison officer, forward support company commander, and firing battery commander. His deployments include a 12-month rotation to Mosul, Iraq, as a gun-truck security platoon leader in 2005-2006, and a 12-month rotation as an in lieu of target acquisition battery commander to Regional Command East, Afghanistan in 2009.

PATRIOT missile battery arrives in Poland

By 1LT William A. Green

The 5th Battalion 7th Air Defense Artillery is a forward deployed, PATRIOT Battalion, headquartered in Kaiserslautern, Germany, and is dedicated to missions within the United States European Command area of responsibility. Alpha Battery 5-7 ADA deployed to Poland as a part of the PATRIOT to Poland (P2P) mission in early May.

The P2P mission involves the deployment of a single PATRIOT Battery to a site in Poland in order to conduct partnership training with personnel from the Polish military. The Army will spend the next two years teaching the Polish military to operate the advanced guided missile system at a base just a few miles from the Russian border.

The mission amounts to the most significant deployment ever of U.S. forces to Poland, which once was behind the Iron Curtain but is now a member of North Atlantic Treaty Organization.

The mission consists of four key tasks. First, the Polish armed forces will learn how U.S. forces conduct reconnaissance, selection and occupation of position to include chemical, biological, radiological and nuclear training, minesweeping and site layout. Second, it will be a familiarization with emplacement, sustainment operations, and the organizational maintenance of the six primary pieces of PATRIOT equipment: the engagement control station, electric power plant, antenna mast group, radar set, battery command post and the launching station. Third, the Polish armed forces will receive instruction on the guided missile transporter and missile reload operations, and fourth they will become familiarized with the Army Composite Risk Management Program, how to do after action reviews, and conduct command and control operations.

At the completion of the first rotation of training, Alpha Battery 5-7 ADA will have provided the PAF with an introduction to the overall operations of a PATRIOT Battery and will conduct a hand off to the next PATRIOT Battery for the follow-on rotation. It is hoped these rotations will further build the Polish knowledge of the PATRIOT System and continue to strengthen the United States' relationship with the NATO ally.

Lessons learned. The deployment of a single battery for the first time is a daunting task. It requires a great deal of coordination between the battery, battalion, brigade and installation movement officers. Strict German and European Union regulations create complications that are not normally seen by continental United States units deploying into theater.

Soldiers from U.S. Army Europe's Alpha Battery, 5th Battalion, 7th Air Defense Artillery Regiment, familiarize members of the Polish military on how to conduct preventive maintenance on the PATRIOT Missile Systems in Morag, Poland, June 1. This is the first time a U.S. missile system has come to Poland for a new rotational training program intended to familiarize Polish armed forces on the PATRIOT Missile System. The training is designed to provide mutual benefits for improving Polish air defense capabilities while also developing the skills of U.S. PATRIOT crew members. This type of mutual training helps to expand U.S. and Poland air and missile defense cooperation while helping to strengthen the partnership between the U.S. and Poland. (Photo by SSG Lawree Washington, U.S. Army)

Soldiers from 357th Air and Missile Defense Detachment Brigade, 5th Battalion, 7th Air Defense Artillery Regiment, Alpha Battery, familiarize members of the Polish military on how to conduct preventive maintenance on the PATRIOT Missile Systems in Morag, Poland, June 1. The purpose of the drills is to show joint cooperation between U.S. and Polish forces. (Photo by SSG Lawree Washington, U.S. Army)

Additionally, the battery on rotation must remain ready to deploy directly from Poland in support of other contingency missions. Once on the ground, the battery loses the higher echelon support that would be available in the case of another deployment from Kaiserslautern, Germany. Movement officers must know exactly what is needed to prepare and move the battery, first to Poland, and then possibly at a moment's notice into a combat zone. The only way to achieve this knowledge is to combine realistic and relevant training with as much real-world experience as possible, and the 357th Air and Missile Defense Detachment has done just that. Using a combination of emergency deployment readiness exercises at brigade, battalion and battery level, the brigade trained its subordinate units to react quickly and efficiently to a real-world deployment call.

This training was aided by the battalion's proximity to the deployment resources available from the Deployment Processing Center, Europe, and from Ramstein Air Force Base, also located in Germany. Still, the best way to practice a deployment is to execute.

Deployment timeline. In February 2010, Alpha Battery, was selected as the first unit to enter Poland to conduct the P2P mission. While the unit needed to prepare for the primary objective, which is familiarizing the Polish armed forces personnel on PATRIOT Battery operations, they also had to work through all the tasks that come with being the first unit to deploy to a new area of operations. Slice elements needed to be assigned to Alpha Battery in order to support requirements for food, maintenance and signal. Movement operations would have to be carefully planned so that the correct equipment showed up on time for each phase of the mission.

The advanced party consisted primarily of the RSOP team, which would be conducting instruction on reconnaissance, selection and occupation of position tasks before the arrival of the main body. Luckily, the equipment required for RSOP is fairly limited. Based on time constraints and the small size of the equipment, a line haul was requested for its movement. The main body equipment, however, which was the majority of the battery's assigned equipment, would require a rail movement of 37 railway cars of equipment to deploy efficiently.

With this established, it became the battery unit movement officer's job to ensure the unit deployment lists were generated correctly in the Transportation Coordinator's Automated Information for Movement System II, and to account for all necessary equipment and containers.

The battery worked closely with the battalion and brigade staffs to fully utilize their resources, as well as the Branch Movement Control Team, and the Deployment Processing Centers, who were also always willing to help.

Obstacles and problems. During the movement preparation for the first rotation of P2P, Alpha Battery encountered many obstacles and problems; however each was engaged at the lowest level possible. The unit took full advantage of the opportunity to practice the skills necessary to deploy a

"Cultural awareness is a key task for the development of competent Soldiers and especially leaders, and P2P is a prime opportunity to further that awareness. This is diplomacy at its finest—establishing bonds with a foreign nation one Soldier at a time."

battery using all the networks and systems available to it. Alpha Battery also conducted an ongoing after action review to track the lessons learned from the movement, for the next battery deploying in support of P2P, as well as any other deployments. Lessons learned included the lack of training in using the TC-AIMS II System at the battery level, as well as its unavailability. The system, which can be a great tool in deployment operations, is not exactly user friendly. Alpha Battery identified the need for brigade staff, which was well versed in the use of TC-AIMS II, to conduct small unit training to familiarize the battery with the system. The brigade S-4 supply shop was also the only place the battery could go to print military shipping labels, transportation control and movement documents, and to burn radio frequency identification tags for tracking equipment and containers. While the brigade shop was extremely helpful with everything needed, it would still have been easier if the battalion had its own resources. As a result of this void identified by Alpha Battery's AAR, the battalion now also has the ability to build the required documentation for any further deployments, and has acquired its own TCAIMS II System. Despite these minor complications, Alpha Battery accomplished all the tasks necessary to ensure their equipment sailed through the installation staging area operations, and was ready to be loaded when the train arrived.

Arrival in Poland. PATRIOT to Poland promises to be another outstanding mission carried out by the Soldiers of Alpha Battery 5-7 ADA. It will be a great opportunity for the Polish military to learn, not only about a weapon system, but about what makes the U.S. Army the most formidable fighting force in the world — our Soldiers. They will see firsthand the way we empower subordinates to carry out tasks, and encourage them to take initiative whenever possible. They will also get to see the many systems we have in place to ensure we constantly improve and develop ourselves, and how we balance and mitigate risk while conducting dangerous tasks. Additionally, it will be an excellent opportunity for our Soldiers to interface with their Polish counter-parts, learn from them, and build relationships through shared training objectives. Cultural awareness is a key task for the development of competent Soldiers and especially leaders, and P2P is a prime opportunity to further that awareness. This is diplomacy at its finest—establishing bonds with a foreign nation one Soldier at a time.

1st Lieutenant William A. Green is currently the fire control platoon leader of Alpha Battery, 5th Battalion, 7th Air Defense Artillery. He has served in that position since April 2009. As a platoon leader he deployed to Israel in support of Juniper Cobra 2010 and as a part of the PATRIOT to Poland mission where he served as the battery unit movement officer and the primary trainer for the engagement control station.

Soldiers from 357th Air and Missile Defense Detachment Brigade, 5th Battalion, 7th Air Defense Artillery Regiment, Alpha Battery, familiarize members of the Polish military on how to conduct preventive maintenance on the PATRIOT Missile Systems in Morag, Poland, June 1. The drills show joint cooperation between the militaries. (Photo by SSG Lawree Washington, U.S. Army)

Company level fire support in Afghanistan during OEF IX and X

SGT John Lopez, a forward observer for the scout platoon of Headquarters and Headquarters Troop, 1st Squadron, 221st Cavalry Regiment, 4th Brigade Combat Team, 4th Infantry Division, alerts other members of his platoon to the bomb an U.S. Air Force A-10 Warthog dropped in Laghman province, Oct. 8, 2009. (Photo by Derek Kuhn)

By 1LT Brian R. Buchholz

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

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

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

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

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

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

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

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

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

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

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

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

PFC Matthew Boyd, a forward observer with Charlie Company, 1st Battalion, 26th Infantry Regiment, 1st Infantry Division, checks the distance to the next objective, during Operation Viper Shake in the Korengal Valley, Apr. 21, 2009. (Photo by SGT Matthew Moeller, U.S. Army)

Soldiers of C Company, 2nd Battalion, 87nd Infantry Regiment, fire on an enemy position to interdict enemy rocket, artillery and mortar fire against Combat Outpost Sayed Abad, Afghanistan, Nov. 14, 2009. (Photo by 1LT Brian R. Buchholz, U.S. Army)

Besides the traditional fire support rehearsal and communications rehearsal, we found rehearsing allocation of close air support and close combat attack assets was very valuable. On company missions, we initially have assets check in with either the company commander or myself. With air weapons teams, we usually keep the high bird under company control to maintain situational awareness of the entire battlefield, and push the low bird to the platoon in contact or the platoon maneuvering to give them dedicated aerial support. We typically maintain control of close air support at the company level, as it's easier for me to speak to the aircraft on Fires, common air to ground, or Strike nets than a platoon forward observer, who is maneuvering with his platoon.

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

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

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

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

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

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

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

If you're not achieving good effects however, I'd advise you to stop indirect firing and guide the AWT on target. AWT can be guided using direction and distance from your position allowing Apaches to get 'eyes on' the insurgents. The insurgents regularly break contact when AWT arrive on station, so it is critical to attempt

to deconflict the gun target line of mortars and use them to fix the enemy so the AWT can kill them in position. When the insurgents don't break however, you're facing determined enemy and a serious kinetic engagement will most likely ensue.

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

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

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

You'll spend some time developing talking points for your company in response to input from the line platoon's patrols. When not developing talking points, your IO duties will consist of broadcasting messages on a radio in a box or on a local national radio station. Sayed Abad District, has a radio station attached to the COP and district center, so we take messages to them (either pre-recorded or written down so an interpreter can record them at the station) talk for a little bit with employees and then give them the message. Most combat outposts do not have a local radio station, so they broadcast messages over their RIAB's.

A young Afghan searches for the new Shinwar District radio station on a hand-cranked radio distributed by Afghan national and coalition security forces in Nangarhar, Afghanistan, January 18. The radios and new radio station are part of a media information initiative sponsored by the International Security Assistance Force's counterinsurgency program to give the Afghans a 'voice' in their security and to counter Taliban propaganda. (Photo by SGT Tracy J. Smith, U.S. Army)

RIAB is a 250-watt transmitter – in a box – set up inside a base. The Army has distributed thousands of hand-crank radios that can pick up the station. In a country where only one in eight Afghans can read and write, this is powerful stuff. While RIAB's are easier to use because there's no dependence on an outside organization to broadcast IO messages (RIAB's use interpreters as the disk jockeys). I'd recommend that you use a local national radio station if possible. The local radio station will already have an audience and interspersing International Security Assistance Force's messages with local programming presents a better image than a purely American station.

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

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

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

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

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

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

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

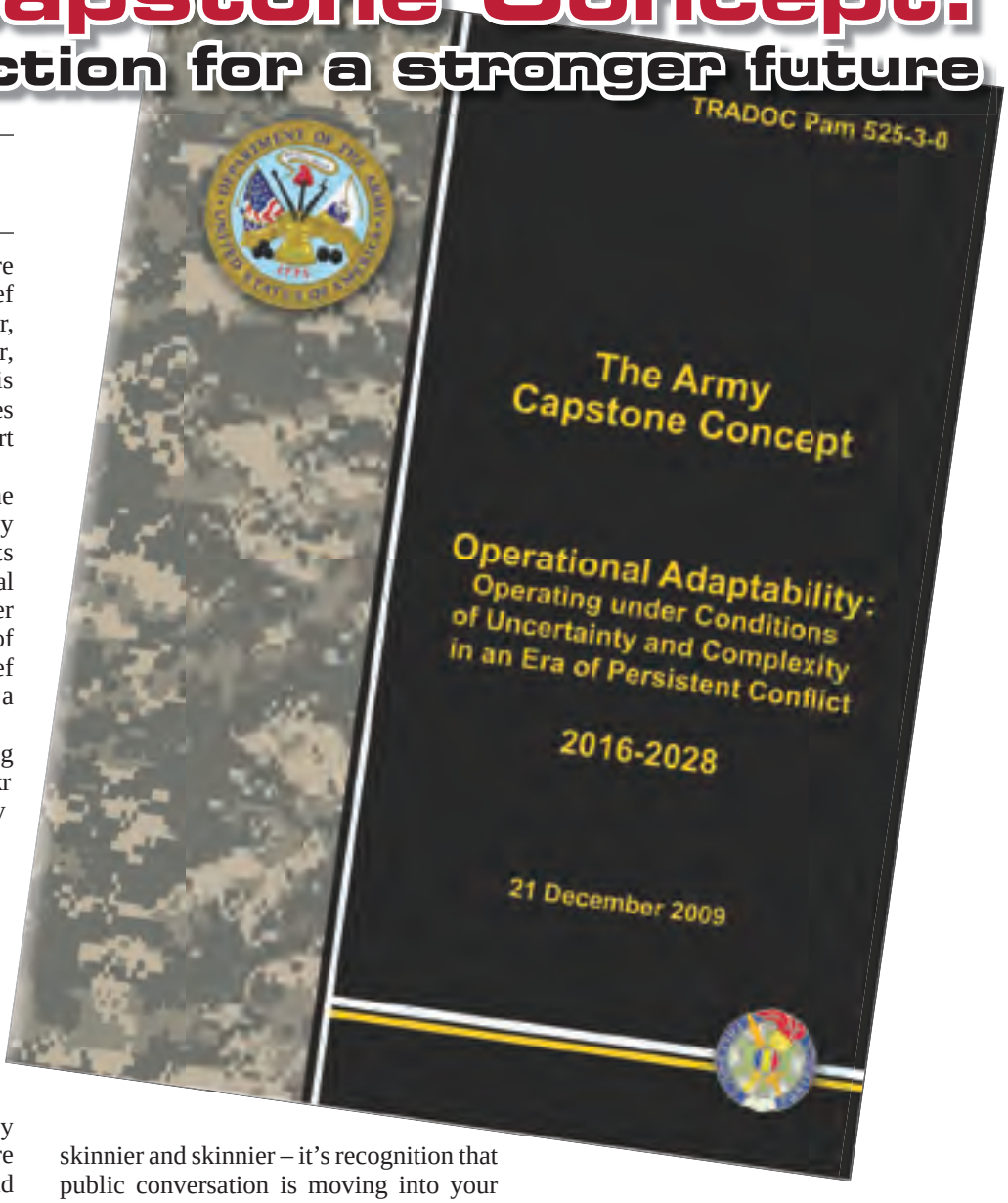
1st Lieutenant Brian R. Buchholz is currently attending the Field Artillery Captains Career Course at Fort Sill, Okla. He served as a fire support officer for C Company, 2nd Battalion, 87th Infantry Regiment, 3rd Brigade Combat Team, 10th Mountain Division, from May 2008 to April 2010. He deployed to Afghanistan in Operation Enduring Freedom IX-X. He graduated from Cornell University with a Bachelor of Arts in History.

2010 Fires Seminar

From May 17 to May 21, members of the Fires community gathered at the Fires Center of Excellence, Fort Sill, Okla., for the 2010 Fires Seminar. The following article continues our coverage of this year's seminar.

Army Capstone Concept:
A new direction for a stronger future

By Jennifer Blais
Managing Editor



Meeting the challenges of the future was the main focus of the brief by Mr. Rickey E. Smith, director, Army Capabilities Integration Center, Training and Doctrine Command. His presentation was given as part of the Fires Seminar held May 18-20, 2010 at Fort Sill, Okla.

Smith spoke about the Army Capstone Concept and how it is sparking many changes across the Army. Highlights included the Army's relationship with social media, the operational environment, leader attributes, joint Fires and operations. All of these changes were shown in Smith's brief to be assets the Army can use to create a stronger, more agile force.

Smith started his discussion with talking about social media. Using Facebook, Flickr and Twitter as a part of everyday Army communication is now the norm.

"Facebook has exceeded e-mail as the preformed form of communication," Smith said. It's a testament that social networking has become part of the Army's operational environment. Smith spoke of the need for Army leaders to pay attention to the growing trends of social networking and its impact as we continue into an information age.

It's an affirmation that's shared by Secretary of the Army Pete Geren. "We are an organization made up of the young and run by a newspaper generation that came into their adult years before the Internet and social media," Geren has gone on the record as saying.

"The future of our Army depends on how we communicate with our audience in between the ages [of] 15 to 25. We're sitting around lamenting the passing of newspaper after newspaper. There's some effort by Congress to find out how to save them. But even the ones surviving are getting skinnier and skinnier – it's recognition that public conversation is moving into your world. If our Army is not fully a part of that conversation – we've not done ourselves justice."

Smith went on to discuss the ACC and its role in developing capabilities for the Army of the future through the operational environment, leader attributes and organizational tenants.

But what exactly is the ACC?

BG H.R. McMaster, director of the U.S. Army Capabilities Integration Center's Concepts Development and Experimentation Directorate explained the purpose of ACC earlier this year. "The Capstone Concept aims to define the problem of the future armed conflict and describes how the Army will function in the future

"[The ACC] will give a broader definition of situational understanding," McMaster stated. When we're dealing with a complex problem, like the future of

armed conflict, nobody has a clear answer. Its emphasis is for us to consult with a broad range of people.

The broad range includes consulting with our sister services. Maj. Lisa Nemeth, with the Concept Writing Team, U.S. Air Force, stated earlier this year, that each of the services has a different perspective on the fight, and brings different capabilities to the fight.

"By being involved with the Capstone Concept we (other services) can see where the Army is going, look at what the gaps are, see what the Army sees," she said. Together all the services will find the solution as to what the U.S. needs for the future, and start to work toward common ground.

Yet what does the ACC mean to the individual warfighter? What does it and doesn't it do for commanders and leaders?

Smith went on to explain the ACC outlines capabilities the Army will require in 2016-2028, and will guide changes across our Army to fulfill those requirements. Through the implementation of the ACC the Army must ask additional fundamental questions, Smith said.

For example, what is the Army's vision for the future of armed conflict and how should the Army conduct joint land operations to facilitate strategic objectives? What additional or new capabilities should the Army develop and provide to joint force commanders to meet the broad range of national security threats?

To analyze these questions Smith discussed three major points beginning with operational environment. He said the operational environment is guided by two things; certainty (defense transformation theory) versus uncertainty (recent and ongoing conflicts).

Threats to the operational environment present or perceived, to name a few, are enhanced by technology as well as lethal direct fires, lethal indirect fires, mobility and counter-mobility. ACC logic includes considerations of environment, or full spectrum operations, combined with military problems. It also considers how the Army should use available and anticipated resources to educate its leaders and organize to win wars as a larger team, to solve the central idea of operational adaptability, and create resilient Soldiers and a cohesive Army.

Smith said these considerations and ideas, can be honed with fine tuning leader attributes and the four Ps; prevail in war; prevent (and deter conflict); prepare (to defeat the enemy and succeed in wide range operations); and preserve (the national treasure, the force). Smith went on to explain that defining comprehensive lessons learned and adapting those lessons to make stronger leaders will make our forces and maneuver more adaptable to the aim of the overall Army.

In doing this, he said, the Army must understand and frame complex problems, conduct and sustain operations, employ manpower, mobility, firepower and protection.

Smith also talked about the need for adaptable Soldiers, who are able to develop solutions to overcome hybrid threats, enable operations without pause and ensure freedom of maneuver in all areas.

Smith emphasized the human element of the ACC. "Networks don't do (win the fight) it. People do it. We should plan for

"The balance between the human element, technology, the budget and operational requirements is something we cannot afford to ignore."

Soldiers and Afghan national police officers walk down a path while on their way into the village of Sequala, Jalrez District, Wardak province, Afghanistan, May 11. This combined forces patrol is going to communicate with and help maintain good relations with the locals. (Photo by SGT Russell Gilchrest, U.S. Army)

Soldiers prepare to move from cover during an attack by anti-Afghan forces in the Tantil village in eastern Afghanistan's Kunar province, March 13.
(Photo by SSG Gary A. Witte, U.S. Army)

technology, but not count on it.

"The balance between the human element, technology, the budget and operational requirements is something we cannot afford to ignore," Smith said.

Creating a balance in a full spectrum of challenges is also a key component to the ACC.

One challenge, that isn't going away any time soon, is conducting Army operations under the scrutiny of a 24-hour media news cycle and instant public access to the Internet. Media-forced, transparent operations are a challenge the Army must face head-on, Smith said. Additionally, the Army must continue fighting for information and protect communication systems in an ever-changing information environment. Smith indicated we are also falling behind in technology.

"We can't have an impact on the local population and economy if we do not have the technology to offer," Smith explained.

Smith went on to talk about how the enemy is evolving and adapting through technology and defense. Implications of these informational and technological changes are continually expanding the Fires warfighting function, which now includes indirect Fires, air and missile defense and electronic warfare. Discrimination in targeting, the application of current Fires capabilities as well as integrating Army, joint, multi-national lethal and nonlethal capabilities are also the operational focus of the ACC.

Smith's final discussion focused on Army Force Generation and its relationship to the ACC. ARFORGEN provides combatant commanders and civil authorities with a steady supply of trained and ready units that are task organized in modular expeditionary force packages and tailored to joint mission requirements. These operational requirements focus the prioritization and synchronization of institutional functions to recruit, organize, man, equip, train, sustain, mobilize, and deploy units on a cyclic basis. ARFORGEN's adaptability addresses both emerging and enduring requirements. Simultaneously, Army institutional adaptations to ARFORGEN maximize potential efficiencies while ensuring effective capabilities are built to support operational requirements. The use of strategy and risk assessment to drive procurement creating sustainability across the Army is an example of the guidance the ACC can provide for ARFORGEN, Smith explained.

To facilitate these changes in procurement, Smith suggested cutting timelines. Procurement should span months rather than decades. He said, buying less more often; a principle driven by economic considerations and the changing warfighting function should be the norm. The former practice of buying "all of what the Army needs at the moment," compared to the new practice of buying "what is needed at the moment through budgeting," were lessons learned that could be quantified and implemented through prioritization of capabilities and alignment with ARFORGEN.

Developing collaborative governance in Iraq:

'Reverse Helicopter' ideology fosters political progress

MG Mark P. Hertling, commanding general of Multi-National Division North and Task Force Iron, meets with Government of Iraq leaders visiting Diyala province, Iraq. (Photo courtesy of LTC Lance Oskey, U.S. Army)

By LTC Lance Oskey and COL Darryl Williams

Military efforts to support governance help to build progress toward achieving effective, legitimate governance. Military support to governance focuses on restoring public administration and resuming public services while fostering long-term efforts to establish a functional, effective system of political governance. The support provided by military forces helps to shape the environment for extended unified action by other partners. Their efforts eventually enable the host nation to develop an open political process, a free press, a functioning civil society, and legitimate legal and constitutional frameworks.

FM 3-07 Stability Operations

Understanding the problem: the complex environment of MND-N. MG Mark P. Hertling, commanding general of Multi-National Division North and Task Force Iron, understood that a hindrance to political progress in the northern provinces was a simple lack of communication between provincial and national leadership. As such, he directed that the division's governance efforts would focus on bringing together entrenched senior leadership of the government of Iraq *with and to* the provincial leaders of the northern provinces. The simple geography of MND-N (consisting of the four northern provinces of Ninewa, Kirkuk, Salah ad Din, and Diyala and bordered by the three provinces of the autonomous Kurdish Regional Government) contained a very complex set of issues which hampered political and economic development in the north. Furthermore, the division had the challenge of coordinating cross-provincial actions in partnership with the four provincial reconstruction teams. Each province contained a distinct ethnic, tribal and religious composition; therefore, each maintained distinct security and governance problems. Adding to the complexity of the operational environment of MND-N were the inter-related Kurdish issues that affected each of the four northern provinces. (By way of comparison, Multi-National Force – West and their battle space of Anbar province consisted of one major tribal group, one partnered PRT, and one provincial government). The Division Fires and Effects Coordination Cell, was the staff agency responsible for the division's economics and governance progress, and also had the mission to plan, prepare, and execute a series of executive level cross provincial conferences.

Helping to support "good governance:" facilitating communication. The practice of bringing government of Iraq senior and ministerial leaders from Baghdad to the provinces was a significant evolution from earlier practices of 'helicopter diplomacy.' Helicopter diplomacy was the successful practice of bringing senior leaders from the provinces to Baghdad to discuss economics and governance issues with key officials. The evolution of this concept from 'helicopter diplomacy' to 'reverse helicopter diplomacy' allowed the consolidated northern provinces to collectively voice their concerns to the central government. The emphasis on hosting these conferences in the north instead of Baghdad sent a significant message to the provinces, demonstrating the central government was concerned enough to leave their offices in Baghdad to listen to the people in their own cities. With thorough media coverage (local and national Arabic media sources were always given priority; Western media was invited as well) for each venue, the citizens were informed through print and broadcast media that their local leaders were working with and through the central government on their behalf. Over the course of the deployment, MND-N hosted a number of conferences on a variety of topics ranging from a narrow focus on oil, electricity and agriculture initiatives to broadly focused large conferences addressing economics and reconstruction in all of northern Iraq.

Build it and they will come: the division conference series. The various conferences of MND-N manifested in several variations: Single province, single topic; single province, multiple topics; multiple provinces, single topic; multiple provinces, multiple topics.

In the single province, single topic conferences, key government of Iraq representatives were able to focus efforts on a single theme. An example of this was the Ministry of Agriculture focused visit to Kirkuk province. This single province, single topic focus (with multiple representatives to include the Minister of Agriculture and the Minister of Water Resources) allowed for the agricultural community in Kirkuk to better connect with the key representatives on those issues. At the division level, the FECC ensured that the interests of the brigade combat team/province were addressed, while at the same time the agenda of the GOI was also met. In all of these conference variations, division assistance in gaining the commitment of appropriate GOI representation began early. Working through the division liaison officer to the United States Embassy, engagements to gaining ministerial support were critical. Additional resources from division included translation headsets, coordination with the brigade combat team public affairs officer for media support, and air movement support.

In a single province, multiple topic conference, the leadership of the central government was able to interact with the leadership of the province on a variety of issues. An example of this variation was one of the many Deputy Prime Minister Al-Essawi visits to the northern provinces. The 'best practice' for this engagement was for the provincial reconstruction team to coach, teach and

mentor the provincial directors general to provide a short prepared presentation on the two or three most important issues within their area of responsibility. Initially, the division, PRTs and BCT shaped an agenda for MNF-I to present to the GOI. Over time, the amount of assistance from the coalition diminished, but division assistance was still required to enable these conferences. The level of support varied depending on PRT involvement, and the capacity of the provincial leadership. Division support to these conferences were the same as in the previous model; however additional preparation with the BCT/PRT was often necessary to help ensure that the multiple provincial presenters were prepared with the appropriate information for what was essentially an executive level conference. A sample agenda for a single province, multiple topic conference is depicted below. All parties had to remain sufficiently flexible with the actual agenda to allow for the deputy prime minister to make changes to the itinerary:

- 1000 arrives at the airfield (in this case with a C130).
- 1000-1030 ground transportation to PROV HALL (CF MRAPs with ISF augmentation).
- 1030-1130 small security meeting in GOV Office to include local military leaders.
- 1130-1230 Ninewa leadership presents issues/ provincial action plan to DPM.
- 1230-1330 lunch.
- 1330-1430 DPM presentation regarding commitments towards Mosul Reconstruction.
- 1430-1530 press conference.
- 1530-UTC ground movement to airfield, air movement to Baghdad.

The multiple provinces, single topic conference used division movement assets to bring BCT/PRT/provincial representatives together to discuss a single topic. The Energy Conference Series (discussed and resolved oil and electricity issues in the north), the United and Healthy Conference (identified major health issues and opportunities), and the Women's Conference (focused on opportunities how and for provided empowerment of the women in the north) are all examples of this format. These conferences rarely had provincial governors present, and took on a more 'worker' type format where break-out sessions, and detailed discussions on the topic were featured. Division assistance to these types of conferences was significant. As representatives from all of the provinces (to include the KRG) were invited, the division's role in selecting the cross-provincial level issues for presentation was critical to ensuring the conference had applicability to the entire audience. Division enablement for the multiple province level conferences were more substantial and involved not only hosting the conference, but also, as in the case with the Women's Conference, contracting for an appropriate venue, contracting for meal support, contracting for additional transportation and continuous engagements to gain guest speakers, as well as to gain local, national, and international media coverage.

The multiple provinces, multiple topic conference represented the conference variation that was largest in scope, planning, and resources required. This type of conference was attended by the most senior representatives of the state, as well as provincial governors and senior coalition interlocutors. Representatives from all the major media outlets were invited with the promise of receiving personal media follow-ups, which helped gain media coverage. These types of conferences were the most staff intensive and required extensive planning and preparation.

Division support to these conferences was considerable, and included ensuring that amenities associated with this type of executive level conference were on hand. VIP rooms, high-quality local food, live music (positioned during transitions and during lunch), floral arrangements, official photographs and conference mementos were examples of the attention to detail demanded for this type of conference. Combined protocol planning and pre-execution checks ensured the venue was properly prepared and the various dignitaries were afforded the proper accommodations as dictated by protocol.

The content and presentation of these conferences required extensive combined staff work between the GOI lead planners to ensure the conferences merited the time investment of the senior leaders present. Linkages between past engagements, conferences, and visits between the attendees were established.

Topics presented in these conferences were categorized as such:

Issues raised to check on progress. These issues are "follow up" issues from earlier commitments in previous venues. For example, during one of the later Mosul conferences by DPM Essawi, he used the conference as a venue to announce the delivery of agriculture relief to farmers of the province. This announcement was a follow up on previously published drought relief commitments made by the GOI.

Issues raised to inform. These were used to inform the GOI on cross-provincial issues that required assistance from the central government. For example, during the discussion of fuel shortages to the provinces in the division United and Strong III Conference, MG Hertling was able to inform the provinces and GOI of the actual fuel allocation and fuel pick-up rates across the provinces. This information helped better frame the discussion at hand.

Issues raised to gain a commitment. Although few definite decisions were made by the senior GOI leadership, commitments to address the issues raised were then followed up in subsequent engagements, visits and conferences. As an example, the commitment to hire and train female Iraqi police for the Diyala province was delivered a few months after the topic was addressed

"Although few definite decisions were made by the senior GOI leadership, commitments to address the issues raised were then followed up in subsequent engagements, visits and conferences."

in the Women's Conference with the successful graduation of fifty female Iraqi police.

As all events are potential media and information operations opportunities, this was especially true with these conferences. The division "branded" each major conference initiative to facilitate recognition of the conference, and their results. The distinctive icons were often picked up by the province or central government and similarly used in subsequent related meetings and smaller conferences.

What we learned: the lag time of conference results. Immediate, quantifiable results following any of these conferences were difficult to measure. Media monitoring of coverage of the events in local media through open sources provided feedback on relative importance of the conference based on the amount of coverage. We continuously monitored and reported on local media [internet, print and television] broadcasts. In the case of Western media, these sources often combined the conference into larger stories and themes.

The MND-N engagements team combined, in some cases, with a digital recording of the session which allowed the staff to capture any commitments made for follow-up. Examples of specific tasks accomplished, at least in part, due to the accountability of the conferences included the following:

• *United and Just Iraqi Police conferences:* increased Iraqi police hiring and training.

• *United and Healthy Conference:* increased partnership between PRT health officers to include establishment of first responder training.

• *Women's Conference:* influenced the hiring of female Iraqi police officers in Diyala, support for the 'Doves of Peace' radio show in Diyala, and support in establishment of women's groups in all four provinces.

• *Energy Conferences:* encouraged greater fuel pickup rates from the Bayji Refinery, and contributed to the release of water from the KRG dams to support irrigation in Diyala.

• United and Strong Conferences: contributed to the establishment of Sons of Iraq program throughout the four provinces, and incorporated Kurdish Regional Government into division conferences.

• *United and Prosperous Conferences:* facilitated the announcement then followed up on thirteen million dollars of medium-sized loans delivered to MND-N businesses through the Ministry of Industry and Minerals Loan Program. This conference also launched the establishment of follow-up DPM Essawi provincial visits to gauge the status of reconstruction/ essential services.

In the case of the United and Strong III, and United and Prosperous

Governor of Diyala Abdal Nassir takes on questions from a crowd of Iraqi news media at the remodeled Al Kindi Elementary School grand opening ceremony in Muqdadyah, Diyala, Iraq, May 24. (Photo by SPC Anderson Savoy, U.S. Army)

"Topics will be contentious, travel arrangements (to include weather accommodations) will be frustrating, and combined planning efforts will be exhausting – but the results of the conferences can help further the mission."

conferences, both deputy prime ministers were thankful for the division's efforts in convening the various parties to discuss their issues. Deputy Prime Minister Salih followed up after the United and Strong III, with a security team visit to Mosul, whereby he told MG Hertling that he learned the value of 'getting out of the provinces' through the model of the conference series. Similarly, Deputy Prime Minister Essawi ordered his staff (following the United and Prosperous Conference) to host a 'Southern Provinces Economic Council,' and model it after our United and Prosperous (this conference was held in September 2008). Additionally, DPM Essawi launched follow-up visits to each of the provinces to continue the momentum gained through the initial United and Prosperous Conference.

As this article addresses much of the preparation required for these conferences, the transition from planning to execution was equally important. Planning briefs to the commanding general were facilitated during the weekly G5 plans updates, full-operation orders were published to coordinate activities, handover briefs from the FECC planning cell to the G3, division operations team (both day and night shifts) occurred, and complete operations schedules for each conference were used to track progress, and troubleshoot as necessary. During execution, a full command and control cell was established at each venue to aid the division CP in command and control.

The way ahead: enabling governance in a post-United Nations Security Council Resolution environment. Instead of allowing the central government to remain in Baghdad, MG Hertling and MND-N executed a variety of interrelated conferences that facilitated discussion between the provinces and the GOI, with each conference serving as an accountability mechanism to commitments made in previous conferences, while serving as an azimuth for future actions. Though a large amount of staff energy and resources were expended to host these events, the Iraqi leadership began to increase their level of assistance in each, and soon required little assistance in hosting similar venues. However, division level assistance was still necessary as some topics (Kurdish Regional Government / Government of Iraq issues, the always contentious power (fuel and electricity issues), required an honest broker who both sides trusted. The division served this role – as an interlocutor for both parties. In a post UNSCR environment, the ability to host these types of conferences may become more challenging. The following considerations apply:

With a change in provincial leadership following the 2009 elections, some provincial leaders may be less likely to maintain a 'close' relationship with the coalition. Coalition partners will need to re-establish their relationships, and encourage participation in these types of forums.

Likely coalition troop withdrawals (mandated in the Status of Forces Agreement) will result in more and more security burdens passed on to the Iraqis. Finding suitable, secure venues to host large conferences will be the task of the provincial government, and not the coalition forces. The most notable impact to these conferences is the reduction in rotary wing air support to assist in moving the parties to the conference venues.

With security improving, and the state of Iraq 'returning to normalcy' more and more, conference topics may trend towards civil themes such as women's issues, health issues, minority issues, and education issues to name a few. The encouragement of a greater role by the PRTs, United States Agency for International Government, and non-governmental organizations in hosting these types of conferences should be encouraged.

Although the counter insurgency truism that no solution in one city or province can be replicated in another, we feel that the convening power of a division level organization was a significant enabler to the progress gained under TF Irons' deployment. Too often, the excuses by the local government on why they can't host conferences are precisely why these conferences can prove to be effective. Topics will be contentious, travel arrangements (to include weather accommodations) will be frustrating, and combined planning efforts will be exhausting – but the results of the conferences can help further the mission.

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Colonel Darryl Williams is an artillery officer who formerly commanded the 1st Armored Division Artillery. After completing command, he deployed with 1-AD in support of OIF, where he served as the Fires and Effects Coordination Cell chief. He is currently the deputy director of the Comprehensive Soldier Fitness Program, headquartered at the Department of the Army G-3/5/7.

C-RAM and IFPC: The way ahead

The Counter-Rocket Artillery Missile Weapon System fires flares up during a test fire at Joint Base Balad, Iraq, January 31, The C-RAM has the ability to fire up to 4,500 rounds per minute to protect the base against incoming projectiles. (Photo by SrA Brittany Y. Bateman, U.S. Air Force)

By CPT Edmund A. Guy III

How do we as leaders in the Fires Center of Excellence work a concept into reality and then continue to make it relevant to the maneuver force in the contemporary operating environment? Counter Rocket, Artillery, Mortars or indirect fire protection capability is actually a living embodiment of a concept that eventually was forged into reality.

With all things considered, the C-RAM/IFPC concept came into reality rather quickly. In May 2004, the Chief of Staff of the Army at the time, General Peter J. Schoomaker, inquired about a counter indirect fire capability during an Operation Iraq Freedom I after action review. A month later in June 2004, an operational needs statement from theater explained the need for intercept capability in detail, and the necessity to link current equipment found within the forward air defense command and control, and field artillery sensors.

Testing ensued. Over the next year, rapid testing was conducted trying to find the right system that would be meet interceptor requirements for the current deployment. Indirect fire events in theater continued to show the need for C-RAM capabilities, whether for intercept or sense and warn capabilities. Less than a year after the ONS was submitted, the first Sense and Warn Systems were deployed to fight the continued indirect fire threat to our forward operating bases and a month later the first Land-based Phalanx Weapon Systems were deployed. Phalanx is a rapid-fire, computer-controlled, radar-guided gun system designed to defeat anti-ship missiles and other close-in air and surface threats. A self-contained package, Phalanx automatically carries out functions usually performed by multiple systems -- including search, detection, threat evaluation, tracking, engagement and kill assessment. In less than 10 months after the first fielding, four additional LPWS were delivered to theater and the first indirect fire intercept was recorded. Since the time of that first success, personnel for intercept responsibilities shifted from the Navy to the Army, and then finally to a joint intercept battery concept. Since then sense and warn locations have been added and closely linked together to form 'warning networks.'

From concept to reality. In a short six years since the ONS was first submitted, we have gone from concept to completing more than 100 intercepts and saving thousands upon thousands of lives by the warning that C-RAM units have provided ground troops.

The question that remains as the drawdown in Iraq continues and a timetable has been set by the president for end of combat operations in Afghanistan is where does C-RAM go from here? We all know what C-RAM can do in post-combat operations, but what can it bring to the table after major combat operations are done and the Army has gone into stability and support actions?

The next logical step, for those ADA personnel involved in C-RAM, is to start preparing C-RAM, or the Indirect Fire Protection Capability Program, for the next war. If we do not prepare now, I think inevitably IFPC will be left behind with the maneuver force.

Emerging concepts. Army Operational Concepts, Army Capstone Doctrine, and emerging Fires Center of Excellence concepts originating from the current campaign plan have definitely highlighted the need for an Integrated Fires Management Capability Program that provides digital clearance of Fires for joint and coalition land force engagement operations. So the need is there, but where do we go for solutions? I think we already have them in the Army inventory; we just need to put them together.

The overarching concept that will tie the initial stages of this together is the combination of the current air defense airspace management cell and the sense and warn portion of IFPC. If done properly, the 'lashing together' of IFPC with the maneuver force will have long been cemented prior to needing it again in the future fight.

I think the ADAM cell is the right place to start because of how the current interworking and configuration of the ADAM cell and the brigade aviation element cell. They are essentially one team. If IFPC is brought into the mix it would add another capability without adding any other major equipment inside the brigade combat team's tactical operation center, and it could also help to synergize the ADAM, BAE, and fire support coordinator/Fires support element cells into a team that dovetails perfectly with digital/dynamic clearance of Fires and the need for airspace deconfliction.

All the tools are there in these cells to make these things happen now; adding the Tactical Airspace Integration System, Forward Area Air Defense Command and Control System, Air and Missile Defense Work Station to the equation will only make it better.

A manpower issue. Due to the lack of 14Js (C4I Tactical Operations Center Enhanced Operator/Maintainers) as well as a shortage of 140As (Command and Control System Technicians) we currently have a critical shortfall of trained Soldiers and leaders who have the experience necessary to operate these systems. Normally, this is usually supplanted by personnel with the ADAM and BAE cells working in concert together to deconflict the airspace.

But, this shortfall could easily be fixed with new equipment training for air defenders, field artilleryman, and aviators – so everyone could work together and there would be no need for a force structure increase. Properly conducted training and manning shifts could be done prior to a unit deploying to one of the combat training centers, so that any battle roster changes could be made there instead of once in combat.

Additional software is needed. If the ADAM cell as well as the FEC and BAE were to combine it would provide a correlated air picture, clearance of Fires, decrease the amount of time for sensor to shooter, provide sense and warn to the BCT location, and respond to the attack faster and more accurately with a better point of origin grid coordinate. But, there would need to be upgrades to many units' software packages on their existing systems as well as minor modifications to TOC layouts, so an effective integrated Fires management capability could be achieved. Digital clearance of Fires, joint airspace management, sense and warn, interface with ground troops, and a link to the Army Battle Command System could happen if capabilities would set these interworking cells apart as the doctrinal centerpiece for the BCT.

There are official reports of this being done in some fashion on FOBs that no longer have C-RAM Soldiers stationed there, but the ADAM cells in certain situations have shown their effectiveness in providing at least part of the integrated Fires management capability and allowing a BCT to have more efficient responsiveness to enemy attacks.

Push for the future. As the Fires force continues to come up with ideas and move toward concepts that integrate with other branches as well as the Fires Center of Excellence as a whole, other questions and other possible solutions are inevitable. However, the main solution we are all searching for in the implementation of C-RAM or IFPC is how do we continue to save lives and how do we turn the force multiplier pillars of C-RAM (shape, respond, and protect) into something that will allow the maneuver commander in the field to put "Steel on Target" faster and more efficiently.

Captain Edmund A. Guy III, air defense, is currently the commander of Delta Battery, 2nd Battalion, 6th Air Defense Artillery Brigade, which trains all joint and combined forces conducting a C-RAM deployment. From November 2007 to March 2010, he commanded Alpha Battery, 2nd Battalion, 44th Air Defense Artillery at Fort Campbell, Ky. Also during this timeframe, Guy deployed to Joint Base Balad, Iraq and served as the C-RAM Joint Intercept Battery commander.

PFC Alysha Gleason and SGT Chad Ervin conduct maintenance on a radar station at Forward Operating Base Delta, Iraq, Aug. 22, 2009. Both Soldiers are members of a counter-rocket, artillery and mortar team from Echo Battery, 4th Battalion, 5th Air Defense Artillery Brigade. (Photo by SSG Brien Vorhees, U.S. Army)

The intelligence fight in a counterinsurgency environment

By CPT Robert Destefano,
CPT Peter Graham and
CPT Andrew Narcum

Multiple Launch Rocket System operations are driven from the top-down and rely heavily on the ability to rapidly receive and process targeting data from higher levels. Both the MLRS battalion and battery are postured to receive data and to quickly turn it into a fire mission with absolutely no need for analysis or refinement of the target. Our battle drills are designed for quick and accurate fires with no feedback from the lower level units. Simply put, we are consumers of intelligence. While this top-down system is effective at putting rounds on target quickly, but it is ineffective in the counterinsurgency environment.

When the 2nd Battalion, 20th Field Artillery, 41th Fires Brigade deployed to Forward Operating Base Delta in Wasit province, Iraq, in early June 2008, our initial mission was to provide escort to the provincial reconstruction team or the local civil affairs teams. Our responsibilities shifted in July 2008, when Russia invaded the Republic of Georgia and the Georgian army withdrew from a series of checkpoints they had been manning throughout Wasit province. Our battalion assumed responsibility of three of these checkpoints.

Alpha Battery was tasked with occupying Checkpoint 5, a Georgian base near the city of An Nu'maniyah, on Highway 8 running from Al Kut to Baghdad. At 1 a.m., Aug. 9, 2008, we were notified of a 7:30 a.m. movement the same day to occupy the checkpoint indefinitely. Alpha Battery found itself as a battlespace owner containing the second largest city in the province. In response, the battalion pushed a total of three batteries out to man the Georgian's abandoned checkpoints.

Immediately, the units at these three checkpoints were partnered with local Iraqi security forces, including the Iraqi National Police and Iraqi army. For the next 13 months, the batteries conducted full spectrum counterinsurgency while focused on stability and support operations. The batteries had to quickly learn and adapt to this new role.

2nd Battalion, 20th Field Artillery, 41th Fires Brigade deployed to Forward Operating Base Delta in Wasit province, Iraq, in early June 2008 to provide escort to the provincial reconstruction team or the local civil affairs teams.

It is widely acknowledged counterinsurgency's reliance on detailed, to-the-minute intelligence makes it the exact opposite of how traditional MLRS Soldiers are trained to fight wars. "Counterinsurgency is an intelligence-driven endeavor," states the first line of Chapter 3, Field Manual 3-24 Counterinsurgency. At this point, it was obvious an aggressive bottom-up approach to target generation was essential.

In Iraq, every Soldier became a source of timely intelligence who could help develop the battlefield. From the brigade level to each junior Soldier, there were three main things we needed to rethink and rework. First, we needed to expand the notion of intelligence collection itself. This was not just a lethal fight anymore; the nonlethal lines of operation became an integral part of the intelligence picture. Secondly, we needed to enhance and develop systems in place to analyze and process intelligence at the battalion and battery levels, rather than simply relying on the brigade and higher to generate targets for us. Lastly, we had to adjust our mindset to allow the lowest level units, the ones who knew the terrain and the environment best, to refine all operations.

Expansion of intelligence collection. This change from lethal targeting to nonlethal intelligence gathering required us to redefine what was important for us to know. The set of information requirements that each patrol was given was a clear reflection of this shift. When our initial patrols left the wire, their information requests were mirrored with the necessity of rapidly understanding the lethal fight. Common brigade and battalion information requests included, "What groups are responsible for the September rocket attacks on the forward operating base and which insurgent groups are actively targeting coalition forces?" These were valid questions to ask and necessitated by an unclear picture of the insurgent network we faced. However, we gained little to no information on the lethal front, and our gunners, drivers and section chiefs were nothing more than taxi drivers for personnel conducting assessments. We would conduct our patrols and report on changes to the route, such as personnel digging or conducting observation of our movements, but little else. While our patrols were alert and attentive to every detail along the route, they focused on providing security and kept their distance from the local populace.

We kept everyone at a distance in an effort to allow sufficient time to react and assess every approaching vehicle and person's propensity for violence towards us. In doing this, patrols were simply staying safe and reporting on the information they were told to report. The patrol debriefs reflected this; they were short and to the point. The information collected was focused on understanding the enemy that was seeking to attack us. All reporting went directly to battalion S2 (intelligence) which sent the information to the brigade S2. At the brigade level, a briefing was created that discussed purely lethal threats. This briefing was sent back down to the platoon leaders daily. If this way of doing business had continued for long, our later successes would not have been possible.

The province remained relatively quiet with infrequent and poorly-coordinated attacks. In order to be successful, we needed to move past the lethal fight and focus on counter insurgency. To accomplish this, our intelligence gathering adapted by moving away from solely looking for insurgent cells and focusing our information requirements on nonlethal fronts such as finding government officials and determining where they worked and what services they were supposed to be providing. We knew our operating environment was extremely complicated and intelligence driven operations were going to be key to our success.

Field Manual 2-0 Intelligence states, "The environment is often much more complex during stability operations and as a result intelligence is often more complex. In fact, intelligence is even more important a factor (or operational multiplier) during stability operations." This became more obvious as we pushed further into our vast operating environments. Questions began to form, 'The mayor said they are providing fresh water to 90 percent of the city; is this true?'

"We knew our operating environment was extremely complicated and intelligence driven operations were going to be key to our success."

With the current information requirements, our only way to confirm this fact was to conduct a key leader engagement with a local sheikh or other local leader. This would generate a mission from the battalion or the battery. As these missions appeared, the patrols began to gain a clearer picture of what kind of information was important. They began to realize this information was right in front of them and could be gathered concurrently. Patrol leaders adjusted tactics and brought themselves closer to the local populace. This is a direct reflection of the fact that, "intelligence in COIN is about the people." (See Field Manual 3-24 Counterinsurgency).

We realized we could be more effective with our collection mission if while a key leader engagement was being conducted inside, a designated team would begin engaging nearby locals outside. Shop owners, workers, children and any locals became sources of information. The battalion began to have more questions and pushed for more answers. New information requirements generated for patrols included questions such as, 'Do schools have up-to-date text books; how much does micro-generated electricity cost; and how late are stores open in the neighborhood?' This process began to develop and expand as more answers brought more questions.

The battalion began to push more and more information requirements that were focused along a significantly broader spectrum. The four lines of operations provided the framework for this more robust set of information requirements. These lines of operations focused on the economy, the security situation, legitimacy of the provincial and local governments, and the quality of essential services across the province. We were no longer narrow-mindedly simply trying to collect information on the insurgent groups opposing us. Our Soldiers were quickly gaining a fuller idea of the nonlethal fight and how vital gaining reliable information was to winning it. As their understanding grew, so did their ability to collect useful intelligence. Patrols began to hone their skills; they were becoming sponges of information. The gunners, drivers, and section chiefs were all in the fight now. Each understood how important even the most minute details were. The patrol debrief began to grow. Information on all four lines of operations was pouring in. Empowered, the patrols grew into their new role, often pushing more information than they were asked to discover.

Systems to analyze. This increased reporting and influx of intelligence created an information overload. The battalion S2 section did not have the manpower to gather and analyze intelligence on every neighborhood, much less every street. Once again, they were forced to adapt. The section had to find a way to efficiently receive and analyze this wealth of information.

The section received daily patrol debriefs from across the province, and, at times, was overloaded with information. To combat this, the section was reorganized at the battalion level by having one Soldier

(a private first class or specialist who was a Multiple Launch Rocket System Operations/Automated Tactical Data Systems operator with no intelligence background) attached to the intel section who was responsible for analyzing and organizing all data that came out of a specific battery's area of operations. It was his job to make sure that no data was lost in transit while being shuffled from the battery to the battalion and then back to the battery. This Soldier also was responsible for providing all the relevant data to the intel section and to the battalion's one and only school-trained intelligence Soldier, who was an intelligence analyst. Together, these two were able break down the huge amounts of data into a manageable product for dissemination back to the patrol sets.

To catalog this information and graphically represent it, the battalion acquired a system known as Tactical Ground Integrated Reporting. It was a Secret Internet-Protocol Router Network side map database that operated similarly to Google Earth. It allowed for information to be inputed, archived and searched by anyone with a Secret Internet-Protocol Router Network connection. This system kept track of the location of key infrastructure, attack history, shop owner's information and any relevant information that the patrols gathered. Battalion S2 intel was the keeper of this database and policed its contents. It also was the battalion level S2 who incorporated the reporting from outside organizations and inputed it into the system for access by the batteries. Even with a more robust S2 intel section, they still suffered from information overload. The batteries ended up carrying some of the load and had to create their own S2 intel capability.

The battery level intelligence cells grew immensely in importance and prominence. They were the keepers of the minute details that proved so important in the current counterinsurgency fight. Previously, patrol debriefs were sent directly to battalion S2 intel. Now, the same debriefs were carefully scrutinized and analyzed at the battery level. While the battalion worked the trends for the province, the batteries specialized in their areas. This meant there had to be constant work done by each battery to ensure they were capturing as much intelligence as possible. From phone numbers to grid coordinates, everything had its use. The batteries also made use of the Tactical Integrated Ground Reporting system. It allowed the patrol leaders and section leaders access to historical reporting as well as battery and battalion-level analysis of information. It also provided a link to the numerous force multipliers available throughout the province. Signals intelligence, human intelligence, reports from special operations forces and any number of intelligence pieces could all be found on the TIGR. The battery was armed with all the tools it needed to successfully catalogue and map their areas of responsibility.

Refinement. Due to the sheer amount of information gathered and the expertise found at the battery level, the battalion allowed for more and more autonomous action. Refinement of operations was not only encouraged, it was expected. A commander's intent would be issued along with certain requirements for operations. From this point, the refinement would be up to the battery. It was then the battery's intelligence cell that would bring together the local experts and work to pinpoint how best to provide effects along the maximum number of lines of operation. The battery would push back-up requests for combat multipliers and requests for information. "Effective intelligence drives effective operations. Effective operations produce information which generates more intelligence." (See Field Manual 3-24 Counterinsurgency). Every mission the battalion conducted was intelligence driven and aimed at generating more intelligence. After a back brief, the battalion would bless off on a final mission plan. Then, it would be up to the batteries to execute.

Operation Dirty Deeds. A classic example of the way the battalion grew to operate occurred May 5, 2009, when we conducted Operation Dirty Deeds in An Nu'maniyah, Wasit province. Dirty Deeds was an entirely nonlethal operation. No part of the mission was focused on targeting a specific wanted individual or insurgent group. Instead, we focused on shaping the human terrain to our favor. The mission was to target the local populace's perception of Iraqi security forces and local government officials. We hoped to do this by bringing the Iraqi army, Iraqi police and local government officials together and systematically clean the streets of the city. This low cost, but manpower-intensive operation, would show the locals their leaders and security forces were there to support them, and together they could make a huge impact on the city, even if the help did not come from Baghdad. To conceive and execute this operation required months of nonlethal intelligence gathering.

During the first few months, patrol leaders throughout the battalion's operating environment were reporting large amounts of trash on the streets and in the local neighborhoods. While the severity varied from town to town, this problem was present everywhere. The S2 intel section identified this as a provincial-wide problem that required a provincial-wide solution. These reports were coupled with a provincal-wide improvement in the perception of the Iraqi security forces. The battalion saw an opportunity to engage the populace along multiple lines of operations and developed "Operation Dirty Deeds."

The operation essentially called for a day where both U.S. Soldiers and Iraqi security forces personnel would partner to remove trash from the streets. The battalion believed this would serve their goals in a number of ways: most notably casting the Iraqi security forces in a favorable light with the local citizens, getting trash off of the streets, denying the enemy possible cover for improvised explosive device emplacement and creating an area that encouraged commerce and community.

The battalion received approval from the provincial Iraqi police liaison and the government of Iraq and issued their intent to the batteries with a wide focus. It was then up to the batteries to implement this plan and specifically address the situation in their individual areas. The battalion provided the blue print for the batteries to expand and improve. Operating as a battle space owner for eight months, the battery was well prepared to receive a broad commander's intent and translate it into a precisely targeted operation that would compound positive effects.

In April 2009, A Battery received a fragmentary order to conduct Dirty Deeds. We were to conduct the operation in early May in Al Akhara. Specific tasks included ensuring units throughout the battalion's operating environment were collaborating and synching efforts. We also were to make certain each unit put the Iraqi security forces in the forefront. The battalion pushed us this information as a starting point; however, it was our responsibility to make Dirty Deeds successful along as many lines of operations as possible. So for example, if we did not think Al Akhrar was the right place to conduct operations, we had the freedom to request a change.

Though our economically-focused information requirements, we found tourism was a big part of An Nu'maniyah's economy, the major population center in our area of responsibility. However, in recent years, it had suffered due to a decrease in the number of religious pilgrims from Iran. Nu'maniyah's location was key; it was located on a major route from Iran up to Baghdad and Karbala. We

were able to find out from our many key leader engagements with the mayor, local contractors, vendors and even shoppers that the city of Nu'maniyah has gone great lengths to restore its tourism industry by building along the waterfront of the Tigris River. Through this development, the city was aiming to capitalize on its prominent location as the only Tigris River crossing for 40 kilometers in either direction. By focusing near this waterfront area, we could contribute to the revitalization of the city.

We also found there were two, main economic centers near the river-crossing in the form of a factory complex that produced vinegar, dates and ketchup as well as a large local market. These areas had seen growth and were increasingly active. Since we wanted our efforts to be seen and noticed, this made the market area very appealing.

This stretch of road historically was not the friendliest towards coalition forces though. On TIGR we were able to see the history of rock throwing, small arms fire and improvised explosive device attacks in the area. On the map, the area looked intimidating. However, the increased proficiency of the local security forces and our continued partnership with the Iraqi security forces went a long way to enabling the Iraqis to take back their city. Our battery had been conducting joint patrols with the local Iraqi security forces for several months. We were getting very positive feedback from local nationals who had begun to notice the change in the Iraqi security forces's proficiency. In talking with the local shop owners and residents on these joint patrols, A Battery was able to ascertain the local nationals were quickly respecting the joint force, and trusting in both coalition forces and, most importantly, in the Iraqi security forces. Because of these security gains and the cooperation of the Iraqi army, Iraqi local police and national police in the area, we felt confident operating in the crowded market area.

To further involve local leadership, we engaged Nu'maniyah's mayor and city council. Nu'maniyah was a major population center and was one of the bigger players in the province, second only to the provincial capital Al Kut. Knowing this, we spent the majority of our time and resources cultivating relationships with the local government and winning their trust. We knew that without any support from the mayor and councilmen the operation would not succeed. With the mayor's backing, we could promote community values and legitimate governance while helping restore the people's faith in their local government.

To promote the legitimacy of the local government, we worked to get these fledgling essential services off the ground and get them to a point where they were self sufficient. We also wanted the people to see they did have municipal services, even if they were struggling. The biggest complaint our patrols had gathered about their local government was that it did not provide adequate essential services to the people. Some went so far as to say that life under Saddam Hussein was better simply because essential services were not a problem. Of all the essential services, local nationals most frequently complained about the conditions of the city's main roads. They expressed concern there was no municipal plan to improve the situation. The trash also affected the condition of the roads, most of which were in disrepair.

We remained focused on the trash first rather than initiating a project to rebuild the roads because the government of Nu'maniyah informed A Battery there was already a government plan in place to repair the roads. However, that plan would not be fully implemented until 2014. People were growing exasperated of the local

1LT Mark Settle and his platoon assist 1st Battalion, 32nd Iraqi army brigade soldiers and Nu'maniyah municipal workers in cleaning up the streets of An Nu'maniyah, Iraq.
(Photo by SFC Joseph Thompson, U.S. Army)

government's empty promises and were quickly losing patience.

We decided to capitalize on the need for instant gratification, which would please the citizens and empower the local government by following up on the locals' complaints. We worked this problem by engaging the city Council. We got the local municipalities manager and waste services manager to take part in the event. They provided city trucks to collect the trash that was picked up and ensure that there were trash cans along the road that would be emptied regularly even after the operation was over. We wanted to make certain that every operation we conducted was sustainable, or at least pushed the local leadership in a direction that made them stand on their own.

We also aimed to maximize the effects in every way possible and continued to refine the plan to meet our objective. Based on our patrol debriefs, we were able to confidently say conducting the operation on a Saturday was the best way to ensure the maximum number of people would see the Iraqi security forces and coalition forces working hand-in-hand to clean up the streets near the market. Saturday was the optimal day because this was the day we consistently observed the most people in the market, and it had the highest concentration of kids outside due to no school. This also allowed for the local media to attend the event and capitalize on the cooperation between coalition forces and Iraqi security forces. As a final piece to the operation, we sought to integrate the distribution of a micro-grant. The grant was intended to start a small veterinary clinic and, with the media present, we would be able to cover an event that on its own they would not attend. However, since they were in the area, they would cover the start up of the veterinary clinic.

All this information was sent back-up to the battalion for further coordination and planning. When we back briefed our plan, we were confident we had done everything we could to compound the effects of the mission and maximize our efforts. The battery's intimate knowledge of the city and personnel present enabled them to plan a mission that sought to achieve a multitude of effects and impact along all four lines of operations. This would have been impossible had we not learned the value of nonlethal intelligence and adjusted our systems accordingly.

Clean-up day. On May 5, 2009, when we executed Operation Dirty Deeds, we were able to achieve success on not just one line of operation, but along all four lines of operations. We were able to show the Iraqi security forces were a capable force that was professional and there to serve the people of Iraq. We placed the Iraqi security forces in the forefront, and made it known the mayor and city council stood together with the police. At the same time, we did substantial work to boost the local tourism industry and local shop owners by cleaning up one of the major markets and major routes in the city. Finally, we showed the people of An Nu'maniyah they could improve their city without our help. They could be the ones to effect this change.

This was only possible because of the massive intelligence gathering effort that had taken place the preceding months. The collection of intelligence along a broad set of information requirements enabled us to think outside the box and plan missions that had far reaching sustainable effects. The battalion was not working with blinders on, effecting only one line of operation at a time. Instead, we had a thorough understanding of the full breadth of issues. We sought to examine the economy, local politics, the security situation and the state of essential services. Each unit had intimate knowledge of the people they were working and living amongst. By ensuring there were strong systems in place to gather and analyze this information, we guaranteed the information was not lost or forgotten, but put to maximum effect. This coupled with a command that was willing to accept refinement from the troops on the ground created an environment that maximized every patrol that left the wire. The lethal fight did not blind us to the plight of the very people we were there to protect. Instead, we used this broad approach and nonlethal targeting to shape the human terrain and deny the enemy the ability to hide amongst them.

Lessons learned. Get the most up-to-date tactics, techniques and procedures and trends on the theater you are moving into. Talk to units returning from that particular theater. Get their contact information and learn everything you can before deploying. This is especially important to a Fires brigade who does not have other sister maneuver brigades to trade best practices. We were not aggressive enough about this and should have made better use of 1st Cavalry units at Fort Hood, Texas, that had recently returned from Iraq.

Do all that you can to synchronize efforts across the battle space. Ensure people are asking the same questions. Ensure your message is unified.

The current field artillery mission is amorphous and attempting to train for deployment can be tough. During our preparation for deployment, we trained to be military police prison guards, forward operating base security units and finally maneuver platoons. This was all while maintaining our core ability to put rockets on target, on time. Focusing on the basics and building Soldiers and sections who are proficient with the basics sets the groundwork for accomplishing any of these missions.

Have a plan for collecting, analyzing and disseminating intelligence at the battery level. Put some serious thought into the battery intelligence cell, specifically who is in it, its primary means of receiving information and the products it will produce for the platoons.

Captain Robert L. DeStefano, field artillery, is currently the battalion fire support officer for 1-145th Armor Battalion, 174th Air Defense Artillery, Ohio National Guard at Stow, Ohio. DeStefano has deployed to Iraq twice in support of Operation Iraqi Freedom. He previously served as the battalion S2 for 2nd Battalion, 20th Field Artillery (MLRS), as executive officer, and as a platoon leader while stationed at Fort Hood, Texas. He holds a Bachelor of Science in finance from Marquette University in Milwaukee, Wis.

Captain Peter J. Graham, field artillery, now serves as a reservist in Alpha Company, 450th Civil Affairs Battalion (Airborne) in Riverdale, Md. Previously, he served as the battalion intelligence officer for 2nd Battalion, 20th Field Artillery (MLRS) upon its redeployment from Iraq. During a 14 month deployment to Wasit province, Iraq, in 2008 he served as the 2nd platoon leader and as battery executive officer for Alpha Battery, 2-20th FA (MLRS), operating from a Joint Security Station. He also served as the ammunition platoon leader and battery executive officer of Alpha Battery, 2-20th FA (MLRS) during a brigade deployment to White Sands, NM. He has a Bachelor of Arts in history from Villanova University, Pa.

Captain Andrew Narcum, field artillery, presently is the battalion fire direction officer for 2nd Battalion, 20th Field Artillery (MLRS) in Fort Hood, Texas. He has also served as the 1st platoon leader for Alpha Battery, 2-20th FA (MLRS) during a 14 month deployment to Iraq in 2008. During this timeframe he ran partnered patrols out of a Joint Security Station in An Nu'maiyah, Iraq. Before deploying to Iraq, he was the fire direction officer for Alpha Battery, 2-20th FA (MLRS), and served in this position during the unit's training in White Sands, NM. He is a graduate of the United States Military Academy.

Scalable fire support for limited warfare

PVT Jacob Dunn, cannoneer, fires a 155-mm round from a M198 howitzer during a support fire mission at Forward Operating Base Boris, Afghanistan, May 1. (Photo by SGT Derec Pierson, U.S. Army)

By CSM Dennis J. Woods

Artillery is the only fire support weapon that is scalable in both range and destructive force. Used as a large bore, crew-served weapon, tube artillery can deliver focused lethality. Other conventional systems in use today were originally developed for open warfare, and mass killing. Modifications added to increase accuracy and hard target penetration only address half of the problem: a complete solution for limited warfare must both penetrate buildings and scale the amount of force delivered.

As a separate loading system, artillery can prevent over penetration of targets through a variety of means. The U.S. Air Force already conducts limited destruction missions through the employment guided bomb systems attached to non-exploding training munitions. Field artillery systems can provide maneuver commanders with the same effects on a smaller scale, are more cost effective, and are available now. Brigade commanders already own 12 to 18 complete systems, and no additional coordination would be required.

Howitzer direct fire; assault fire, and indirect fire are established skill sets used in crew certification. With adequate risk mitigation and planning, artillery's unique ability to deliver scalable fire support for limited warfare can reduce collateral damage, avoid civilian casualties, and is economically supportable over the course of a long war.

By conducting a quick comparison contrast with other systems in use, one will quickly notice the lack of any ability to limit over- penetration of the target area or destructive force used. Take for instance the main battle tank; nothing can compete with its combination of firepower, accuracy, and crew protection. However, in a close fight its limited main gun elevation prevents it from engaging elevated targets. The inability to ramp up or down firing velocity, or swap out different projectile and fuse combinations 'in the field' limits a battle tank's ability to reduce collateral damage.

By comparison, tube artillery's ability to reach very high firing angles allow it to engage elevated targets at the close ranges experienced in city fighting. Artillery's ability to adjust 'on site' the amount of energy used in firing, and use a wide variety of projectile and fuse combinations allow it to tailor its effects on target.

At the high end of destruction, tube artillery can engage targets using concrete piercing fuses fitted to high-explosive

"With adequate risk mitigation and planning, artillery's unique ability to deliver scalable fire support for limited warfare can reduce collateral damage, avoid civilian casualties, and is economically supportable over the course of a long war."

"Scalable fire support for limited warfare is an information operations success."

projectiles fired at maximum velocity. At the lower end of our escalation of force, artillery systems can attack with non-exploding training munitions at a reduced speed relying on velocity, and mass to achieve effects. In a close city fight artillery can be employed as if it were a gas powered wrecking ball, firing steel-coated concrete blocks.

With the recent fielding of howitzer night sight systems, artillery crews can conduct these missions under the cover of darkness. Using different combinations of issued thermal weapon sights, night sights, and infrared aiming lasers, engagements can be planned and executed much like AC 130 H/U's gunship mission. In a line of sight engagement the supported unit can designate what portion of a structure to attack with any common infrared aiming device. Operating from a support by fire position the artillery crew then confirms the target with its own mounted laser, and on order, delivers focused lethality, limiting collateral damage.

When compared to rockets and missiles one will find many of the same limitations that apply to the tank. While these systems are very accurate, they are also very expensive. With rocket prices ranging from $10,000 to $25,000 per shot, artillery's cost of $250.00 for a box of two, complete 105mm rounds is quite a bargain. The cost benefit of leveraging artillery's ability to deliver scalable destruction for limited warfare addresses the issue of supporting a long war.

Baron Von Clausewitz once said, "War is an act of violence pushed to its utmost bounds," and I think he is right. However, you do have to ask yourself at the end of every engagement, "how many insurgents did I kill?" and "how many did I create?" Indiscriminate destruction aids the enemy's recruiting efforts and reduces popular support.

During the adjustment phase of some indirect and direct fire missions less lethal ballistically matched training munitions can be used as a technique to reduce the possibility of civilian causalities. Using the training munitions ballistic similitude to live rounds; artillery strikes can be adjusted on target away from protected areas, then actual lethal munitions can be applied. When switching among different munitions types; seeking different combinations of effects, data gained in the less lethal adjustment phase can be inferred to the selected munitions. Applying tube artillery's scalable focused destruction fits our own rules of engagement while allowing its continued use against our enemies.

Scalable fire support is an information operations success. Scalable fire support for limited warfare is an information operations success. Even if it is never used in combat, demonstrating our willingness to avoid civilian causalities goes over well with allies and U.S. citizens alike.

If one considers the fact that almost all future population growth will be in built-up areas, our current and future enemies will chose to fight among the population. As a moral nation, the effect of so many human shields limits our options in combat. When training ourselves on restricted terrain; or training allies on artillery, using less lethal training missions will reduce the possibility of creating unwanted collateral damage.

Where it concerns our allies whose security forces may have to fight within its own cities, among its own citizens, scalable fire support is a must. With limited budgets, tube artillery's focused lethality will allow them to achieve their victories while minimizing collateral damage. At the government to government level, our artillery night sight systems could be easily modified to accommodate there fire support assets, at a reduced cost.

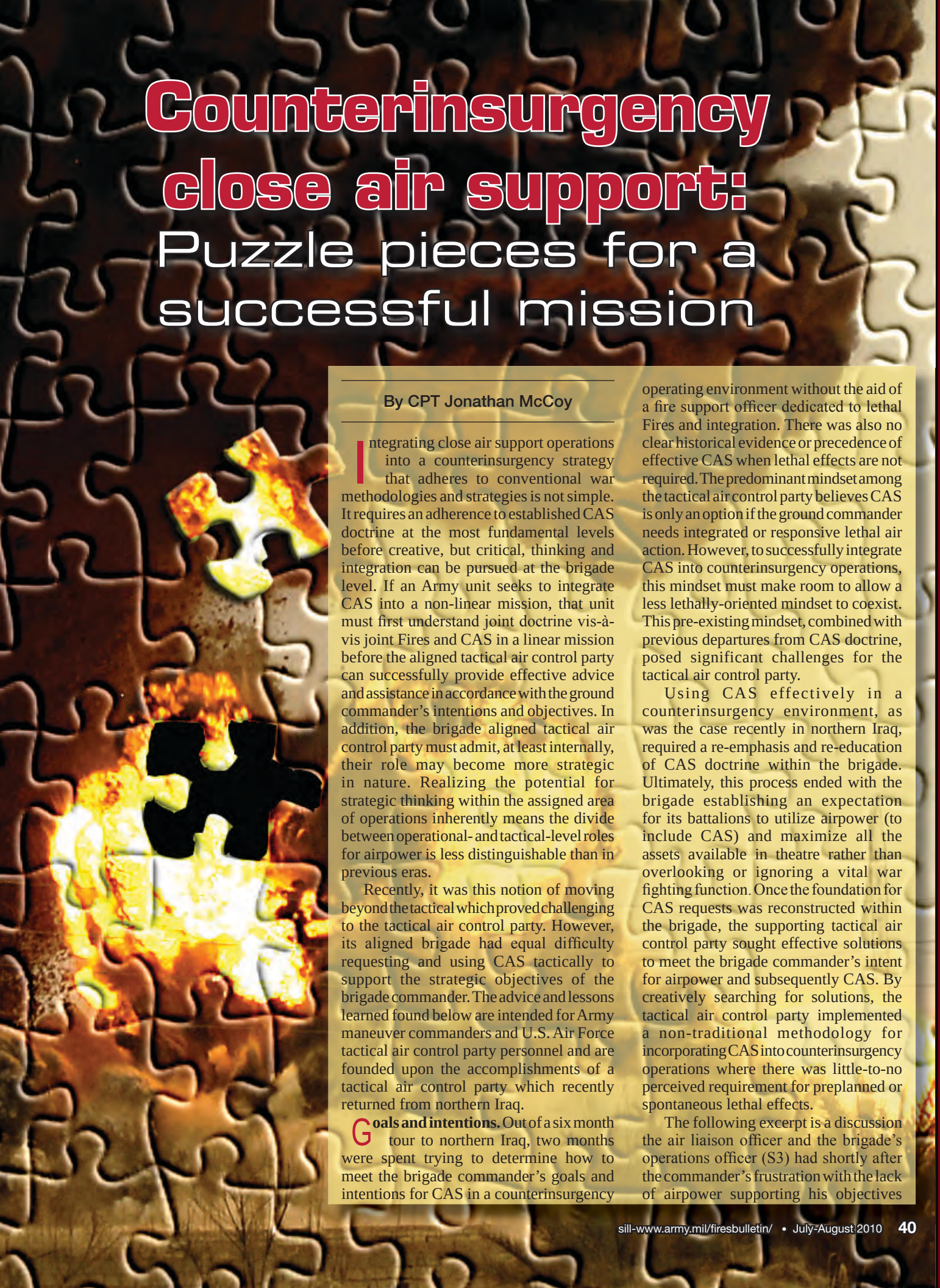
With tube Artillery employed as a large bore crew-served weapon possible non-standard missions include: Follow and support with direct fire / assault fire; support Infantry hard point defense for early entry forces; planned limited destruction missions near occupied and protected structures; and support combat engineers conducting shaping operations, breaching.

Fragmentation mitigation. Techniques for fragmentation mitigation vary as artillerymen progress from highly lethal to less lethal fires. At the high end of destruction concrete piercing fuses fitted to conventional high explosive rounds are fired into a structure, detonating after penetration using the building itself to contain fragments. Those same missions fired using a projectile constructed with high fragmentation steel such as the 105mm (HF 1) detonated either in or on the target will increase the probability of a hit as well as produce less collateral damage.

For those readers not acquainted with high fragmentation steel, this is one case where size really does matter. Using the blast pattern of a typical, 105mm high-explosive round as a benchmark for destruction, I will explain the difference between large and small fragmentation. Normally, a typical 105mm round produces between 3,000 – 5,000 fragments which range in size from one pound, to several grams in weight. By comparison, a typical high-fragmentation round produces in excess of 14,000 fragments. When concerned with collateral damage, smaller fragments are better as they retain less kinetic energy, travel shorter distances, yet increase the probability of a lethal hit. Artillery projectiles were not originally designed as hard target penetrators. Upon assuming a new battle space, direct lay effects should be observed on derelict structures. To determine the amount of force required to yield a desired result.

I am not proposing artillery be used as a stand-alone weapon, but when employed as a large-bore, crew-served weapon, it can do the ugly job in a crude manner with tailored effects.

Command Sergeant Major Dennis J. Woods is the battalion command sergeant major for 4th Battalion, 319th Airborne Field Artillery Regiment, 173rd Airborne Brigade. He deployed to Grenada in 1983 with Alpha Battery, 1st Battalion, 319th Airborne Field Artillery Regiment, 82nd Airborne Division, as well as Desert Shield/Desert Storm with Charlie Battery, 2nd Battalion, 319th Airborne Field Artillery Regiment, 82nd Airborne Division. He deployed in support of Operation Enduring Freedom with the 82nd Airborne Division Artillery before it was deactivated in January 2006. He also served in Operation Iraqi Freedom 1 and 6 with Bravo Battery, 2nd Battalion, 3rd Field Artillery, 1st Armored Division. Woods is also credited by the U.S. Army Suggestion Program as the inventor of the 105mm howitzer night sight mount, the M198 155mm howitzer night sight mount, the dual optic Multiple Integrated Laser Engagement System laser, and the PALADIN urban assault kit. Woods is also the first recipient of the U.S. Field Artillery's Gruber Award for his invention of the GELON night sight mount.



Counterinsurgency close air support: Puzzle pieces for a successful mission

By CPT Jonathan McCoy

Integrating close air support operations into a counterinsurgency strategy that adheres to conventional war methodologies and strategies is not simple. It requires an adherence to established CAS doctrine at the most fundamental levels before creative, but critical, thinking and integration can be pursued at the brigade level. If an Army unit seeks to integrate CAS into a non-linear mission, that unit must first understand joint doctrine vis-à-vis joint Fires and CAS in a linear mission before the aligned tactical air control party can successfully provide effective advice and assistance in accordance with the ground commander's intentions and objectives. In addition, the brigade aligned tactical air control party must admit, at least internally, their role may become more strategic in nature. Realizing the potential for strategic thinking within the assigned area of operations inherently means the divide between operational- and tactical-level roles for airpower is less distinguishable than in previous eras.

Recently, it was this notion of moving beyond the tactical which proved challenging to the tactical air control party. However, its aligned brigade had equal difficulty requesting and using CAS tactically to support the strategic objectives of the brigade commander. The advice and lessons learned found below are intended for Army maneuver commanders and U.S. Air Force tactical air control party personnel and are founded upon the accomplishments of a tactical air control party which recently returned from northern Iraq.

Goals and intentions. Out of a six month tour to northern Iraq, two months were spent trying to determine how to meet the brigade commander's goals and intentions for CAS in a counterinsurgency operating environment without the aid of a fire support officer dedicated to lethal Fires and integration. There was also no clear historical evidence or precedence of effective CAS when lethal effects are not required. The predominant mindset among the tactical air control party believes CAS is only an option if the ground commander needs integrated or responsive lethal air action. However, to successfully integrate CAS into counterinsurgency operations, this mindset must make room to allow a less lethally-oriented mindset to coexist. This pre-existing mindset, combined with previous departures from CAS doctrine, posed significant challenges for the tactical air control party.

Using CAS effectively in a counterinsurgency environment, as was the case recently in northern Iraq, required a re-emphasis and re-education of CAS doctrine within the brigade. Ultimately, this process ended with the brigade establishing an expectation for its battalions to utilize airpower (to include CAS) and maximize all the assets available in theatre rather than overlooking or ignoring a vital war fighting function. Once the foundation for CAS requests was reconstructed within the brigade, the supporting tactical air control party sought effective solutions to meet the brigade commander's intent for airpower and subsequently CAS. By creatively searching for solutions, the tactical air control party implemented a non-traditional methodology for incorporating CAS into counterinsurgency operations where there was little-to-no perceived requirement for preplanned or spontaneous lethal effects.

The following excerpt is a discussion the air liaison officer and the brigade's operations officer (S3) had shortly after the commander's frustration with the lack of airpower supporting his objectives

surfaced and set the stage for the remedies and integration plan discussed below.

ALO: *Sir, what effect does the commander want from CAS?*

BCT S-3: *He doesn't care about effects; he wants more CAS. What does he have to do to get more CAS?*

There are two interpretations to the context of that conversation. First, the S3 believed he was giving the ALO near-unconditional authority to do what was necessary to increase CAS utilization. Second, the ALO sought to gain a deeper understanding of what the brigade commander was trying to accomplish with CAS before actions were taken to increase CAS utilization so that increases would occur efficiently and effectively for the commander.

Doctrine and reality. CAS, as defined by *Joint Publication 3-09.3 Joint Tactics, Techniques and Procedures for Close Air Support* is "air action by fixed- and rotary-wing aircraft against hostile targets that are in close proximity to friendly forces, and requires detailed integration of each air mission with the fire and movement of those forces." Doctrinally, CAS is one element of joint Fires support. So, naturally this definition leads terminal attack controllers, air liaison officers and CAS aviators to think of CAS as primarily – if not solely – lethal. This is easily understood in a linear, force-on-force fight, such as what was seen in the early days of Operation Iraqi Freedom (see Steven Call's *Danger Close: Tactical Air Controllers in Afghanistan and Iraq*). The above definition potentially hinders air liaison officers and joint terminal attack controllers from applying airpower principles which lie beyond the traditional scope of CAS and also hinders the tactical air control party from realizing the necessity to understand objectives of various Army echelons when those objectives do not fit neatly into some type of lethal air action.

Operation Iraqi Freedom is now two years past the surge and is in the process of handing Iraq back to Iraqi citizens. If CAS aircraft are not responding to a traditional kinetic requirement, the likelihood those aircraft are fulfilling some type of armed reconnaissance, or similar role, is great. This need not be the case; limiting CAS to a predominantly intelligence, surveillance and reconnaissance role does not allow for CAS planners to maximize CAS' Operation Iraqi Freedom observed utility. During Operation Iraqi Freedom in 2009, significant CAS utility beyond the scope of persistent stare reconnaissance on one end of the spectrum and rapid reaction to ground force engagements on the opposite end was realized. This breadth of utilization allowed the tactical air control party to capitalize on the strengths of the entire airpower spectrum for CAS operations and provide effective nonlethal air effects throughout the supported commander's battle space.

Integration. Close air support is effective when one thinks about integrating the whole of joint Fires to conquer territory. But can the same be true in a counterinsurgency where the enemy holds no territory and is not fighting to take hold of territory? (see David Galula's *Counterinsurgency Warfare: Theory and Practice*). In short, yes. However, fundamental levels of CAS doctrine must be adhered to in order to most effectively utilize CAS in counter-insurgencies before any departures from CAS doctrine can be made.

Due to the breadth of operations that exist between full-scale linear and stability non-linear operations, close air support needs to remain adaptive, responsive and flexible. The current operational environment requires an increased awareness of airpower effects and its associated strengths and weaknesses when integrating CAS into counterinsurgency operations throughout the entirety of the tactical air control party community. If CAS execution requires creative thinking, so too, must the thought process of airpower advisers to ground force commanders expand beyond the scope of lethal effects in the use and integration of CAS with counterinsurgency.

Previously, the brigade initiated air support requests and then summarily controlled the allocated air from the brigade command post. From the perspective of a centrally consolidated tactical air control party unit at the brigade (brigade pooling), misapplying command and control is unavoidable when situational awareness is decreased and removal from battalions occurs. Misapplied brigade pooling procedures destroy battalions' capability to understand CAS' influence within their battle spaces and stunt battalion-level requests creating a separate, loosely associated air component with no clearly defined purpose in the counterinsurgency fight because of a tendency to reduce interaction with battalions. However, due to this brigade commander's continued airpower emphasis, the battalions' ability to plan for and levy CAS increased, freeing the tactical air control party to focus on its doctrinal advice, assist and control roles. As air support requests were submitted, the tactical air control party provided direction and coherence to airpower in the various

battalion operational environments.

Prioritization. To begin to bring CAS into focus within the battle space, joint terminal attack controllers re-engaged with battalions and provided education on the requesting process while at the brigade, education focused more directly on the approval process. Furthermore, prioritization recommendations and modifications were made to ensure CAS effectively reached the commander's priority areas. Properly prioritized CAS integrates easily and can be readily requested to accomplish specific tasks according to the commander's force composition and priorities. Establishing a prioritization matrix allowed CAS to maximize its effectiveness at all levels of command and present a more clearly defined air component to the area of operations.

In additional to correcting these misapplied requesting procedures, the tactical air control party had to overcome a second, more difficult challenge: that of differing expectations for the use of CAS. The ground commander priorities, though defined in terms of battle space objectives, were not specific enough to support effective and synergistic CAS execution from the perspective of the airman while CAS was not flexible enough to meet immediate changes in battle space priorities from the perspective of the ground commander. In his book, *Danger Close: Tactical Air Controllers in Afghanistan and Iraq*, Steve Call relates, "(Army) commanders at all levels want and expect to control, not just command, all their combat assets…the Air Force operates in a much more fluid environment; air operations are subject to myriad forces of nature to a greater extent than any other mode of combat, and modern air power has become so diverse, widespread, and complex, and serves so many divergent interests that the air force has evolved a highly decentralized mode of operation." As requests began originating with battalions, the natural tension between command and control eased and the brigade commander better visualized CAS' responsiveness to his priorities. Proving CAS' flexibility hinged on the tactical air control party's ability to help the brigade commander visualize CAS' role within his battle space and subsequently use it to shape the battle space.

Effective roles. A third challenge was convincing joint terminal attack controllers that close air support can and would be effective in the counterinsurgency environment – without the traditional kinetic events for which they were trained. Once they had something solid, albeit non-traditional, to digest, the battalion-aligned joint terminal attack controllers more effectively re-educated their battalion Fires elements on the fundamentals of CAS and used those lessons as a bridge to incorporate CAS more effectively. If lethal-minded airmen are convinced CAS has an effective role in counterinsurgency, the next natural roadblock is at the intersection of integration and provision of measurable effects in the various CAS missions – not only statically in mission planning but also dynamically in execution. In his book *Counterinsurgency Warfare: Theory and Practice*, David Galula says counterinsurgency success is effectively linked to the counter-insurgent's ability to maintain sustained operations. In Iraq, counterinsurgency success also consists of teaching people how to take charge of their own affairs and consenting to the rule of law – in one sense, nation-building. Conventional wisdom currently applied to counterinsurgency requires current operations and mission sets (whether air or ground missions) to form around civil considerations and the human terrain that counter-insurgents seek to influence reinforcing the roadblock where integration and measurable effects intersect. Often, incorporating CAS into civil considerations leads to an ill-defined task or purpose or both creating frustration on the part of all parties – aviator, joint terminal attack controller and ground commander alike.

Flexibility. Inefficiently planned and executed close air support reinforces the inflexibility of CAS to the ground commander. However, convincing the brigade commander of the flexibility of CAS to meet his mission priorities occurred naturally once CAS fundamentals were re-emphasized, which allowed the tactical air control party to use CAS to help shape the battle space and maximize the entire spectrum of airpower effects. With the re-education process complete, battalions began requesting CAS thus enabling the tactical air control party to effectively incorporate and integrate CAS to meet commander's intent. Now that battalions once again owned the requesting process, minor deviations from doctrine in the end-user of CAS from the company level down to platoon level appeared. If battalions requested CAS simply to satisfy the brigade commander without engaging in the military decision-making process, the results were apparent and gave the tactical air control party a chance to engage in further education. Typically deficiencies in the military decision making process are noticeable in the issuing of tasks to CAS aircraft without any contextual purpose (i.e. non-traditional intelligence, surveillance and reconnaissance) of historical improvised explosive devise hotspots if no friendly activity warrants the task. However, the minor deviations from doctrine in the execution of CAS precluded this from happening. CAS was doctrinally planned and non-doctrinally executed in that platoon level operations were supported rather than company level operations or higher. By deviating in this fashion, CAS was flexible, efficient, purposefully tasked with maximized utilization, which supported the ground commander while simultaneously shaping the various battle spaces.

Successful integration and decisive

"Conventional wisdom currently applied to counter-insurgency requires current operations and mission sets (whether air or ground missions) to form around civil considerations and the human terrain that counter-insurgents seek to influence..."

Joint terminal attack controllers walk to a training site after calling in F-16 air strikes at Colorado Springs, Colo., January. 10. (Photo courtesy of U.S. Air Force)

action are predicated on intelligence and an established partnership between a commander's intelligence staff and the tactical air control party, which is not to say CAS should be used unconditionally in an intelligence gathering role. However, CAS can provide actionable intelligence via non-traditional methods, in that sensor capabilities exist which can be exploited on non-intelligence, surveillance and reconnaissance aircraft. Strike aircraft that provide intelligence, surveillance and reconnaissance data must do so in a much more focused manner. Mitigating CAS to a persistent stare role because it can provide rudimentary reconnaissance is not what is meant when an airman mentions CAS and intelligence, surveillance and reconnaissance in the same breath.

Though capable of this mission, CAS is better utilized in more graduate level forms of integration. To reach this level of integration the tactical air control party must understand battlefield intelligence and the commander's plan to use that intelligence to integrate CAS to shape the battle space. For example, CAS can be easily requested to provide presence for a commander when manning is such that personnel cannot occupy required posts and still accomplish other priority assigned missions. The young company commander requesting CAS to fill an intelligence, surveillance and reconnaissance mission should consult the battalion joint terminal attack controller for assistance with integration to maximize and focus the CAS mission as experience shows the need for focused reconnaissance during battle space-shaping phases of counterinsurgency.

The tactical air control party noticed that though companies were being tasked with ground missions, often the execution was left to platoon- or patrol-sized elements. Battalions thus began to request CAS in support of patrols, to act as additional force security, route reconnaissance, etc. CAS also began acting in concert with intelligence, surveillance and reconnaissance assets, though at the time of this writing, little empirical data is available to provide a verdict on those practices. Both practices provided CAS aircraft the ability to be in or near a decisive point for the counterinsurgency, which may not have clearly defined decisive points (see *Air Force Doctrine Document 2-1.3 Counter land Operations*). This means the tactical air control party must understand how to help brigade or battalion commanders use the realm of counter land airpower through the function of CAS and potentially request CAS for non-traditional CAS missions that are still in line with stated counter land goals and objectives. However, it must be understood that CAS requested for traditional mission sets will out prioritize non-linear CAS requests at higher levels of command when the need for integrated fires exists.

Requesting close air support for counterinsurgency operations should remain flexible and open. For instance, CAS can fly dependent upon Soldiers executing ground missions, as an aid to air and ground based intelligence, surveillance and reconnaissance assets to facilitate collection or independently in a kinetic show-of-force role when neither Soldiers nor intelligence, surveillance and reconnaissance assets are present – yet the ground commander (company through brigade) needs to influence a particular area of interest. The latter situation is less a function of CAS than it is air interdiction; however, in the counterinsurgency environment concessions may need to be made by the tactical air control party to maximize airpower effects through roles of indirect support. Incorporating CAS at the platoon or even company level during stability operations when a troops-in-contact situation does not exist revolves around brigade commander's stated objectives, mission planning and aforementioned intelligence. Flexible adaptation is one of airpower's greatest strengths. Yet, inability to meet current mission demands undermines the tactical air control party's credibility within the brigade command staff, appearing to be a unit that remains blinded by offensive and lethal actions and an inability to adapt.

While a platoon conducting a screening operation, patrolling a neighborhood or village, or executing a cordon and search or project oversight mission may not have great need for detailed mission planning in the realm of time and space, successful CAS integration requires such information fidelity. Detailed concept of operations allows joint terminal attack controllers and CAS aviators to maximize measureable and immeasurable CAS effects assisting in deterrence, force protection or simply route reconnaissance. Additionally, there must be a means for the joint terminal attack controller to communicate with the lowest tactical element; he could be a member of a brigade pool located at a central location and not on mission with the patrol. The same holds true should CAS be requested for its minimal intelligence, surveillance and reconnaissance capabilities.

Best practices. In those instances when CAS may be requested independent of an executable ground mission (typically intelligence, surveillance and reconnaissance-type tasks) desired effect(s) must be more clearly communicated. To lethal-minded airmen not trained in intelligence analysis, the immediately desired outcome of the mission is as important as the assigned task. Without a desired effect that is visible immediately, these airmen incorrectly view CAS as ineffective and unnecessary. For example, counter-indirect fire and counter-improvised explosive device, if requested and tasked appropriately, provide deterrence. Deterring would-be shooters, through CAS presence, proved successful over time as zero indirect fire incidences occurred over six weeks when previously indirect fire was experienced one to two times per week. (This occurred at one point during a recent six month deployment in northern Iraq where CAS initially was used for deterrence until rotary wing assets assumed the mission. Fixed-wing CAS' participation declined and then saw a resurgence near the end when indirect fire began to increase. Though one cannot directly attribute the reduction in indirect fire to a renewed CAS presence, one can also not deny CAS had no effect in producing a deterrent during these six weeks.) In stability operations, where CAS is requested in a focused-intelligence, surveillance and reconnaissance role, it is essential for CAS requestors to enumerate specific ground actions for CAS which can then be passed to the joint terminal attack controller for follow-up action. Requestors should also expect to provide information pertaining to other assets requested for similar tasks near in time and/or space to CAS.

As is evident, counterinsurgency provides non-traditional challenges to joint Fires integration, thus intuitive solutions do not readily appear. Fire support officers may not be required to have an organic fire support plan if emphasis is placed upon nonlethal effects through economic and political means. Neither will a traditional forward line of troops nor a forward edge of the battlefield area exist and where there is no plan for instances when ground units work outside organic Fire support ranges, CAS and close combat attack assets are default reactionary responses to enemy engagements and force protection. Therefore, CAS must maintain fundamentally and doctrinally sound procedures to meet various degrees of operational demands – full-scale, linear operations on one hand and stability, non-linear operations on the other. The tactical air control party, aligned with command echelons is the link to use airpower to meet

SSG Pete Wartena passes a joint terminal attack control call to Capt. Joby Bennett, U.S. Air Force, at the Air Special Operations Center in Camp Victory, Iraq, April 29, 2007. (Photo by SSgt Carlos Diaz, U.S. Air Force)

objectives and create effects on both ends of that spectrum.

For CAS to remain useful to future brigade commanders in Operation Iraqi Freedom or even be considered during future stability operations, continued diligence in using CAS to its inherent airpower strengths – not necessarily and solely its traditional skills – will be paramount. Efforts to include the tactical air control party in intelligence fusion so air liaison officers and joint terminal attack controllers can most effectively advise ground commanders regarding CAS must continue. Incorporating CAS into counterinsurgency is a product of intelligence-driven operations. Because the battlefield is broad and assets are at a premium, CAS requires more intelligence feedback from battalion and brigade intelligence analysts to properly position assets to help shape – in a sense, fine-tune – the battle space and meet the ground force commander's objectives. However, this fusion only will occur once airmen begin to understand the shaping that must occur in the counter-insurgent environment and Soldiers see the utility of airpower where the need to control and retain terrain is potentially unnecessary and the political desire to fight a war of attrition is non-existent (see Phillip Meilinger's article "Counterinsurgency from Above" in the July 2008 edition of *Air Force Magazine*).

A counterinsurgency, at the core, does not measure success by holding traditional territory. Airpower in general and close air support specifically – albeit counter intuitively – is suited for just such a mission because of its inability to hold ground where the reaches of land maneuver are strained (see Phillip Meilinger's article "Paradox List" in the April 2009 edition of *Air Force Magazine*). Doctrinally, close air support supports maneuver units and is well-suited for counterinsurgency. CAS' availability to brigade commanders is invaluable when the need exists to influence a non-territorial, human psyche-based fight. The problem of integration and incorporation, however, remains difficult to solve because there is a requirement for Soldiers to think in a dimension not taught to young Army lieutenants and captains and for airmen to look beyond the standard metrics employed when measuring the success of a mission.

Captain Jonathan McCoy, U.S. Air Force, is an air liaison officer in the 13th Air Support Operations Squadron, Fort Carson, Colo., and is the senior Air Force advisor to the 2nd Brigade Combat Team, 4th Infantry Division on combat air power employment in air-land battle operations. He is responsible for training and integrating battlefield airmen supporting three combat battalions within the brigade. McCoy also served as a weapons system officer in the 37th Bombardment Squadron at Ellsworth Air Force Base, S.D. His deployments include Operation Iraqi Freedom and Enduring Freedom. McCoy earned a Bachelor of Science in Political Science from the University of Wyoming.

Dominating the spectrum: Army integration of electronic warfare

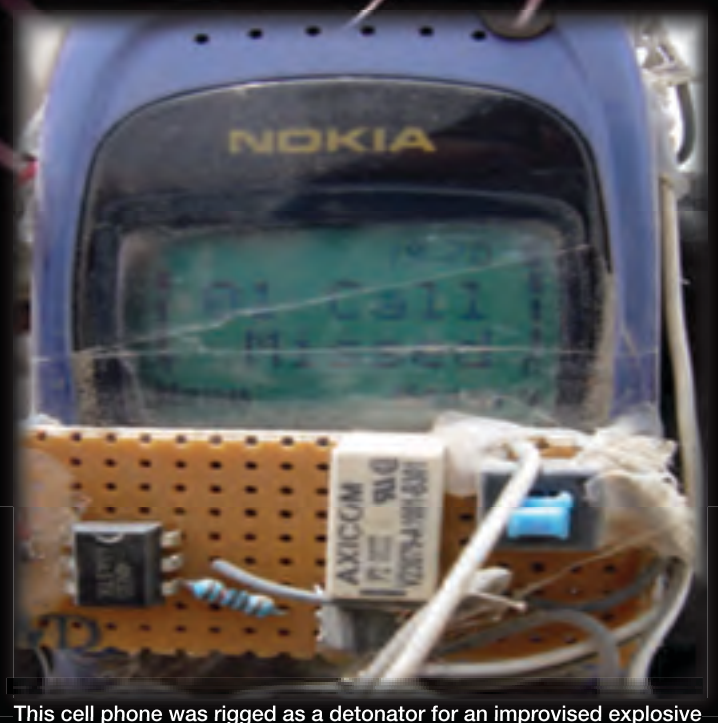
By COL David J. McCauley and LTC Eric A. Healey

In today's electronic age, the electromagnetic spectrum is becoming key terrain and our Army electronic warfare warriors provide commanders necessary insight and advice for its domination. During the high-intensity combat phase of Operation Iraqi Freedom, and in response to the asymmetric nature of the counter insurgency environment, the Army has sought to return electronic warfare professionals to the force. After the end of the Cold War, the Army lost the institutional competency that the electronic warfare professional brought to the operational environment because the program was focused on a Warsaw Pact-based threat. The reduction of this potential threat and the overall drawdown the Army experienced in the late 1980s caused a strain on already limited resources and the electronic warfare support program suffered as a result. So, over time, because the field wasn't being adequately maintained, doctrine and regulations became outdated and the Army became unprepared to employ electronic warfare across the battlefield.

In the absence of an Army presence, the Navy and Air Force quickly stepped forward to establish support organizations for both Operation Enduring Freedom in Afghanistan and Operation Iraqi Freedom. These organizations provided direct support for joint electronic warfare officers from battalion through corps level to fill operational requirements. But it wasn't enough, so shortly after, it was decided that the Army would reestablish electronic warfare as a core competency to dominate the electromagnetic spectrum in support of land warfare.

The Army electronic warfare officer is the commander's subject-matter expert to plan, coordinate, synchronize and deconflict EW support to full spectrum operations. In order to do this, he must view effects in terms of control, protect, deny, deceive, disrupt, degrade, and destroy as appropriate for the problem and target set to achieve desired results. The Army is in the process of building a long term institutional core competency in EW while at the same time integrating newly trained EW warriors with additional skills at the operational and tactical level to meet the immediate needs of OIF and OEF.

The Army is currently executing a bridging strategy where deploying units select personnel from within their ranks for additional EW skills training to gap the manning shortfall until an EW military occupational specialty (MOS) and a functional area management system are institutionalized and produce fully trained electronic warfare professionals.



This cell phone was rigged as a detonator for an improvised explosive device. The detonator was recovered undamaged after having been successfully jammed by electronic warfare personnel using Counter Radio-Controlled IED Electronic Warfare equipment funded by the Joint Improvised Explosive Device Defeat Organization. (Photo courtesy of the Department of Defense)

The plan is for the Army to build an enduring EW manning capability by assigning an MOS and functional area for electronic warfare professionals to facilitate assignments to units in accordance with Army Force Generation priorities beginning in fiscal year 2011 through fiscal year 2013. Approximately 40 percent of the total Army EW requirements are going to be added to unit manning documents and filled during this time period. The Army plans to manage EW personnel as a career field designation for noncommissioned officers and warrant officers - 29E and 290A respectively. The enlisted 29E career field is available to sergeant (E5) to sergeants major (E9) and will serve at the battalion up to corps level. The 290A electronic warfare warrant officer provides EW technicians in the grade of WO1 to CWO5. Officers are managed as a FA29 population. Commissioned officers can serve in FA 29 from captain to colonel and both officers and warrant officers serve at the brigade

to Army Service Component Command (ASCC) level.

A major institutional step towards establishing EW as a long term capability was the recent update of two key documents, Army Regulation 252-22 *U.S. Army Electronic Warfare* and Field Manual 3-36 *Electronic Warfare in Operations*. These documents lay the foundation and concepts of how the Army will execute EW in full spectrum operations. AR 252-22 supersedes the last revision dated Oct. 1, 1982. FM 3-36 provides commanders and staff clear concepts to operationalize the electromagnetic spectrum and the framework for which they operate. This FM, in conjunction with Joint Publication 3-13.1 *Electronic Warfare*, provided useful tools in executing EW operations in OIF.

The current institutional EW training options available to the commander are currently located at Fort Sill, Okla., and Fort Huachuca, Ariz. Commanders can also schedule mobile training teams to travel to their installation to provide an array of EW training. Training in theater will be provided by joint electronic warfare officers who have the added flexibility to mitigate training shortfalls as this Army program continues to grow.

United States Forces – Iraq achieved full operating capability of Army electronic warfare bridging strategy in OIF 09-11. USF-I headquarters maintains a joint structure at the electronic warfare coordination cell and integrated an Army corps electronic warfare officer with training from the functional area 29 pilot course. By adding an Army electronic warfare officer into the Electronic Warfare Coordination Cell (EWCC). It brought a much needed Army and ground-based perspective into what was previously an air-centric Air Force and Navy cell. This initial move synchronized the EWCCs efforts among all the services and increased the overall capability to include coordinating operations with subordinate commands. The current success at division and below was the result of the successful synchronization and integration of Army electronic warfare into every type of formation down to company level.

Today's fight in OIF is best characterized as a counterinsurgency environment, which is only one particular aspect of the overall spectrum of conflict. Commanders must include EW as part of their overall mission analysis when determining a unit's mission essential task list, leader, Soldier and staff tasks to mitigate the risks that Radio Controlled Improvised Explosive Devices (RCIED) and other remote detonated devices pose to the troops on the ground. Commanders must know and understand their EW manning requirements and ensure they are trained to execute their mission. Current manning and training guidance for the United States Central Command area of responsibility is published and available for commander's pre-deployment planning. Meeting this guidance will facilitate a seamless transition of Army EW personnel and counter RCIED electronic warfare specialists (CREW). Any command with a mission 'outside the wire' will require a trained and competent electronic warfare team. CREW specialists are key members of the team and play a vital role in pre-combat checks and inspections.

The Army continues to evolve into a more potent, capable and flexible land warfare organization. We leverage technology and continually search for better ways to employ it to enable the force. The recent emphasis on electronic warfare is another example of the Army evolving and is a timely example, as well, due to the proliferation of affordable commercial off-the-shelf technologies available to our adversaries. On today's battlefield a myriad of techniques must be employed to mitigate these low cost yet highly effective methods of warfare. Therefore, the integration of Army EW personnel into our formations provides a unique capability to exploit the electromagnetic spectrum.

Commanders of the modular force have a key role in growing EW as a core competency. Understanding of the electronic warfare system and how electronic warfare professionals utilize and manipulate the EMS are paramount skill sets that must continue to be developed. Commanders need to leverage their Army EW professional and establish unit EW programs that include Leader, Soldier, and collective training. Soldiers in OIF are now dominating the spectrum with the full integration of the Army through the EW bridging strategy.

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Lieutenant Colonel Eric A. Healey, field artillery, is the Multi-National Corps-Iraq Joint Fires and Effects Cell Electronic Warfare officer at Camp Victory, Iraq. Previously, he served as the 17th Fires Brigade deputy commanding officer in Fort Lewis, Wash.

CPT Daniel Grieve (left) tells Capt. Dane Bannach, U.S. Air Force electronic warfare officer, how to properly function check a new generation jammer system in Camp Taji, Iraq, March 25, 2009. (Photo by SSG Dilia Ayala, U.S. Army)

Fires AUTHOR GUIDE

Article subjects. *Fires* strives to be "forward-looking." We're at the dawn of a new Army transformation. Many exciting things are taking place in the field and air defense artillery fields of expertise. Article subjects should therefore be current and relevant. Writers may share good ideas and lessons learned with their fellow Soldiers, as exploring better ways of doing things remains a high emphasis with *Fires*.

If an article subject is significant and pertains to field artillery or air defense artillery and its diverse activities, as a rule of thumb we'll consider it appropriate for publication. Article subjects include (but aren't limited to) technical developments, tactics, techniques and procedures; how-to pieces, practical exercises, training methods and historical perspectives (Army Regulation 25-30, Paragraph 2-3, b).

We are actively seeking lessons-learned articles which will enhance understanding of current field and air defense artillery operations. The magazine's heart is material dealing with doctrinal, technical or operational concepts. We especially solicit progressive, forward-thinking and challenging subject matter for publication. In addition to conceptual and doctrinal materials, we encourage manuscripts dealing with maintenance, training or operational techniques.

Good ideas or lessons-learned articles should have two closely related themes: one, what did you learn from what you did? The second theme is: what is most important for others to know, or what will you do differently in the future? Include only the pertinent information on how you did it so someone else can repeat what you did. Don't include a blow-by-blow of your whole deployment. The article's emphasis should be that your unit has a good idea or some lessons-learned to share.

Steps involved in submitting an article to *Fires* are outlined following.

All articles should have the bottom line up front; however, to better ensure your chances of publication, we recommend that you read all the criteria contained in this article as well as apply the guidance contained in the *Fires* style manual at sill-www.army.mil/firesbulletin/style.asp for more details. We do not pay for articles or illustrations other than providing contributors with complimentary copies of the magazine.

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If you get permission to use someone else's graphic or photo, especially from the private sector, we need proof of that in writing.

Getting started. Select a relevant topic of interest to the U.S. Army field and air defense artillery community. The topic must professionally develop members of these fields. Write an outline to organize your work. Put the bottom line up front and write clear, concise introduction and conclusion paragraphs. Follow the writing standard established in Army Regulation 25-50, Preparing and Managing Correspondence, Section IV (the Army writing style), and Department of the Army Pamphlet 600-67, Effective Writing for Army Leaders, especially Paragraphs 3-1 and 3-2.

The Army standard is writing you can understand in a single rapid reading and is generally free of errors in grammar, mechanics and usage. Also see *Fires*' style manual. Maintain the active voice as much as possible. Write "Congress cut the budget" rather than "the budget was cut by Congress." (Department of the Army Pamphlet 600-67, Paragraph 3-2, b[1]). Write as if you were telling someone face-to-face about your subject: use conversational tone; 'I,' 'you' and 'we' personal pronouns; short sentences and short paragraphs. Articles should be double-spaced, typed, unpublished manuscript, between 3,000 and 3,500 (or less), but no more than 5,000 words, including inline citations as appropriate.

Authors should check their articles' contents with unit commanders or organization directors or S2s/G2s to ensure the articles have no classified or operations security information in them. Clearance requirements are outlined in Army Regulation 360-1, Chapter 5, Paragraph 5-3. Headquarters Department of the Army/Office of the Secretary of Defense clearance is required if your article meets any of the criteria listed there. Article clearance is further covered in Paragraph 6-6, with procedures on how to do so outlined in Paragraph 6-9. The bottom line on most article clearance is discussed in Paragraph 6-6. While you certainly may ask your local Public Affairs Office's advice, it is the "author's responsibility to ensure security is not compromised. Information that appears in open sources does not constitute declassification. The combination of several open-source documents may result in a classified document."

So while the *Fires* staff may question the sensitivity of an article we receive, it is not our responsibility to officially clear articles, however if we do see something within an article that might cause concern, we reserve the right to withhold publication of such an article until it is thoroughly vetted with the proper subject matter expert or Army authority. But it still remains the author's responsibility, as outlined in Army Regulation 360-1, not to compromise national security or U.S. Army operational security matters.

We reserve the right to edit an article, so the *Fires* staff will edit all manuscripts and put them in the magazine's style and format. The author of an article or interviewee will receive a courtesy copy of the edited version for review before publication, however, if the author does not get back to the *Fires* staff with any questions or concerns within a specified suspense date (typically five to seven working days) it will be assumed the author concurs with all edits and the article will run as is.

Except in the case of Armywide news items, authors should not submit a manuscript to *Fires* while it is being considered elsewhere. A comprehensive biography, highlighting experience, education and training relevant to the article's subject and credentialing the author as the writer of the article also is required. Include e-mail and mailing addresses and telephone, cell and fax numbers. Please keep this information current with *Fires* for as long as we're considering the manuscript.

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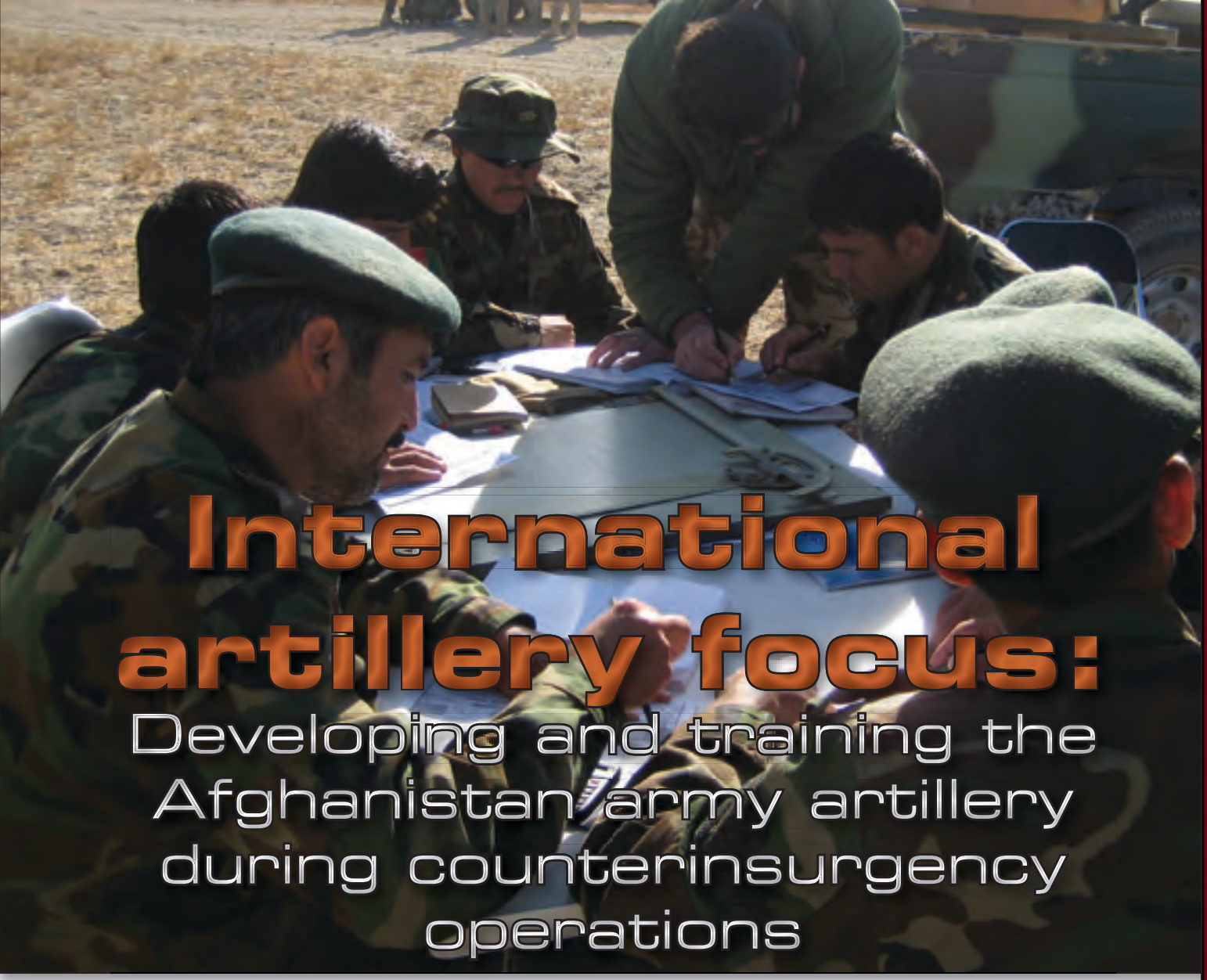

International artillery focus:

Developing and training the Afghanistan army artillery during counterinsurgency operations

Afghan artillery soldiers conduct fire direction training at Forward Operating Base Kalagush, Afghanistan, Aug. 20, 2009, culminating with a live-fire exercise. (Photo by 1st Lt. Gary Deitch, U.S. Marine Corps)

By 1st Lt. Gary Deitch, U.S. Marine Corps

Developing and training an army is a long and intense process, especially when you are developing that army to fight and win during an unyielding and ever capable resistance. I, along with a small team of artillerymen from various backgrounds and training regimen from the United States and abroad, attempted to develop and train various artillery units throughout Afghanistan with no developed or predetermined guidance on the use of artillery with the Afghan army. The Afghan army's focus has been for some time to conduct counterinsurgency operations within the borders of Afghanistan, but we attempted to widen their focus to developing fire support skills so we could maximize their capabilities on the battlefield.

In order to get started, first, it was important to develop a working knowledge on how the artillery within Afghanistan differs than any other artillery unit in the world. The Soviets during their occupation developed the Afghan army to fight vast armies on a linear battlefield with mass precision fires. Think of it like an artillery army with lots of tanks, heavily mechanized assets with little or no focus on the human toll of war. When the Soviets left in the winter of 1989, they left their equipment with the Afghans to help them fight. This in turn left a huge stockpile of Soviet artillery guns and equipment, to be used many years later in developing capable artillery while still balancing the focus of training and fighting. The main Soviet artillery piece is the D-30; a medium towed 122mm howitzer capable of reaching out to 12 Kilometers. Fire direction utilizes a 6000 mil system with no common deflection. As well, firing computations from the fire direction center to the gun line were computed for elevation and angle of site at the gun line by the gunner, instead of the FDC computing it for them and sending that data to the guns. Since learning of this issue, U.S. and North Atlantic Treaty Organization artillerymen have developed a way to bypass the sight equipment corresponding to the distance to the target on the gun and receive the data directly from the FDC and place it on the elevation and deflection counters, like how we are taught to do. The piece on the D30, known as the range drum, had the Soviet gunner compute for data then apply the changes to the site corresponding to the range. The other main issue was computing data with both 6400 mil systems and 6000. Special mathematical equations had to be set up to convert between the two firing systems. Computing fire direction differences became an existing issue with NATO units utilizing their own record of fire worksheets, as well as Afghan units having their own record of fire

Afghan soldiers conduct forward observation training acquiring targets off a map in Kunar province, Afghanistan, Aug. 20, 2009. (Photo by 1st Lt. Gary Deitch, U.S. Marine Corps)

worksheets. Noticeably, there are exactly 6283 mils in a circle, the Soviets rounded down, the Americans and NATO forces rounded up. Instead of multiplying 1.0186 to get angle of site, the Soviets and Afghans would use 0.955.

There are also many other issues that are Soviet specific including powder, map reading, and utilizing the Soviet Tabular Firing Tables to compute manual gunnery. The D30 also utilizes a 360-degree firing capability, good for engaging targets without moving the trails; they remain fixed with the ability to traverse the gun on an azimuth. In many ways, this was very different than what the U.S. Field Artillery has been focusing on for so many years and required an open mind approach when training on an unfamiliar system. This had posed some issues during training, as incoming units were not familiar with Soviet fire direction and gun line procedures, training as if they were utilizing a common deflection system. This is where our team came in. Not only were we training the Afghan artillery units, we were training incoming embedded training teams who were unfamiliar with Soviet artillery doctrine and practice.

One of the biggest issues in training and developing capable artillery has been the lack of unification of efforts with many other NATO countries, for example, trying to standardize our practices with what other countries were teaching. For the Afghans, the process begins at the Kabul Military Training Center, where all combat units train, then individual teams head out to their assigned units. There is currently no formal school to train in fire direction or forward observation, only a short practical application class on gun line procedures with newly graduated Afghan recruits. Unification efforts started there, but were slowly lost as Afghan units became involved in combat operations other than artillery. The majority of the training fell in the hands of the ETT's, who became both the day-to-day operational planners for the Afghans, as well as training them on standardized artillery practices.

Depending on what country was training the Afghans, there were different artillery procedures in place. For instance, a Romanian artillery team taught similarly to how the Soviets taught, because the Romanians use the D30 currently in their country. Their system works great, but without the rest of the artillery community on the same page, it was often an isolated effort. The Romanians and Croatians focused on the PUO-9 Soviet plotting board for manual computations of gunnery, a complex system one can only master by going through their schooling. This had been the primary means of fire direction for the Soviets, but became downgraded as it was mainly meant for massing fires, and not meant for precise fire missions involving enemies in close proximity to a village or civilian populations.

On the Western side, the main players were the British, Australians, Canadians, and the Americans, all teaching to their country's doctrine and practice. The results were good, but isolated as there was not a dedicated doctrine to focus on.

Hence came the conversion from a 6000 mil system to a 6400 NATO standard system. This posed many issues. Right away, our team discussed the many issues in dealing with the conversion, the

largest issue pertaining to having a gun built and computed for 6000 mils now being shot in 6400 sights and FDC. A positive to this was it allowed greater interoperability between NATO training forces and Afghan forces. They may be able to flow right into training without a 3-to-6 month buildup and begin training artillery units from the start. The downside was that the 6-month rotation effort of each ETT could be potentially lost as a result of new doctrine and the Afghans would have to be retrained on some things that pertain to the conversion.

A contract is currently in place to convert the gun sights, collimators, aiming circles, all being built to specifications in 6400 mils. Computations of fire direction and firing tables and ballistics becomes an issue as there are currently no doctrinal fire direction methods nor equipment to compute data for the D30 in a 6400 mil system. The closest piece of equipment we saw that could fit the bill was a Ukrainian handheld ballistics computer capable of computing automated gunnery. The conversion is currently being undertaken by General Dynamics with a specialized Ukrainian technical armament company supplying the equipment.

"We wanted to let the Afghans fight on their own, and to do that we needed a system that was not only easy to learn, but practical."

But what we had in mind was more long term. We wanted to let the Afghans fight on their own, and to do that we needed a system that was not only easy to learn, but practical. Before the conversion process, we were supplying them with a Microsoft Access program known as the Afghanistan Field Artillery Computer or AFAC on a standalone laptop. Developed by an Army major, it was capable of computing fire direction for the D30 in both 6000 and 6400 mil systems. The issue with this is that many Afghans, to include their officers, were illiterate. Also, it became a power supply issue as many fire direction centers were located in remote areas of Afghanistan where their only power supply came from NATO forces.

So the proposal we had come up with was to provide a manual working system only, one that could be used anywhere, anytime. The United State Fire Direction Center was an option, but new graphical site tables, tabular firing tables, and equipment would have to be fabricated to meet the D30 requirements. Another option was to use the Romanian 6400-mil wheel capable of shooting in 6400 mils with the D30, as the Romanians had acquired the new D30 system that came in 6400 mils. This system, I observed firsthand, was easy to use, and required basic accurate firing location to compute data.

Forward observers were another big issue when attempting to train artillery batteries, whether in combat or on the forward operating bases as we had no formally trained observers. We began to set up observation posts throughout the Afghan army area of operations and dictated known points so that fires could be quickly and accurately determined. This worked well for a while, until Taliban fighters began figuring this out and simply attacked from other locations. The FDC was then left to compute firing computations without pre-recorded data, lengthening the time it took to provide the guns the data they needed to shoot.

Success for the Afghan army is going to be a slow process. Developing the right skill sets needs to begin at the earliest stages of their training. A formal artillery school is set to begin training sometime in fall 2011. Until then, it is up to the ETT's and mentors to continue to train their artillery units so that we can assist in providing accurate and timely fires for the Afghan soldiers engaging in direct combat with the enemy.

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