



Field Artillery

A Professional Bulletin for Redlegs

June 1994



Teamwork



A Professional Bulletin for Redlegs

June 1994

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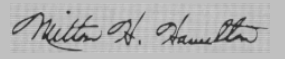
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By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:


MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army

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John A. Dubia
Major General, United States Army
Field Artillery School Commandant

Editor:
Major Robert M. Hill

Managing Editor:
Patricia Slayden Hollis

Art Director:
Donna J. Covert

Assistant Editor:
Joanne Alexander Brown

The Officer-NCO Team:

The Touchstone of Army Leadership for the 21st Century

by Major General John A. Dubia and Command Sergeant Major James C. McKinney



We see leaders every day—section chiefs at Fort Sill, NCOs from Korea and Germany, cadets at West Point, student officers at Fort Leavenworth and commanders and senior NCOs at every level from battery to theater. When we have an opportunity to speak with them, we share an important message: the success of the future Field Artillery depends on the effectiveness of the officer-NCO leader team.

Nothing is more critical to the performance of a unit in battle than the abilities of its leaders—there can be grave consequences if leaders are not up to the tasks at hand. We've spent a large part of our careers in Germany, and one experience remains vivid for both of us: visits to the cemeteries of the American dead from World War II. The cemeteries are truly inspiring places that are carefully, majestically laid out and well-manicured. The perfectly aligned rows of white crosses and stars of David make a powerful impression. Each row is a constant repetition of Private... Private... Private... after row of Private... Private—a grim reminder of the potential cost of a leader's decisions in battle. What a sobering lesson on the importance of leadership.

The impact of leadership on today's Army is equally significant. In the last few years alone, more than 3,000 articles and books have been written on the topic, attesting to the enduring emphasis placed on leadership.

But this vast volume of leadership literature also threatens to overwhelm us

with data and details. We must concentrate on what's most important. As we prepare ourselves for missions that span the full range of military operations in the next century, America's Army must focus on the essentials of growing great leader teams for the force of the future.

Leadership for the Information Age

Officer-NCO teamwork has always been the core of military leadership in our Army. The demanding responsibilities of

battlefield information that will allow him to dominate the enemy throughout his battle space. The Army of tomorrow will plan, prepare and execute at a tempo thought unattainable a few years ago.

The possibilities of the information age only increase the importance of the officer-NCO leader team. The stronger the bond between officer and NCO, the greater the capacity to rapidly implement the commander's tactical decisions.

To help prepare our leaders for the challenges of tomorrow, we must teach, mentor and develop the officer-NCO leader team. This alliance will be the touchstone of Army leadership in the 21st century. An effective leader team must have capable officers and NCOs, as well as a common understanding of their individual roles in the partnership of shared leadership.

“...the success of the future Field Artillery depends on the effectiveness of the officer-NCO leader team.”

training, maintaining and fighting a military unit exceed the grasp of one individual. The officer and NCO must share that responsibility.

In the future, military operations will be even more dependent on shared leadership. Armed with information age technology, the commander will have an unprecedented ability to distribute battlefield data vertically and horizontally. This capability will give him the kind of instantaneous

The Officer

Officer-NCO teamwork begins with officers. Officers must form and articulate clear guidance: a simple, complete statement that defines the desired end state and the reason for that end state.

Officers know that military operations require a clear statement of intent. They also must realize that any task an officer assigns an NCO requires concise guidance to focus followers and direct them

toward achieving the unit's shared purpose. Without clear guidance or a statement of intent, orders become riddles and NCOs are left to ponder their meaning and purpose.

Crafting guidance is an essential element of leadership that requires a competent officer. Competence is the basis of sound tactical judgment, having the knowledge and skill to combine hard facts, missing data and intuitive guesses into the right guidance. The officer must then shape that sound judgment into straightforward instructions with enough details to be clear while avoiding the level of detail that stifles the NCO's initiative.

The officer also must empower the NCO to implement his guidance. He must give the NCO the authority along with the responsibility to implement that guidance. No one cautioned young officers about withholding power from NCOs better than General Matthew Ridgeway, a World War II and Korean War premier combat commander: "Son, don't tie up the dogs and bark yourself."

Empowering NCOs requires officers who are confident in their own abilities and willing to relinquish authority to their subordinates. The officer must allow the NCO to do his job as the first-line supervisor, trainer, leader and advisor to his commander. And to facilitate the NCO's job as advisor, the officer must initiate candid communications between the two to tap the expertise of the entire unit.

The NCO

The abilities and character of the NCO are equally vital for building mutual trust and confidence into the officer-NCO leader team.

NCOs must have the competence, the skills and knowledge to analyze the guidance and get the job done using their initiative. As one veteran commander of Operation Just Cause wrote, "Today, units must have NCOs who can think on their feet, grasp the commander's intent and be trusted to make the right decisions."

The NCO must give clear feedback to the officer to ensure there are no misunderstandings of the officer's guidance. As the other half of the team, the NCO must be mentally in synch with the officer. At the same time, the NCO must have the candor—even courage—to give the officer no-nonsense feedback on his



“ The stronger the bond between officer and NCO, the greater the capacity to rapidly implement the commander's tactical decisions. ”

plans, the status of the unit and the problems they have or might have.

Although the officer and NCO have different duties and responsibilities, they must share all information. Shared knowledge ensures the officer and NCO view the unit's tasks and capabilities from a common perspective. Sharing information increases the officer and NCO's abilities to act independently, yet most effectively, to achieve common goals.

Executing requires the NCO have commitment. He must have the courage and determination to execute in battle and, on other occasions, the moral courage to execute a difficult or sensitive task. The NCO must have that resolution of character to translate the officer's guidance into action—a vital ingredient in the mutual trust

that binds the officer and NCO.

Meeting the Challenge

The officer-NCO team is the key to meeting the Field Artillery's leadership challenge of the future. Building this team requires competence, commitment, candor and courage in equal measures from officers and NCOs.

Our soldiers demand leadership from the officer-NCO team. And each team either will lead the unit forward or fall behind. The old saying remains true today, "No one is a leader until his appointment is ratified in the hearts and minds of his soldiers." Before Redlegs will "ratify" their officer-NCO team in their hearts and minds, the team must truly be a team.



Major General John A. Dubia, Chief of Field Artillery, is Commanding General of the Field Artillery Center and Fort Sill, Oklahoma. His previous assignment was as Director of Officer Personnel Management for the Total Army Personnel Command, Alexandria, Virginia. In his 12 years of troop experience, he commanded the 1st Armored Division Artillery in Germany; a direct support Field Artillery battalion, also in the 1st Armored Division, and three batteries, including one in Vietnam. Other assignments include two tours in the Office of the Chief of Staff of the Army, Washington, DC; Executive Officer to the Commander-in-Chief of US Army Europe; and Executive Secretary for the Department of Defense, Washington, DC.

Command Sergeant Major (CSM) James C. McKinney is Sergeant Major of the Field Artillery and Fort Sill. His previous assignment was as CSM of the Seventh Army Training Command in Germany. In his 25-year career, his experience includes serving as CSM of two Field Artillery battalions in Germany: 1st Battalion, 10th Field Artillery and 5th Battalion, 41st Field Artillery and Schweinfurt Military Community, both in the 3d Infantry Division (Mechanized) Artillery; First Sergeant, Senior Field Artillery Instructor at the Infantry School and Division Artillery Assistant Operations Sergeant. CSM McKinney holds a bachelor's degree in Management from the University of Maryland.



Counseling for Excellence

by Command Sergeant Major William J. Kermode

One of the most frequently asked questions of NCO raters is, "How can I get an excellence bullet on my NCOER [NCO evaluation report]?" ...a question that has made many raters duck for cover. But with just a little effort and planning, they need not duck. Excellence bullet comments can be relatively simple to formulate if raters follow a simple process while counseling their NCOs.

An NCO can only achieve excellence when he clearly knows what's expected of him—there must be a standard for excellence, and the rated NCO must understand the standard. The quarterly counseling session between the rater and rated NCO is the key; it's the prime

opportunity to define the standards of excellence and advise the NCO how he can best achieve those standards. It's also the opportunity for the rater to assess the ratee's performance during the past quarter and discuss whether he achieved excellence, how to sustain what he did well and how to improve, all of which the NCO rater documents on the counseling form (see Figure 1).

During quarterly counseling sessions, the rater must clearly define what it takes to achieve excellence in each of the five areas of the NCOER: competence, physical fitness and military bearing, leadership, training and responsibility and accountability. Once the NCO knows what

the standards for excellence are in each area of his evaluation report, he knows what he has to do to meet or exceed those standards. Clear-cut measurable standards that can be developed into substantive excellence bullet comments are critical. Bullet comments with flowery "feel-good" words without substance don't support excellence and can be seen by a Department of the Army selection board as an attempt to disguise average or below-average performance.

The quarterly counseling form is an excellent management tool for preparing the NCOER at the end of the evaluation period. During each quarterly counseling session, at least one bullet comment from

COUNSELING RECORD		
DATE OF COUNSELING	RATED NCO's INITIALS	KEY POINTS MADE
INITIAL JSS 28 Mar 94	JSS	Reviewed with SGT Jones areas of special emphasis for upcoming quarter. Agreed that to achieve excellence, his section needed to accomplish the following: achieve greater than 900 points on the battalion howitzer section evals next month; obtain 100% pass rate on the CTT with 95% first-time GOs; and improve section maintenance posture to an OR rate of greater than 95%. I challenged SGT Jones to strive for induction in the Audie Murphy Club.
LATER JSS 27 June 94	JSS	SGT Jones did an outstanding job over the past quarter. Section improved its score from 839 to 960 out of 1,000 points during section evals. Emphasis on PMCS resulted in OR rate of 97%. Inducted into the Audie Murphy Club. In the upcoming quarter, we agreed he would concentrate on preparing section for the M-16 range. Excellence meant at least 5 of 8 soldiers needed to qualify expert and the remaining 3 sharpshooter. Challenged SGT Jones to increase the average APFT score by 20 points.
LATER		

Legend:

SGT = Sergeant
 Evals = Evaluations
 CTT = Common Task Testing
 OR = Operational Readiness
 PMCS = Preventive Maintenance Checks and Services
 APFT = Army Physical Fitness Test

Figure 1: The quarterly counseling session between the NCO and his rater using this form (DA Form 2166-7-1 NCO Counseling Checklist/Record) is the key to establishing clear-cut standards for the NCO to follow. Every quarter, the rater reviews the past quarter (unless this is the initial session), cites specific examples of excellence or success and sets the standards for excellence for the next quarter. He then transfers at least one of these examples of excellence (or success) to the appropriate block in Part V of DA Form 2166-7 NCO Evaluation Report (see Figure 2 on Page 4).

RATED NCO'S NAME (Last, First, Middle Initial) Jones, John J.		SSN	THRU DATE
PART IV (Rater) - VALUES/NCO RESPONSIBILITIES <small>Specific Bullet examples of "EXCELLENCE" or "NEEDS IMPROVEMENT" are mandatory. Specific Bullet examples of "SUCCESS" are optional.</small>			
b. COMPETENCE ○ Duty proficiency; MOS competency ○ Technical & tactical; knowledge, skills, and abilities ○ Sound judgment ○ Seeking self-improvement; always learning ○ Accomplishing tasks to the fullest capacity; committed to excellence EXCELLENCE (Exceeds std) SUCCESS (Meets std) NEEDS IMPROVEMENT (Some) (Much)		<ul style="list-style-type: none"> • Raised howitzer section average from 839 to 960 out of 1,000 on battalion section evaluations. • Decision-maker who consistently displays sound judgment. 	
c. PHYSICAL FITNESS & MILITARY BEARING ○ Mental and physical toughness ○ Endurance and stamina to go the distance ○ Displaying confidence and enthusiasm; looks like a soldier EXCELLENCE (Exceeds std) SUCCESS (Meets std) NEEDS IMPROVEMENT (Some) (Much)		APFT	HEIGHT/WEIGHT
		<ul style="list-style-type: none"> • Poised and extremely confident. • Exceeded APFT standards with a score of 295. 	
d. LEADERSHIP ○ Mission first ○ Genuine concern for soldiers ○ Instilling the spirit to achieve and win ○ Setting the example; Be, Know, Do EXCELLENCE (Exceeds std) SUCCESS (Meets std) NEEDS IMPROVEMENT (Some) (Much)		<ul style="list-style-type: none"> • Selected for induction into Audie Murphy Club. • Understands and applies mission first, people always. 	
e. TRAINING ○ Individual and team ○ Mission focused; performance oriented ○ Teaching soldiers how; common tasks, duty-related skills ○ Sharing knowledge and experience to fight, survive and win EXCELLENCE (Exceeds std) SUCCESS (Meets std) NEEDS IMPROVEMENT (Some) (Much)		<ul style="list-style-type: none"> • Section achieved 100% CTT qualification. • Marksmanship training led to section qualifying six experts and two sharpshooters out of eight members. 	
f. RESPONSIBILITY & ACCOUNTABILITY ○ Care and maintenance of equip./facilities ○ Soldier and equipment safety ○ Conservation of supplies and funds ○ Encouraging soldiers to learn and grow ○ Responsible for good, bad, right & wrong EXCELLENCE (Exceeds std) SUCCESS (Meets std) NEEDS IMPROVEMENT (Some) (Much)		<ul style="list-style-type: none"> • Constant emphasis on top-quality PMCS resulted in section OR rate of 97%. • Section participated in two major deployments without significant accident or incident. 	
PART V - OVERALL PERFORMANCE AND POTENTIAL			

Figure 2: The rater uses a blank NCO evaluation report (NCOER) as a management tool to assess the performance of a subordinate NCO throughout the rating period. Each quarter during the counseling session, the rater writes at least one bullet comment reflecting excellence (in bold type) or success in each of the five areas depicted above on the NCOER. At the end of the rating period, the rater will have at least four bullet comments for each block, and the rated NCO will know exactly what his rating will look like—no surprises.



the counseling session should be placed in each of the five areas of the NCOER (see Figure 2). These comments can reflect either excellence or success, but they need to be identified as such. When this process is used throughout the rating period, each of the five areas will have at least four bullet comments to help the rater complete the evaluation.

In preparing the NCOER this way, the rater accomplishes two important things. First, with very little effort, he can complete the evaluation with confidence, having already developed the bullet comments to justify excellence and not

having to rely on memory. Second, he ensures the rated NCO knows exactly what the report will say—no surprises.

By establishing clear standards for excellence and conducting in-depth counseling, the rater will be fully prepared to complete an accurate, fair evaluation. In these days of the Army's drawdown and fewer promotions, we need to ensure all our NCOs know exactly what's expected of them and challenge them to perform to the best of their abilities. And we owe it to our subordinates to accurately and clearly reflect their achievements when rating them.

Sergeant Major William J. Kermode is the Command Sergeant Major (CSM) of V Corps Artillery in Germany. Until recently, he was the CSM of the 75th Field Artillery Brigade, III Corps Artillery, Fort Sill, Oklahoma. During his more than 24 years of service, he has served as CSM for three Field Artillery battalions in the US and Korea; CSM of a Field Artillery Group in Germany; Commandant of the NCO Academy at Fort Sill; and Drill Sergeant at the Field Artillery Training Center at Fort Sill. CSM Kermode also has served as Assistant Gunner, Gunner, Section Chief, Gunnery Sergeant, Chief of Firing Battery and First Sergeant.

Maneuver with Fires—Give Me a Break!

I read "A Fire Supporter's Guide to FM 100-5" by Colonel John W. Reitz in the December 1993 issue of *Field Artillery*. I agree with much of what the article stated concerning joint operations, depth and mass. However, statements in the opening paragraphs suggesting we can

maneuver with fires left me shaking my head.

In the opening paragraphs of his article, Colonel Reitz says, "Modern technology is blurring the distinction between fires and maneuver....With...knowledge, reach and lethality, operational and tactical commanders

can achieve effects that fix, turn or defeat enemy ground forces by fires alone for limited but critical periods of time."

Maneuver with fires—give me a break.

LTC Patrick J. Flynn, AR
Commander, 5th Battalion, 77th Armor
1st Armored Division, Germany

Churning Treads and Rolling Clouds of Dust Do Not a Maneuver Force Make

I have noted with great interest the growing discussion on maneuver as part of a Field Artilleryman's responsibility: Colonel Reitz's article in December's edition, "Fires and Maneuver: The End of Splendid Isolation" by Major General William M. Boice and Colonel Christopher C. Shoemaker in February's edition and "It's Time for FA to Maneuver" by Lieutenant Colonel John M. House in April's edition. This discussion is long overdue. In fact and in doctrine, maneuver always has been inseparable from fires. The artificial separation in common usage is a relic of Vietnam. The term "maneuver arms" is its most misleading manifestation because, by implication, all other branches are excluded from maneuver.

The new Army Operations manual (*FM 100-5*, June 1993) has, by my count, five

definitions of maneuver in three areas: as a principal of war, as a dynamic of combat power and as a combat function. Essential to the understanding of these definitions is that maneuver is a process culminating in relative positional advantage. Movement is one means to that end, but there are others. In fact, movement may be unnecessary as long as positional advantage is achieved (i.e., Lee at Fredericksburg). Churning treads, rolling dust clouds and spinning spurs do not a maneuver force make.

The maneuver responsibility of an artillery commander can be more demanding than that of his counterparts. He is responsible for not only the movement of his forces to achieve positional advantage (maneuver of indirect fire platforms), but also the synchronous movements of fires

around the battlefield to concentrate combat power (mass). He is maneuvering two related, but independent, aspects of combat power—not to mention coordinating CAS [close air support], aviation assets, other indirect fire systems and mines for the next operation!

An artilleryman is squarely in the heart of maneuver and, when a commander, has at least as great a claim to the title of "maneuver commander" as his comrades. He certainly need not be shy when addressing his maneuver counterparts and has considerable responsibility that will be neglected if he does not address them.

So, Redlegs, strap on your goggles, tighten your grip on your binoculars and spin your spurs—if you are so inclined. You are a maneuver warrior!

LTC Donald H. Zacherl, FA
Cdr, 3-321st FA
FATC, Fort Sill, OK

MLRS: Fighting the Close Support Battle

Currently there is much debate in the Field Artillery community about the employment techniques and capabilities of the multiple-launch rocket system (MLRS) battalion in the heavy division artillery (Div Arty). In the past several months, the Chief of Staff of the Army approved having an MLRS battalion in every heavy division with the resources for those battalions pending. For the past year or so, the heavy Div Artys in Germany have each had an attached MLRS battalion.

As part of an MLRS battalion in Germany and after participating in two consecutive rotations at the Combat Maneuver Training Center (CMTC) at Hohenfels, we would like to share some

of our perspectives on the use of MLRS on today's fast-paced battlefield.

We went from having one MLRS battery spread across the division front to having an entire battalion across its front. This allows one MLRS battery to cover each brigade sector, which requires a habitual relationship with the brigade's direct support (DS) 155-mm battalion. This relationship causes a few new problems and some exciting opportunities that we need to examine closely if the system is to achieve the best results possible.

One of these problems is: Can we, and if so, how do we use MLRS to influence the close battle? *FM 6-60 Tactics, Techniques and Procedures for Multiple-Launch Rocket System (MLRS) Operations* says

that MLRS is not suited to support the DS mission. The long fire mission processing time coupled with the limitation of a single munition (at this time) supports this theory.

Captain Robert P. Smith, Jr. wrote in his letter to the editor, "Response to 'The New Heavy Div Arty'" (February 1992), that MLRS' "answering calls from the brigade's observers goes directly against MLRS doctrinal employment." Captain Smith is only partially correct. It is true that MLRS should not be used by observers for targets of opportunity. Our large footprint and the long processing time make targets of opportunity very difficult to hit. On the other hand, if MLRS is used in conjunction with a sound engineer obstacle plan, MLRS' enormous firepower can have a tremendous effect on a slowed or stopped opposition without our maneuver

forces having to engage in a direct fire battle. That could save lives.

The key is planning. As the maneuver commander coordinates to have the engineers use obstacles to slow or stop the advancing enemy, the DS battalion commander (fire support coordinator, or FSCOORD), knowing that he has a MLRS battery in his sector, should coordinate through the Div Arty to plan MLRS targets on the enemy side of the obstacle. Through a quick-fire channel from the FSCOORD to the MLRS battery, the observers can call for fire when the enemy reaches a pre-planned trigger point and have "steel on target" when the enemy hits the obstacle.

In one CMTC rotation, we received fire missions from a DS battalion that would have impacted on the enemy when he reached the obstacles. The missions were ended before any rockets left the tubes because the observers lost "eyes" on the target. In the after-action review, we learned that, had the observers pulled the trigger, we would have ruined the opposing force's day. The problem was that the observers didn't realize they don't have to retain visual contact to adjust rounds onto a target—they only need to tell

us when the enemy reaches the trigger point.

This misunderstanding of how MLRS works leads us to our next problem: training the DS battalion. If the MLRS battery is to work habitually with a DS battalion, a constant flow of information has to occur between the two. Too often, DS artillerymen don't understand rocket employment and vice versa. Classes on the capabilities, limitations and employment of MLRS on the battlefield can help to bridge the gap and lead to understanding how best to use our fire support assets to have the desired effects on target.

Regular training with the two units working together will allow the DS battalion to integrate MLRS into its fire planning to most effectively employ the system and allow the MLRS battery to get used to temporarily changing missions from counterfire to close support by way of the quick-fire channel.

The key to ensuring the DS artillerymen use MLRS in the best way possible is the liaison team. Captain Smith was correct when he said "an MLRS battery does not have a liaison team"—but the MLRS battalion does.

At the CMTC, we discovered the best place for the liaison team was at the brigade tactical operations center (TOC). At first, we tried to put the team in the DS battalion TOC, but it didn't have the influence over the battle it needed. At the brigade TOC, it was available to advise the FSCOORD on how MLRS can help him fight the battle. Also, it was located where the fire planning takes place and could ensure that MLRS was worked into the fire plan from the start instead of as an afterthought.

MLRS is an incredible amount of firepower right at the fingertips of the FSCOORD. We cannot be DS, but we can influence the close battle while still supporting the counterfire battle for the Div Arty. With training and rotations at our Combat Training Centers, Redlegs will continue to refine new ways to support maneuver, demonstrating why we are "The King of Battle."

1LT Sean M. Herron, FA
CPT Jose M. Acevedo, Jr., FA
1LT Thomas R. Hinds, FA
2LT Kirk M. Kirssin, FA
Formerly of C/2-14 FA (MLRS)
Hohenfels, Germany

Senior NCOs—Get Your Soldiers to Read and Use SDT Notices!

I feel it my responsibility to bring to your attention some problems concerning SDT [self-development test] and your soldiers. The overriding problem is that NCOs fail to *read* and *use* SDT notices. The problem is so important that the Sergeant Major of the Field Artillery has added a note to the SDT notice, and now we're soliciting your support in correcting these problems.

SDT results from FY 93 have identified many problems that can be corrected through senior NCO leadership and guidance. All command sergeant majors in the Field Artillery School [Fort Sill, Oklahoma] are completely involved in all aspects of SDT development.

The senior NCOs of the Field Artillery need to emphasize that every soldier should read the notice from front to back as soon as he receives it. There is a multitude of information contained in that one document.

Two important sections—"Note to the Training Standard Officer (TSO)" and "Note to the Soldier"—need to be read and understood thoroughly. "Note to TSO" will let the individual know what special instructions are given to the TSO concerning testing. The instructions may range from special equipment issued to special testing procedures. Reading and understanding this section will ensure there are no unpleasant surprises once the NCO arrives at the TSO for testing.

Information listed under "Note to the Soldier" may clarify what version software will be tested; it also can draw special attention to a reference used in developing a question and answer that is not listed in the Soldier's Manual.

NCOs also need to understand that *all* tasks listed for their particular skill level *will be tested*—there are no extra tasks listed. In addition to the tasks to be tested, there is also a list of all references soldiers

need to study. The appropriate Soldier's Manual will be listed for each task, plus any other reference from which a question and answer was extracted. There are no extra or erroneous references—only those needed for studying.

Another very important piece of the SDT is the field inquiry. This is the *only* means NCOs in the field have to communicate concern about the SDT to the school. If they are having trouble gathering references or have a problem with a specific question on the test, they should fill out a field inquiry. This input will give the training developer additional field insight for developing future SDTs.

I remind you that the Redleg standard is excellence. This standard will not be attained without senior NCO involvement. Adequate preparation, guided by the notice, will greatly assist our NCOs in achieving this standard.

SSG John T. Chmidling, FA
13M SDT Training Developer
MLRS Division, Gunnery Department
Field Artillery School, Fort Sill, OK

Top-Down Leadership

Field Manual 71-2 *The Tank and Mechanized Infantry Battalion Task Force* says, "One of the commander's greatest challenges is synchronizing and concentrating all his combat power at the critical time and place." One way to minimize that challenge is by using the top-down fire planning process to provide the maneuver commander fire support exactly when and where he needs it the most to win the battle.

As a leader, the concept for top-down fire planning could serve you well in developing and applying leadership skills and traits—skills and traits you can bring to bear at the precise time and place and in such a manner to assure mission accomplishment.

Top-Down Leadership—Originates at a Higher Level

Successful leaders, no matter where they find themselves in the chain of command, must believe, to a certain degree, they are the highest level. They must live the saying, "The buck stops here."

Retired General Maxwell R. Thurman, former Commander-in-Chief of US Southern Command, used to constantly remind his staff about his Rule No. 14—"When in charge, take charge!" Everything must come from the top and come in such a way that everyone from the most senior to the newest private on deck gets the "word." And the "word" (commander's intent) must be clearly defined, easily understood and properly disseminated.

For your leadership to originate from the top, you must set the example at all times for all things. *Actions* speak louder than words. Don't demand anything of others that you cannot do or have not done before. And remember, loyalty originates with the leader—you won't get it if you can't give it.

Supervises as the Most Experienced

At whatever level you're leading, you'd better be the most experienced and absolute best at what you do. There may be some point in your career when you can overcome professional shortfalls and achieve success as a leader by surrounding yourself with people who have the required knowledge, expertise and experience. However, this is not the

norm. In fact, odds are your career will never mature to such a point unless you've demonstrated knowledge, expertise and experience in a leadership position and established a reputation as competent, credible and one who learns from mistakes.

Remember, you can't supervise effectively if you don't know much about who or what you're supposed to be supervising. When, and only when, you're in charge and know your job, yourself and your troops, can you ensure a plan will come together and things will get done in a timely and efficient manner.

Limits Targets to a Minimum

The successful leader never has enough time to do everything that needs to be done. If a leader is outstanding in one area, chances are good that he or she is marginal in another. Marginal is *unacceptable*.

If a leader directs or focuses too much attention on one task, the myriad of other tasks fall by the wayside. Failure to accomplish assigned taskings in support of a larger mission is *unacceptable*.

The secret, according to some great leaders, is to strive to achieve what's referred to as "balanced excellence"—focusing leadership efforts where they have the most impact on accomplishing the mission without completely dropping the ball on things less relevant at the time.

You must learn to direct the majority of your leadership efforts toward the right people at the right time for successful results. If you've prioritized your efforts and achieved balanced excellence, you'll avoid being completely overwhelmed on a daily basis.

Targets Only Targets Essential to Meet the Commander's Guidance

The old saying, "you can lead a horse to water, but you can't make him drink" is true when it comes to some troops' response to your leadership. Identify those Marines or troopers entrusted to you who are most likely to respond to your leadership and spend your time on them.

Certainly, you must be available to all, but don't fall into the pit of spending the majority of your time with the few marginal Marines or soldiers at the expense

of your good ones. Target the high-payoff, high-value men and women under your supervision who will assume responsibility, make things happen and guarantee success for your unit. Cull out those who fail to respond to good leadership and provide no value or cohesion to the unit as a whole.

Allocates Remaining Targets to Others in Accordance with Priorities for Support

Warfighting is a team business; leaders of warfighters must be team players. Besides their obvious and expected strengths, leaders have weaknesses, limitations and human frailties. Successful leaders recognize their limitations, strive to convert their weaknesses into strengths and fight through and overcome their frailties. When they have difficulty dealing with things, they turn to their peers for help.

Good leaders share innovative ideas and thoughts with their peers because the betterment of the entire unit is more important than that of the individual section or unit. Leaders cover each others' "6 o'clock" in a manner that prevents one from looking better in the eyes of his or her superior at the expense of another.

The Bottom Line

Great leaders lead from the top down, modeling and inspiring unselfish leadership at all levels in the chain of command—a synchronization and concentration of leadership that assures the finest young Marines and soldiers in the world are led in a manner that guarantees their success. And if your Marines or soldiers succeed, you and the unit succeed, accomplishing a multitude of taskings and, eventually, the greater mission at hand—quick and decisive victory on any battlefield.



Editor's Note: This leadership piece was taken from the "Commander's Column" of the 14 April 1994 *Cannoneer*, Fort Sill, Oklahoma, written by Colonel Joseph F. Weber, Commander of the Marine Corps Detachment at Fort Sill.



Lieutenant General John E. Miller, Deputy Commanding General of the Training and Doctrine Command; Commanding General of the Combined Arms Command and Fort Leavenworth, Kansas; and Commandant of the Command and General Staff College

Leadership XXI

Interview by Patrecia Slayden Hollis, Managing Editor

“We'll use the high-tech information highway to help commanders train unit leaders continuously to accomplish a broader scope of missions in a much greater variety of circumstances.”

Q *What will the Army expect of its future leaders? What changes do you envision in the way the Army trains those leaders for the 21st century?*

A The classical traits we expect of our leaders—competence, commitment, courage, candor—along with high ethical standards and values-orientation will remain as the centerpiece and continuity of our culture. But we'll see a greater emphasis on such traits as versatility, agility and adaptability.

The 21st century leader must have a high degree of technical competence and knowledge of joint and coalition operations. The leader will have to know how to accomplish not only the traditional combat missions in contingency operations, but also a broad range of operations other than war—anything our nation calls upon the Army to do. Future missions will require a leader to have a broader understanding and dynamic awareness of the world much earlier in his or her professional life.

As our world changes rapidly, our training must remain relevant to future missions and requirements. Leader training will be continuous. Officers and NCOs will attend institutional training at their branch schools, the Command and General Staff College and senior leader schools, but also will be able to access schoolhouse information for training and education in their operational assignments—the world of practice.

We'll use the high-tech information



highway to help commanders train unit leaders continuously to accomplish a broader scope of missions in a much greater variety of circumstances. All leaders will need competence in accessing information as capabilities to do so expand dramatically in the next few years. The personal computer and fax-modem will become critical tools to enable us to get on the information highway and access vast amounts of information.

Information is exploding all around us, accelerating cycles of change. Twenty years ago, major doctrinal changes in the Army occurred at a rate of about every 10 years from the time the concept was first thought of until it was practiced in the field—doctrine is not what's in our field manuals, but rather what's practiced by the Army in the field. That 10-year cycle was acceptable because our primary adversary was the Soviet Union and our intelligence systems allowed us to watch them develop at a comparable rate of about 10 or so years. So we were in harmony, if you will, with their rate of change, and we were meeting the needs of the Army in the field.

Today, our environment is changing much more rapidly, requiring we update our doctrinal concepts every two to three years. We can't afford to wait until a leader or soldier attends the next course at a schoolhouse to distribute the most current information. We must have the means to rapidly distribute information to the field for continuous learning and continuous evolution of thought.

Technology will enable us to do that.

Within TRADOC [Training and Doctrine Command], we talk about Classroom 21. When you use that label, the first thing that comes to mind is that it's going to be a classroom with a lot of "whiz-bang" technology: high-speed projectors, a lot of monitors and computers and so forth. But the key to the vision is it will be a classroom "without walls."

Let me give you an example. The Command and General Staff College will organize sets of knowledge at Fort Leavenworth and use them to help develop leaders anywhere in the Army. If a battalion commander wants to conduct staff training, his S3 will be able to access CGSC archives electronically and search for training support packages. A package may include a scenario previously developed for the National Training Center [Fort Irwin, California] with a special set of learning objectives put together by the CGSC faculty for units to use at their home stations. Leaders and soldiers throughout the Army will have access to these types of ready-made packages, perhaps including training aids and graphics to print out and distribute to their learners. We are a learning organization.

Q *What opportunities do simulations and simulators offer in the way we'd train units and leaders?*

A Many opportunities. TRADOC is working on the Army's training strategy for the 21st century, determining how to integrate simulations and simulators (virtual, constructive and live) most effectively from the crew through the joint task force levels. Distributed interactive simulations (DIS) will link simulations together in integrated scenarios at different locations around the Army to train commanders, staffs and units simultaneously. Using DIS, we'll electronically pull aviators at Fort Rucker, Redlegs at Fort Sill and tankers at Fort Knox together to fight the same battle in real-time, interactive simulations.

One of the biggest training challenges units face today is being prepared to be activated under multiple sets of war plans. For example, in my previous assignment as commander of the 101st Airborne Division, we had to be ready to deploy in response to contingency plans for four major commands. We had to be prepared to go into four different geographical settings, four different enemy situations and four different warfighting scenarios. That demanded a great deal of versatility and breadth of experience from leaders throughout the division.

Many units can't train on the entire list of mission-essential tasks in all assigned war plans, even if they trained on them one at a time. A unit must train everyone on those mission-essential tasks common to all its war plans and then conduct leader training to teach those skills or tasks that

“ Using DIS, we'll electronically pull aviators at Fort Rucker, Redlegs at Fort Sill and tankers at Fort Knox together to fight the same battle in real-time, interactive simulations. ”

can't be incorporated into its core set of tasks. Units do that by providing key leaders what I call "synthetic" experiences—training for military operations through simulations as opposed to expensive, large-scale field training exercises. Depending on the quality of the simulation and the robustness of the exercise, simulations provide leaders a powerful and relatively inexpensive way to train across the spectrum of operations.

Q *How do we train leaders to be prepared to conduct the entire spectrum of military operations, including operations other than war [OOTW]?*

A Although we must train to conduct all military operations, including operations other than war, our training focus must remain on our core warfighting tasks. But as a unit is told that it might get involved in some kind of operation other than war, it must quickly train its leaders and soldiers to be familiar with the nature of the tasks and conditions under which it might perform—the sensitivity, the patience to work with other countries' officials, local civilian population, non-government organizations, the media, etc.

When the unit becomes aware of the possibility of an OOTW deployment but before it gets alerted, leaders and their units need training for a particular OOTW mission. For example, some of our heavy forces in Europe have been preparing for possible peacekeeping missions in Bosnia with a lot of training on operations other than war at home stations and the CMTC [Combat Maneuver Training Center, Hohenfels, Germany].

Q *The Battle Lab at Fort Leavenworth is responsible for "battle command"—what exactly does that mean?*

A Simply stated, the term battle command came from our awareness that command and control are not the same; they're related but distinctly different functions. The commander begins to exercise battle command when he understands his present state (the condition, status and location of his and the enemy's forces),

examines his mission and determines an end state that, if achieved, will accomplish the mission—that is, what he wants the situation and forces to look like in the future. Command then includes articulating that future state in terms of the commander's intent and how the unit will move from its present state to the desired future state in terms of the commander's concept of the operation and orders to subordinate units. The commander then provides the leadership and force of will to cause his or her units to move from the present state to the future state, exercising the art of command. So, in battle command, the commander envisions, sets expectations and provides the concept of the operation, leadership and force of will.

The control function of battle command, performed primarily by the commander's staff, establishes parameters of performance, identifies when activities fall outside those parameters and then recommends corrective actions. So the control function is much like the thermostat on a furnace. The commander sets the temperature he wants—a command decision. But then the thermostat (the control) starts the furnace and shuts it off to achieve the commander's designated temperature. If the staff can't achieve the designated temperature, the commander must make additional decisions to bring about the end state—those are his responsibilities. Now that's a "pure" analogy for illustration's sake; the staff does a lot to regulate and synchronize the many phases of the operation within established thresholds.

The commander should not rely solely on his staff at the tactical operations center for battlefield information. He must move to the critical points on the battlefield to discern with his own eyes what's taking place, gathering information that may never be reported or may be reported inaccurately or incompletely. At the same time, he provides leader presence, force of will, and makes it clear he's sharing hardships with his soldiers.

Ultimately, the commander exercises both the command and control functions



in battle command. His staff enables him to control; the function that only he can perform is battle command.

Q *What are some of the initiatives of Fort Leavenworth's Battle Command Battle Lab?*

A The Battle Command Battle Lab is working on several projects, but one of the most interesting is the Army Battle Command System. This system will be a seamless electronic architecture that facilitates command and control from the tactical through the strategic levels of warfighting in joint and combined operations. Three partners are working on this project: Fort Leavenworth, which is responsible for the art of battle command; Fort Gordon, which is responsible for the technology to facilitate command and control, the traditional Signal mission; and Fort Huachuca, which is responsible for the intelligence and electronic warfare dimension and is helping us a great deal in the evolving concept of information operations.

Information operations and information warfare have always existed in warfighting, but emerging technology has made them more powerful tools in the commander's kit bag. As technologies are integrated to improve the flow of timely, accurate and relevant information to and between the commander and his staff, these expanded capabilities will impact on our doctrine, leader development, training, and organizational and soldier systems. The commander is going to have more influence on the information dimension to accomplish his mission than ever before.

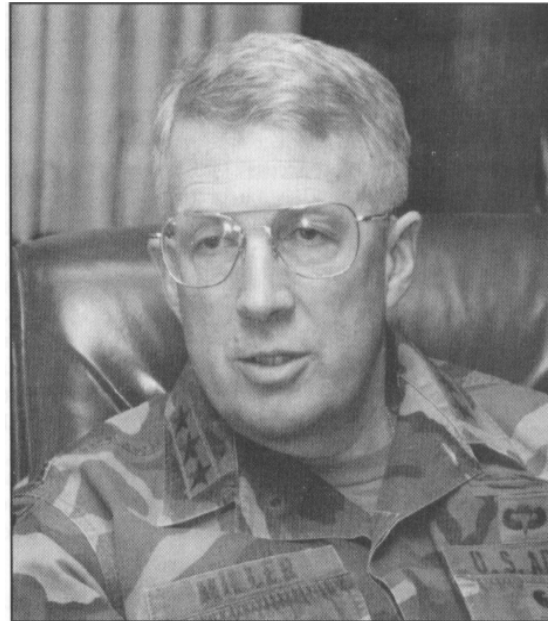
One of the most interesting experiments in our Battle Lab involved 26 Command and General Staff College students. They trained to serve as the staff for a "mobile strike force," a hypothetical unit of about a division size that was simulated in the CGSC Prairie Warrior exercise this past May. Prairie Warrior was a phase of a larger General Headquarters exercise (GHQ-94) as a part of the Chief of Staff of the Army's Louisiana Maneuvers where the US was involved in two nearly simultaneous major regional conflicts, one in Korea and one in Southwest Asia.

Our Battle Command Lab was a key player in the development of the mobile strike force, a conceptual organization with technological capabilities of 1998 and beyond. The high-tech, digitized mobile strike force was modularly designed in combined arms units to conduct

deep and simultaneous attacks across our battle space, massing weapons effects (as opposed to units) to decisively defeat the enemy with minimal friendly costs. The CGSC students fought the mobile strike force against a roughly comparable high-tech enemy within the context of the Prairie Warrior exercise.

During the exercise, we were looking at the potential benefits of new technologies that improve lethality and survivability and that increase operational tempo. One example is the impact of digitized decision aids on battle command. Our initial results require further analysis and experimentation.

The students took an advanced application elective as part of their CGSC curriculum that, through a series of decision exercises to solve tactical problems, prepared them to fight the mobile strike force. Each time they went through an exercise, the decision aids they used to determine and execute courses of action in simulated battle became more and more sophisticated. In the first exercise, they had standard paper maps, acetate and grease pencils. They had some computer-assisted aids for the next one, leading to totally paperless operations centers in the final exercise. All maps were digitized, and the students transmitted situation reports and operations orders electronically. They could call up various overlays on the screen or use what we call the "John Madden" light pen capability—if you watch the NFL football games on Sundays, John Madden can sketch a play instantaneously on the television screen. The students used the light pen on the computer screen to suggest and discuss



courses of action electronically with other operations centers. They had a common, relevant picture up and down the chain of command, a very powerful information tool for commanders and staffs.

It's important that the picture be relevant. As a division commander, I don't need to see the same things the company commander and platoon leader see, but we all need an accurate common set of information, electronically called up and relevant to each echelon, from which to draw conclusions.

Q *As the Army downsizes, there's increasing concern about units having a "zero defects" mentality. What can leaders do to ensure units maintain healthy, developmental climates?*

A There's a lot of pressure out there as the Army gets smaller for each individual to be as professionally competitive as he or she can be. It's in our very nature to compete. But we've got to encourage individuals to take reasonable risks so that

“As technologies are integrated to improve the flow of timely, accurate and relevant information to and between the commander and his staff, these expanded capabilities will impact on our doctrine, leader development, training, and organizational and soldier systems.”

they can grow as leaders, exercising initiative and developing their versatility. Everyone makes mistakes—I certainly made them as a young leader and my current boss is still tolerant of me making mistakes today.

Every commander must be proactive in underwriting the mistakes of his subordinates. If subordinates don't think they can take prudent risks with the possibility that they might make a mistake, then we aren't encouraging young leaders who will exercise initiative and win on future battlefields.

The most important thing commanders can do is invest themselves in their subordinates, make it their personal mission to train leaders first. The training environment must include leader development as an integral part with leaders planning and executing collective training competently and from the front. It's up to commanders and leaders to establish the climate for subordinates to do what's right—not what's easy—and to tell it like it is.

Q *In your previous assignment as Commander of the 101st Division, what were your observations about fire support?*

A I depended on my Div Arty [division artillery] commander [Colonel] Geoff Miller, his staff and the division's FSE [fire support element] to do more for me than you might find typically in a division. An air assault division is unique in that it doesn't have tanks and Bradleys to help fight the battle. And during the air assault portion of operations, units are very vulnerable. Fire support must be synchronized down to the split second and must be totally integrated—artillery, Army and Air Force aviation assets and, on occasion, Marine air and Naval gunfire as well. Executing cross-FLOT [forward line of own troops] air assault operations requires a very carefully integrated J-SEAD [joint suppression of air defense] program, to include electronic warfare. The Field Artillery community really pulled all available assets together and harmonized and synchronized them in battle space.

The 101st Div Arty trained as it would fight. We practiced cross-FLOT artillery raids where Black Hawks or Chinooks inserted batteries deep into enemy territory to provide fires for force protection. Then we'd extract the batteries and move them to new locations in enemy territory or bring them back across the FLOT. Our deep artillery raids were very dynamic and very effective.

“ **Fire supporters must take on a broader role as we mass the effects of joint and combined systems on the enemy.** ”

The mindset of our artillery community was outstanding. If you asked a Redleg what the range of his howitzer was, he'd answer, "One hundred and fifty kilometers plus 14 and one-half kilometers"—the air assault distance plus the howitzer's range.

Field Artillerymen in the division showed the kind of leadership that facilitated change. During my time with the 101st, the division fielded the new light howitzer, the M119A1. The Div Arty NCOs were responsible for fielding that system from start to finish. The Div Arty's Command Sergeant Major Walter Devoe organized his NCOs, put them through Fort Sill's train-the-trainer program and then certified every howitzer crew in the Div Arty. The entire process not only ensured the crews achieved the technical standards necessary for certification, but it went a long way toward building support for this new howitzer into the fabric of the Div Arty's culture.

Any time a unit (or any institution) changes equipment, unit members tend to continue their "love affair" with the old equipment, the equipment they're familiar and comfortable with. Leaders institute change by empowering subordinates to change the organization from within; when that happens, the change really takes root. That's what happened in the 101st Division Artillery.

A *What are the challenges for Field Artillery in the 21st century?*

Q Our technology for synchronization and precision on the battlefield is going to continue to advance—as will that of some of our potential enemies. In addition, the expanding potential for contingency operations, which are inherently joint and frequently combined, place special demands on Field Artillerymen who must help the commander synchronize all available fire support assets. Fire supporters must take on a broader role as we mass the effects of joint and combined systems on the enemy.

We're constantly expanding our horizons in the area of deep and simultaneous attack. Deep fires have taken on a whole new dimension: 360 degrees—or rather,

6400 mils. This presents a unique challenge for fire supporters.

Electronic warfare, though not lethal fires, per se, will present distinct integration challenges for fire supporters, especially in operations other than war.

Q *What message would you like to send Redlegs worldwide?*

A There's no doubt that a large measure of the power the 101st Division would bring to any fight is fire support, orchestrated for the commander by Field Artillerymen. And as our national military strategy places greater emphasis on contingency operations, the appreciation of all commanders—not just those of light forces—for fire support and their fire support coordinators is growing.

We are on the threshold of tremendous opportunities for the entire fire support community as technology allows us to gather more accurate, timely information on the enemy situation and deliver precision munitions with devastating effects. The challenge is for Redlegs to maintain their high standards and be prepared to integrate for the commander all fire support assets, lethal and non-lethal, Army, joint or coalition, into the totality of the fight.



Lieutenant General John E. Miller is Deputy Commander of the Training and Doctrine Command; Commander of the Combined Arms Command and Fort Leavenworth, Kansas; and Commandant of the Command and General Staff College. His troop assignments include Commander of the 101st Airborne Division (Air Assault) and Fort Campbell, Kentucky; Assistant Division Commander for Maneuver of the 8th Infantry Division (Mechanized) in US Army Europe; Commander of the 1st Brigade and, later, Chief of Staff of the 9th Infantry Division (Motorized), Fort Lewis, Washington; Commander of the 2d Battalion, 22d Infantry and, later, G3 of the 8th Infantry Division; and Commander of an Infantry company in the 2d Battalion, 327th Infantry, 101st Airborne Division in Vietnam. Lieutenant General Miller also served as Deputy Commandant of the Command and General Staff College. He holds a Master of Science in Operations Research Analysis from Georgia Institute of Technology.



Leadership Versatility for Operations Other Than War

by Colonel Evan R. Gaddis

Operation Hurricane Andrew Relief in south Florida and Operation Restore Hope in Somalia provided unique leadership opportunities for 10th Mountain Division (Light Infantry) soldiers out of Fort Drum, New York, and for the other soldiers in those operations other than war (OOTW). Our experiences within the realm of peace operations (*Joint Publication 3-0 Joint Operations*) tested our division's leadership and training in a non-traditional role.

We validated that our mission-essential task list (METL) was adequate to cope with the realities of these operations. Our success lay in relying on both the skills developed during our normal METL-based training and the leaders our Army has developed. Tenth Division leaders have those skills and applied them under varying conditions in OOTW, demonstrating their versatility.

Leadership is inextricably linked to OOTW. To be successful in OOTW, leaders and soldiers must be able to act independently with confidence and creativity and build the support of the local population to solve problems in a variety of situations. We expect those leadership capabilities from our senior officers and NCOs, and their performance in Florida and Somalia was superb.

But my most vivid recollections of leadership in those operations involved junior

officers, middle-grade NCOs and soldiers who led the way with organizational skills and initiative. Their leadership—innovations, competence and confidence—was the key to success in OOTW. My vantage point was first as the commander of a brigade task force in Florida during Hurricane Andrew Relief and later as chief of staff of a combined US-Belgian task force in Somalia during Operation Restore Hope.

Taking the Initiative

The mission in Florida of restoring a city's crippled infrastructure and severed lines of communication after a hurricane isn't on the division's METL—neither was feeding, sheltering and treating the population of a razed city. Well-trained on their METL tasks, our soldiers adapted to the unique conditions and used their initiative to accomplish the mission. Two brief examples illustrate the point.

Hurricane Andrew devastated south Florida. Food, water and shelter were gone for thousands of residents. When the division arrived, it brought with it one of the skills most needed in a natural disaster—organization. Young officers and NCOs moved into their assigned sectors of responsibility, conducted initial assessments and quickly began to report their findings and coordinate relief efforts. Sergeants surveyed their neighborhoods, locating people in distress and removing debris. They administered aid and called for assistance, as required.

One junior officer—First Lieutenant Lee Porterfield—at the battalion tactical operations center (TOC) recognized the need to integrate civilian and military operations, so he took the initiative. The lieutenant coordinated to have National Guard and county police and fire personnel with all their radios collocated in the battalion TOC. His actions quadrupled the number of radios available to access emergency services and help county administrators prioritize work; the interagency pooling of resources and efforts eliminated redundancy and cut the emergency response time to less than four minutes.

Our young enlisted soldiers demonstrated initiative as well. They discovered that the gridlock caused by mountains of debris blocking the roadways had paralyzed emergency services. Compounding the problem, the few emergency vehicles that could get through couldn't find the victims because street signs were destroyed. To solve the problem, the soldiers painted street names on curbs at intersections, numbered the roadways and erected traffic signs at intersections and along



10th Mountain soldiers clear debris from Hurricane Andrew under the watchful eye of the media.

highways—all while continuing to clear rubble and help the injured. As an immediate result, emergency vehicles and service crews were able to reach their destinations.

Performing damage assessment, restoring basic human services (water and power) and housing the destitute were all tasks our soldiers had not seen on any METL. But they performed them—and performed them well—by applying their basic leadership skills, focusing on being creative and flexible to accomplish the mission under modified conditions.

Soon after redeploying to Fort Drum, we learned that Operation Hurricane Andrew Relief was just a dress rehearsal for what the division would face in Somalia.

Building Trust

I arrived in Somalia on the 21st of December 1992. Within hours of landing in Mogadishu, I found myself flying to Kismayu, using the infrastructure of the division artillery headquarters to establish

a combined US-Belgian task force. In some ways, the mission in Somalia was similar to the mission in Florida; but the area of operations in Somalia was vast, and we had the added challenges of a pervasively harsh environment, well-armed population and wanton, selfish warlords.

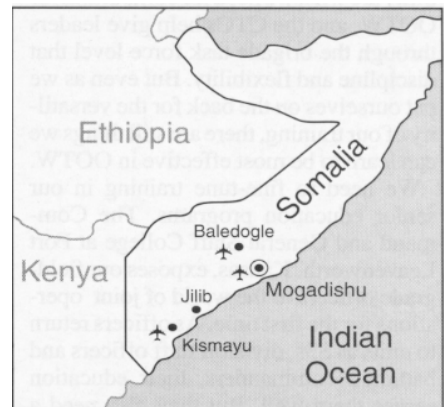
Kismayu, the second largest city in Somalia, was the battleground of two rival war-lords: Omar Jess and "General" Morgan. From the onset, our success would be measured by our ability to keep the two factions apart and provide the people caught dramatically in the middle an environment in which relief workers and non-governmental organizations (NGOs) could operate.

Just as we had done in Florida, we organized our task force to survey the damage and prioritize work. But this time, security for NGOs was the predominant task. We didn't need to revise our METL for Somalia; in fact, we applied our METL and associated battle tasks every day. Convoy security, patrolling, conducting defensive operations—just to name a

few—became "daily battle drills" and a way of life.

One of our strengths in Kismayu was our soldiers' ability to provide security without having to use deadly force, which won the trust and confidence of the local population. As banditry slowly subsided, our soldiers found themselves assisting the local population in "non-standard" ways.

For example, a resident of the village of Jilib called upon a patrol from the 3d Battalion, 14th Infantry one day to recover a stolen vehicle. Although not a "normal" light infantry task, Sergeant First Class Charles Nelson recognized this as a way to win the confidence of the local village leaders. His soldiers reconnoitered the area, found the vehicle and turned it over to the local Somali security council to decide the rightful owner.



The long-term impact of that young NCO's actions was tremendous. The clan elders interpreted the soldiers' actions as a commitment to the village's welfare and security. They accepted the military's leadership—trusted them—and began to work with the task force in the area. This NCO was tuned into the situation and brought his leadership skills and training together successfully under non-standard conditions.

Developing Leader Versatility

Where does the Army get these young leaders? I've often heard it said that leaders are born. Military leaders must have some innate mental and physiological characteristics, but the basic characteristics of competence, confidence, integrity and physical fitness are instilled and developed through a curriculum of tough, realistic training. Therefore, training is the "non-magical" ingredient of leader development that begins in the schoolhouse,



Division soldiers introduce themselves to local children and families in Afgooye, Somalia.

improves at the unit in training exercises and, finally, is practiced and tested at the graduate level at our Combat Training Centers (CTCs).

The CTCs provide our soldiers a menu for success. Under combat-like conditions, they challenge our leaders to think, plan and innovate to survive and win. These are the same problem-solving techniques and decision-making skills we need in operations other than war. The tasks required for success in OOTW aren't new; instead, they're our METL conducted in new conditions.

We validated that if you train for war, you can conduct operations other than war. Battle-focused training prepares us for the most demanding and often unexpected challenges. Discipline and flexibility are what we need for combat *and* for OOTW, and the CTCs help give leaders through the brigade task force level that discipline and flexibility. But even as we pat ourselves on the back for the versatility of our training, there are still things we can learn to be most effective in OOTW.

We need to fine-tune training in our senior education programs. The Command and General Staff College at Fort Leavenworth, Kansas, exposes our field-grade officers to the world of joint operations for the first time. As officers return to units as S3s, division staff officers and battalion commanders, their education serves them well. But they also need a heavy dose of national policy making. Political interaction, State Department involvement and civil-military operations in OOTW will require senior leaders who thoroughly understand national policy and the constraints it places upon them.

In Somalia, the division and brigade headquarters planned operations and negotiated

face-to-face with warlords and clan elders, which impacted on the operational and strategic balance of Operation Restore Hope. As task force chief of staff, the results of my negotiations and those of the task force commander with Jess and Morgan allowed the Army Force (ARFOR) and the US State Department to place the area of Kismayu off limits to these warlords. The UN consequently declared it a zone of demarche.

At the battalion level, commanders must execute the tactical dimension of OOTW with an understanding of and sensitivity to the impact of their actions on the strategic situation. The actions in Somalia taken by Lieutenant Colonel Victor Bero, Commander of 3d Battalion, 14th Infantry and Lieutenant Colonel James Sikes, Commander of 2d Battalion, 37th Infantry illustrate that point. Both commanders conducted virtually independent operations more than 100 miles from their brigade headquarters. Both were given missions to provide security for relief operations, establish local Somali security forces and, where required, disarm the local population—in effect, help establish local governments out of chaos.

Both commanders accomplished their missions in uniquely different ways. Lieutenant Colonel Bero appealed to the village elders through their religious orientation and used the stolen vehicle incident to provide the catalyst for his unit's successful operations in the area. Lieutenant Colonel Sikes' battalion operated throughout the Baledogle and Marka areas where a "mafia"-style clan structure required a combination of trade, barter and brute force. Force projection and the battalion's military dominance were the basics used to build cooperation and negotiation.

For example, the battalion air assaulted into Marka (about 40 kilometers southwest of Mogadishu) and conducted a cordon and search operation to secure the town and confiscate unauthorized weapons. Lieutenant Colonel Sikes' battalion "took" the village from the warlords, secured the area and turned it over to the local clan leaders for their administration.

Both commanders were highly successful because they understood the link between their battalions' tactical actions and the political conditions under which they operated and understood the strategic impact of success or failure.

Much of our success is a result of the Army's training plan that builds capabilities based on specific tasks, conditions and standards. If our vision of future actions includes OOTW—and it should—we must continue to train our METL tasks to standard with an eye on varying the conditions and developing and testing highly versatile leaders up and down the chain of command.

We're proud of our magnificent soldiers from the 10th Mountain Division (Light Infantry). But, in reality, they're just like all soldiers in the best-trained Army in the world. They're trained for war and prepared to use innovative leadership to conduct operations other than war.

Photo by Sgt. Matthew Brown



Colonel Evan R. Gaddis is the Chief of Staff of the 10th Mountain Division (Light Infantry), Fort Drum, New York. His previous assignment was as the Commander of the 10th Mountain Division Artillery. While serving in the 10th Division, Colonel Gaddis participated in Operation Hurricane Andrew Relief in south Florida as the Commander of Task Force Thunder and in Operation Restore Hope in Somalia as the Chief of Staff of the Combined Task Force Kismayu, a US-Belgian force. In other assignments, he has served as the Senior Joint Exercise Planner and as Executive Assistant to the Director, both on the Joint Staff, in Washington, DC; G3 of VII Corps Artillery in Germany and S3 of two battalions in III Corps Artillery at Fort Sill, Oklahoma; Commander of 5th Battalion, 15th Field Artillery, 7th Infantry Division (Light), Fort Ord, California, and of a battery and headquarters company. The author wishes to thank Major Robert H. Drumm, Jr., Deputy G3 of the 10th Division, for his assistance with this article.



10th Mountain and Belgian officers work together in Kismayu, Somalia.

The Air Defense Artillery is commonly viewed as the Army's primary player in theater missile defense (TMD). But the Field Artillery is a major contributor to TMD attack operations, applying deep precision fires to keep the enemy from executing his fire plan. Attack operations integrated with the Air Defenders' active defense creates the synergism necessary for decisive victory.

This article highlights tactics, techniques and procedures (TTP) for attack operations at the unit level and in the fire support element (FSE) and links their actions to the big picture of deep operational level fires in a theater.

TMD has four components, or pillars: active defense; attack operations; passive defense; and battle management/command, control, communications, computers and intelligence (BM/C⁴I). Active defense uses sensors and weapon systems, such as the Patriot missile, to destroy threat missiles in flight. Passive defense involves using forces and elements to deny enemy reconnaissance, surveillance and targeting efforts, which helps to protect our forces and support infrastructure. Passive defense is accomplished through enhanced physical protection and camouflage, concealment and deception. Attack operations use air and ground sensors and weapons to detect and attack threat launchers, missiles, support facilities and command and control sites to prevent the launch or reduce the number of launches of threat missiles. BM/C⁴I embodies the use of elements and systems to provide command, control, communications, computers and intelligence for TMD.

The Field Artillery plays an important role in attack operations. It's the Army's only deep precision strike capability available in all weather and day or night that can attack the enemy within tactically meaningful time lines.

The Theater Missile Threat

The proliferation of heavy multiple rocket launchers (MRLs) and short-range ballistic missiles in former Soviet Union and Third World countries can pose a significant threat to US forces. The ability of these systems to deliver conventional, smart, chemical, biological or nuclear

The Field Artillery and Theater Missile Defense

by Lieutenant Colonel Charles R. Rash and Captain Robert F. Larsen, Jr.

warheads amplifies the need for a concentrated effort to counter these systems.

The Iraqi Scud attacks against Israel and Saudi Arabia during the Persian Gulf War demonstrated again that a long-range missile threat to cities or the threat of weapons of mass destruction (WMD) can have a powerful psychological and political impact on the conduct of the war. The Germans first demonstrated that power when they trained V-1 and V-2 rockets on London during World War II. Such a threat compels field commanders to divert scarce resources to protect friendly cities, ports and forces. The objectives of TMD attack operations are to minimize the threat by preventing or deterring the enemy's use of theater missiles, reducing the political impact of enemy theater missiles, protecting friendly forces and maintaining freedom of action.

Although doctrine for TMD attack operations is evolving, several tenets are clear. TMD attack operations require a fully integrated BM/C⁴I and weapons architecture, need centralized planning and decentralized execution, use the decide-detect-deliver targeting methodology, must be an integral part of deep operations and require the joint force commander (JFC) continuously assess how best to employ his assets, which are often the same for both joint interdiction operations and TMD attack operations.

After detecting TMD targets using advanced sensor technology, friendly forces use operational level fires (or counterfires) to conduct preemptive (or reactive) strikes on the targets, taking them out before enemy missiles (or additional missiles) are launched. The key is the fires must be *timely*. This requires officer and NCO decision makers and soldiers at the keyboards of our processing and launcher systems who understand that time is of the essence.

Key to executing this mission is understanding how an enemy may employ his missile systems. Enemy theater missiles include ballistic missiles, air-to-surface missiles and air-, land-and

sea-launched cruise missiles; our most likely threat will be heavy MRLs and ballistic missiles, such as Scuds, SS21s, and FROGs (free rockets over ground).

Four significant steps occur during threat ballistic missile

operations. First, a transporter erector launcher (TEL) moves from a hide position to a firing point, normally two to four kilometers away. Second, the enemy prepares to fire the missile(s) and then march order. Next, the TEL meets the transloader equipment at a resupply site to reload the missile(s). In the fourth step, the TEL moves into another hide position to await the next mission.

TMD Attack Operations

There are several opportunities to attack threat missile systems during this four-step process—all determined in the decide-detect-deliver methodology. During the decide phase, the JFC develops a high-priority target list for TMD attack operations. In the detect phase, national, theater and tactical sensors are tasked to locate the enemy TMD systems. During the delivery phase, the sensors are linked to the shooters that provide the operational level fires.

Although this concept sounds easy, in reality the fire supporter must collapse several procedures traditionally conducted between the time a national- or theater-level sensor locates the target and the shooter fires; this requires the fire supporter think through the entire problem to ensure the system can rapidly execute the mission effectively.

During all four steps in the enemy's operational cycle, our sensors must be able to acquire the TEL and process intelligence and must be linked to the shooter for a quick-fire mission. To be effective, our intelligence gathering devices must observe the enemy's area of operations (AO) and process information in intelligence and fire support channels quickly.

Both the FSE and the firing unit must process this information fast enough to ensure our Army tactical missile systems (ATACMS)—the Field Artillery TMD weapon of choice—impact before the enemy can fire or move. The optimal location for attacking the TEL is when it's at the

reload site because the TEL will stay there for up to 30 minutes. To employ ATACMS effectively against such a target, the FSE must ensure the sensor, intelligence processing, fire support processing and attack platforms are linked to rapidly transmit information both to clear fires and fire throughout the JFC AO. The unit must ensure it can execute a fire mission immediately—no delay.

With a corps in a theater of operations, there's at least one ATACMS-capable multiple-launch rocket system (MLRS) battalion available to provide operational fires. Before receiving a mission, the corps FSE ensures the communications and processing links are established between the sensor and shooters because their physical locations significantly impact the timeliness of the fires. Two of the sensor down-link systems available today are the ground station module (GSM) Block II, which accesses theater systems, and the unmanned aerial vehicle (UAV) ground station, which is the UAV's control station. Eventually these two down-links will be part of the common ground station (CGS) system. If these sensor systems are at corps, then a BM/C⁴I architecture must be in place that's sufficiently robust to ensure information gets to the launcher in time to successfully engage the target.

On the other hand, if corps task organizes the sensor downlink and attaches it to the MLRS battalion, time lines are reduced significantly. This has implications both at the corps and unit. The unit must prepare to receive and employ a system that, in all probability, it has never trained with, and the corps must develop a system to rapidly clear missile fires throughout the JFC AO.

Simulations determined and exercises confirmed that the most operationally viable location for the sensor down-link is at the battalion fire direction center (FDC) or tactical operations center (TOC). It's essential the sensor section is near the battalion FDC where the target data is processed, and the section is involved in the fire support planning process. Once a target is identified, a call-for-fire is transmitted to the FDC and, subsequently, down to the launcher through the battery. For the immediate execution of this mission, launchers must be in position and ready to fire.

Time lines can be shortened even further if the sensor link is located in the battery, but there are many disadvantages to having the down-link at that level.

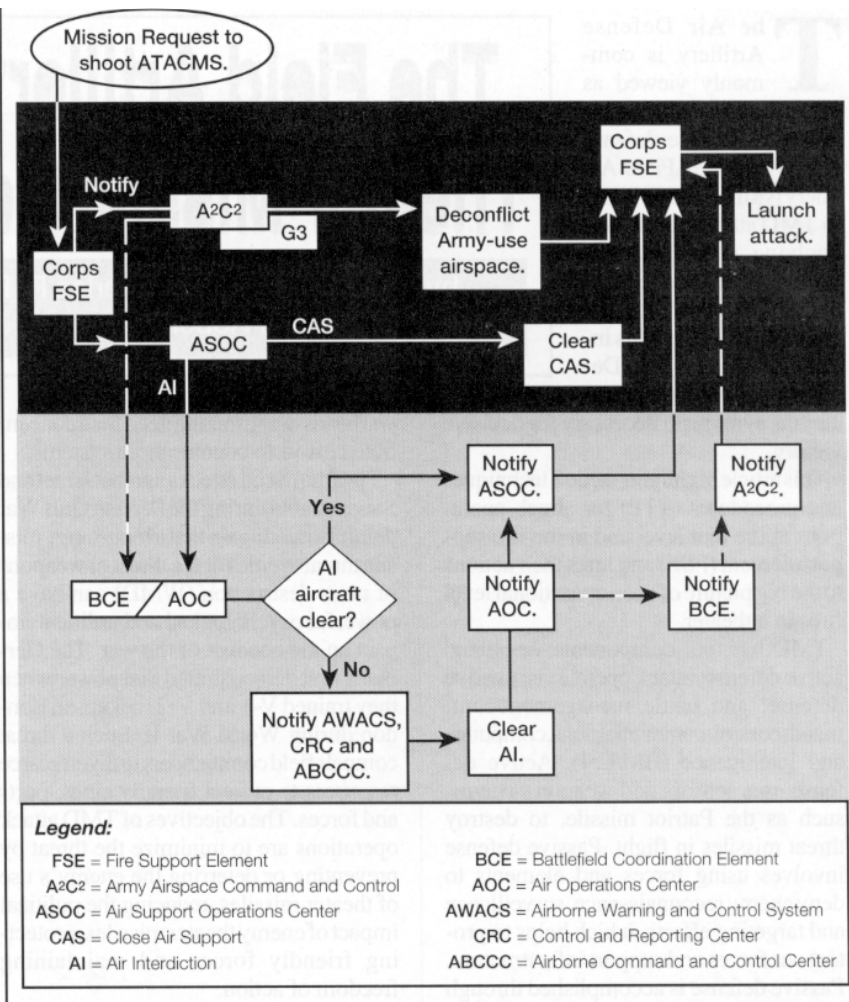


Figure 1: Decision matrix for shooting ATACMS during TMD attack operations when the target is within the corps boundary.

During early entry operations, however, placing the link at a lower level may be necessary, so units need to develop standing operating procedures (SOPs) to address this possibility. The Field Artillery must be prepared to conduct TMD attack operations during the critical first phases of an early entry operation where a brigade or division FSE and a single MLRS platoon could be the only assets available.

Regardless of where the sensor downlink is located, launchers in position ready to fire for extended periods increase the risk of the enemy's detecting them, a risk units must minimize. Examples—units can establish a length of time for launchers to stay in position ready to fire before relocating, determine minimum proximity to other launchers, use concealment, camouflage and deception techniques, etc.

To successfully attack the short-dwell critical TMD targets, the unit must develop a concept of operations that keeps launchers constantly prepared to fire in

the general direction of the enemy theater missile AO. The concept must include having backup launchers prepared to pick up a mission in progress immediately, conforming strictly to maintenance standards, rearming quickly and performing dozens of other tasks to maintain the unit in the highest state of readiness. For 24-hour operations, more than one battery may be required.

Concurrently, the corps FSE needs to know the launcher or platoon's location and the target's location to clear fires out to operational depths. Figure 1 shows the process required to clear the airspace before launching an ATACMS within the corps boundary. Because time is critical, this process must be trained and rehearsed to ensure it will work within the few minutes before launch.

The corps FSE notifies the Army airspace command and control (A²C²) element and the Air Force air support operations center (ASOC), which manages close air support (CAS) aircraft, of

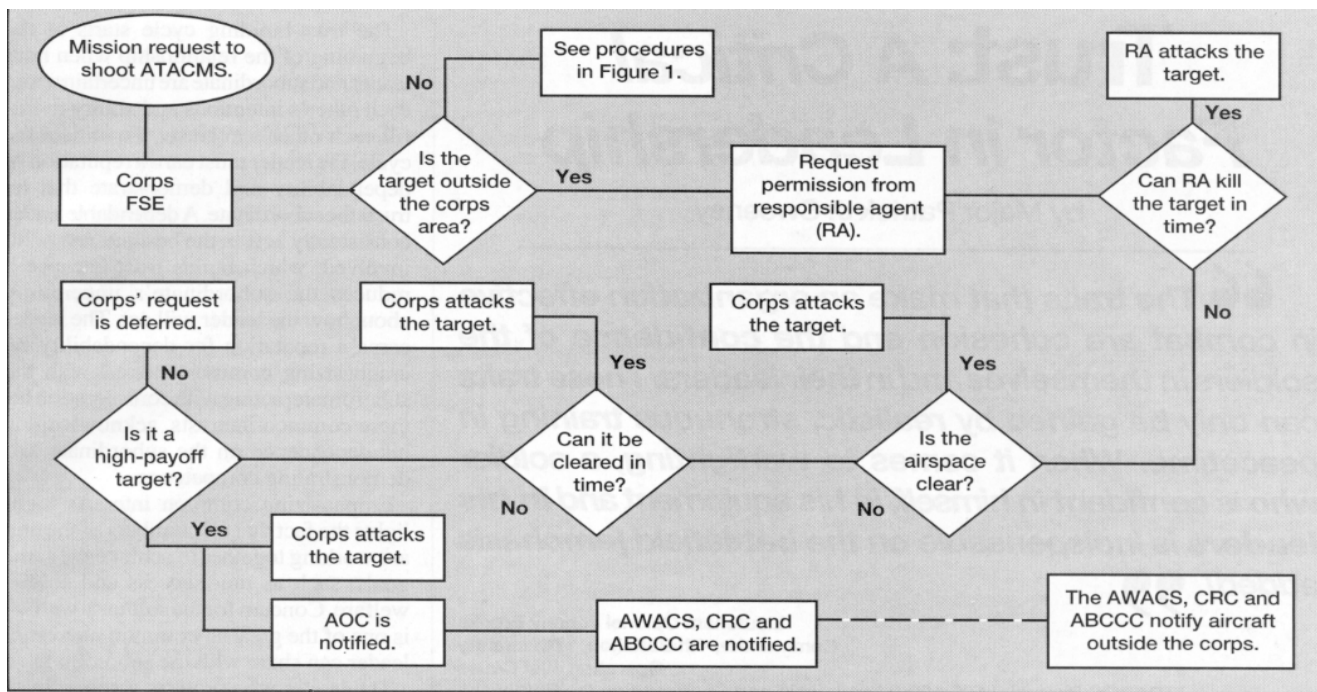


Figure 2: Procedures for shooting ATACMS during TMD attack operations when the target is outside the corps boundary. Note the use of the term responsible agent (RA) to denote the fact that the target may be in another service's or multinational force's area.

imminent launch. The corps A²C² notifies the Army's battlefield coordination element (BCE), deconflicts the Army's use of airspace and then notifies the FSE. The ASOC determines if CAS aircraft are clear and if not, deconflicts CAS by any means available. The ASOC simultaneously notifies the air operations center (AOC) to clear all other aircraft, including air interdiction (AI) aircraft, affected by the launch.

The AOC determines if the other aircraft are clear and notifies the ASOC, which in turn notifies the corps FSE. If the AOC can't rapidly clear affected aircraft, the AOC requests the airborne warning and control system (AWACS), the control and reporting center (CRC) or the airborne command and control center (ABCCC) deconflict the target area.

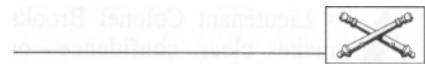
After either confirming deconfliction of the airspace or issuing an alert to the aircraft that an ATACMS will be fired, the AOC notifies the ASOC, which in turn notifies the FSE, that the launch has been cleared. The BCE monitors the AOC process and independently notifies the A²C² element when the AOC has deconflicted the airspace. Once rehearsed, this process should take no longer than five minutes.

In the event the target is outside the corps boundary, procedures similar to those used to clear and fire cross-boundary

fires are required. Figure 2 shows the decision matrix for clearing ATACMS fires outside the corps boundary. Note these procedures take into account that the targets may be in another service's or multinational force's area.

There's great interest in the Army's ability to successfully execute TMD attack operations. The US European Command (USEUCOM), US Atlantic Command (USACOM), US Pacific Command (USPACOM), US Forces Korea (USFK) and the US Central Command (USCENTCOM) are all wrestling with procedures to rapidly attack TMD targets and have conducted or scheduled exercises to ensure they can execute this challenging mission. Recent exercises, such as the Joint Precision Strike Demonstration Project's Rapid Strike I and II and V Corps Artillery's Steadfast II, have demonstrated that TMD attack operations can take less than three minutes from the time the target is located until a missile is launched.

This article has focused on TMD attack operations at the corps level, but the concepts and procedures can be adapted for other levels as well. The Field Artillery plays an important role in TMD attack operations. We must think through the issues now and refine our TTP so we're prepared to provide immediate, accurate fires to operational depths when needed.



Lieutenant Colonel Charles R. Rash is the Project Officer for Theater Missile Defense Attack Operations and Joint Precision Strike in the Fire Support Division of the Office of the Deputy Chief of Staff for Operations and Plans, Washington, DC. In his previous assignment, he commanded 2d Battalion, 7th Field Artillery, part of the 10th Mountain Division (Light Infantry), Fort Drum, New York. He also commanded a Pershing battery in Germany and a battery in the 82d Airborne Division, Fort Bragg, North Carolina. Among other assignments, Lieutenant Colonel Rash was a battalion S2 and Fire Direction Officer in the 82d Division and a Pershing Battalion Executive Officer in Germany.

Captain (P) Robert F. Larsen, Jr., is a Senior Military Analyst for the Depth and Simultaneous Attack Division of the Training and Doctrine Command Analysis Center, White Sands, New Mexico. His previous assignments include Battery Executive Officer and S2/Special Weapons Officer, all in the 3d Battalion, 35th Field Artillery, 72d Field Artillery Brigade, Germany; Battalion Fire Support Officer and Commander of A Battery, 2d Battalion, 320th Field Artillery, 101st Air Assault Division, Fort Campbell, Kentucky; Assistant Division Artillery S3 in the 101st Division; Commander F Battery, 26th Field Artillery (Target Acquisition), 2d Infantry Division, Korea.

Trust: A Critical Factor in Leadership

by Major Patrick J. Sweeney

“The traits that make an organization effective in combat are cohesion and the confidence of the soldiers in themselves and in their leaders. These traits can only be gained by realistic, strenuous training in peacetime. When it comes to warfighting, a soldier who is confident in himself, in his equipment and in his leaders is indispensable on the battlefield [emphasis added].”

Lieutenant Colonel Johnny Brooks
Commander, 4th Battalion, 17th Infantry
Operation Just Cause

"TRADOC Pamphlet 525-100-2 Leadership and Command on the Battlefield:
Battalion and Company"

As Lieutenant Colonel Brooks makes clear, confidence—or trust—is a combat multiplier that bonds organizations together and allows them to realize their full potential in terms of effectiveness. While tough, realistic training is the surest way to develop trust at all levels, much more is involved. By better understanding the mechanics of trust—what it is and how it's developed and fostered—leaders can maximize the potential of this important interpersonal dynamic.

This article presents a definition of trust, a strategy for trust building and examples of how military leaders build trust with soldiers, peers and superiors, emphasizing confidence building between leader and subordinate. These examples are derived from data collected during a leadership study conducted jointly by the behavioral science faculties at Yale University, New Haven, Connecticut, and the US Military Academy (USMA) at West Point. Officers who participated in the study were asked to tell stories illustrating what they had learned about leadership from experience. Fifty-six officers (12 battalion commanders, 24 company commanders and 20 platoon leaders) from the three major branch categories (combat, combat support and combat service support) either told stories about or were asked specifically how they built trust with their subordinates, peers and bosses.

Trust, as used in this article, is defined as an individual's expectation of not being exploited by another person in a relationship when the individual engages in behavior that has the potential for greater harm than good. The individual's expectation of not being exploited is based on a belief that the other person in the relationship is dependable and will look out for his welfare. For example, a cannoneer will willingly take part in a winter night airmobile raid deep in the tundra of Alaska if he's confident his leaders will do their utmost to protect him in those harsh conditions. If his trust in his leadership is not fulfilled, he may suffer injury or death; whereas if it's fulfilled, he has more confidence in his leaders and gains the experience and satisfaction of accomplishing a tough mission.

A Strategy For Building Trust

Trust is built through a reciprocating cycle that usually is initiated by the leader. In the cycle, the leader establishes a reputation for dependability and demonstrates his willingness to trust others, causing the subordinate (or peers or superior) to reciprocate with trust.

The trust-building cycle starts at the beginning of the relationship when both leader and subordinate are uncertain about each other's intentions and ability to fulfill each other's interests. To initiate the cycle, the leader must earn a reputation of dependability and demonstrate that he trusts the subordinate. A dependable leader consistently acts in the best interest of all involved, which builds trust because it reduces the subordinate's uncertainty about how the leader will act. The leader earns a reputation for dependability by emphasizing common interest with the subordinate, acting with consideration for these common interests, acknowledging his dependence on the subordinate and demonstrating competence.

Emphasizing common interests highlights the fact that all members of the unit are working together to achieve the same goals, such as unit success and soldier welfare. Concern for the soldier's welfare is one of the greatest common interests a leader can share with the subordinate.

The leader who protects a subordinate and promotes his welfare, especially in the face of risk, reduces the subordinate's uncertainty about being taken advantage of, which enhances the leader's reputation of dependability and fosters the development of trust. Incurring risk to protect soldier welfare is important because it leads subordinates to perceive the leader's concern as genuine and not simply dependent on the situation.



Leaders who acknowledge their dependence on and willingly share a portion of their power with others increase interdependence in a relationship. Interdependence means that both the leader and the subordinate have some power to affect the other's outcomes and that they must rely on each other to fulfill individual interests. Leaders can share power with subordinates by creating an open and honest command climate that, in turn, fosters

two-way communications—a vehicle for establishing interdependence. Leaders who increase interdependence with their soldiers enhance their reputation of dependability, which promotes building trust.

While earning a reputation of dependability, a leader also must show a willingness to trust others. The leader's willingness to expose himself to potential exploitation (trust others) first and his reputation for dependability initiates the trust-building cycle. If others feel the leader is dependable, they reciprocate with trust, which is the second half of the cycle.

This reciprocation between the leader and others will continue as long as their common interests are being met and the potential for exploitation is low. Each repetition of the trust-building cycle deepens the trust in the relationship. (The strategy for building trust in this article is based on the "Interdependence Frame-work" taken from H. Kelley and J. Thibaut's *Interpersonal Relations: A Theory of Interdependence*, John Wiley and Sons: New York, 1978.)

Leaders have to work harder at building trust with subordinates than they do with peers or superiors because they wield greater power over their subordinates—power that could be used to exploit the subordinates. In the Yale-USMA study, officers reported a variety of ways to build trust with subordinates that validate the strategy for trust building just outlined. These include showing concern for their subordinates' interests and welfare, demonstrating technical and tactical competence, trusting their subordinates to do their jobs, giving them the power to influence up the chain of command, fulfilling commitments and creating an environment that allows for mistakes.

Demonstrating Concern for Subordinates' Interests and Welfare. This was the most frequently reported means leaders used to establish trust. Based on input from those participating in the study, leaders can demonstrate concern for subordinates by taking risks to protect their welfare; acting promptly to solve their problems; providing candid feedback on the unit's situation; sharing hardships together; promoting their families' welfare; and taking time to ask soldiers about their jobs, families and interests.

Actively promoting subordinates' welfare reduces their fear of exploitation because they see their leader is willing to use power in a cooperative and mutually beneficial manner. The subordinates respond to the leader's concern by successfully accomplishing their jobs, which enhances the

unit's prestige and validates the axiom that if you take care of your soldiers, they'll take care of you.

When the leader incurs personal risk to protect subordinates' welfare, they see the degree of his commitment to them, affirming his dependability and increasing their trust. Two narratives from the study illustrate this point well. The first narrative illustrates a company commander's willingness to risk his battalion commander's ire to stand up for one of his soldiers.

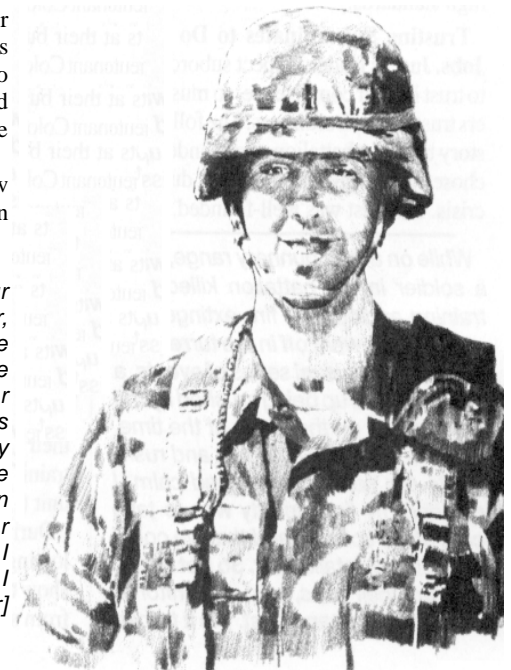
When I first took over the unit, morale was low because the soldiers felt no one cared about them....For example, I had a medic getting out of the Army. The supply sergeant brought me a report of survey and a \$500 statement of charges for the medic's missing TA-50 and asked me to sign one or the other. After talking to the soldier, I found out the equipment was lost on redeployment from Desert Storm and that the old chain of command had not taken action. In fact, the soldier notified the old commander in writing three times his equipment was missing, but the commander took no action. I believe he took no action because he didn't want to submit a late report of survey.

I told the soldier I would ensure he didn't have to pay for the equipment. I notified the battalion commander I was going to initiate a late report of survey on the soldier's lost TA-50. He advised me he didn't want the report of survey initiated because it would make the battalion look bad. I initiated the report of survey, and the soldier didn't have to pay for the equipment. Morale in the company improved drastically because they saw I cared about them and was willing to stand up for them.

The concern the company commander demonstrated was valued by his soldiers because he acted in the face of risk to himself, demonstrating his sincerity and dependability, regardless of the situation.

The second narrative illustrates how standing up for your soldiers pays off in the long term.

During the live-fire portion of our last NTC [National Training Center, Fort Irwin, California] rotation, we worked all night in the defensive position putting in a two-kilometer minefield. It took us eight hours. As the sun came up, we were finally getting ready to sleep when the battalion commander came down and gave my commander another mission. My platoon got the tasking. I knew my guys were exhausted, so I went to my CO [commanding officer] and asked for



some help. He agreed to take one squad from each platoon to form a composite unit to do this new mission. That way, at least some members of each platoon could rest. The guys who went on the mission didn't complain because they believed they would be taken care of later—someone else would pick up the mission next time.

You build trust with your soldiers by going to bat for them and providing ways to take care of their needs. The soldiers who went out on the mission understood I would take care of them in the long run.

Displaying Technical and Tactical Competence and Demanding High Standards. Participants in the study reported that demonstrating technical and tactical competence was the second most effective way to build trust with their subordinates. Competence demonstrates to subordinates that their leaders can accomplish the tasks they're responsible for, including taking care of their subordinates.

Demanding high personal standards sets the example subordinates will follow and promotes subordinates' welfare by ensuring they're experts at their business. As the quotation by Lieutenant Colonel Brooks at the beginning of this article indicates, tough realistic training executed under the highest standards ensures everyone is combat ready and breeds confidence among all members of an organization. This trust building begins with leaders who are confident, competent and set high standards.

Trusting Subordinates to Do Their Jobs. Just as leaders expect subordinates to trust in their competence, so must leaders trust their subordinates. The following story tells of a battalion commander who chose to trust his subordinates during a crisis. His trust was well-founded.

While on a tank gunnery range, I had a soldier in my battalion killed in a training accident. A fire extinguisher accidentally went off in the turret, and through an unusual series of events, a soldier ended up being crushed by the turret. I was on the range at the time.

Rather than getting upset and rushing to the scene, I remained calm. I decided my first priority was to take care of the soldiers and that we could sort out the details later. So I let everyone do their jobs, and I monitored from the command post. (As it turned



out, this was truly a freak accident; the crew had done everything properly.) As I got updated, accurate information, I passed it to my boss.

From this situation, I learned a big lesson about how a leader should behave in a crisis. It's easy to show trust when the situation is stable, but soldiers really know the commander trusts them when they're permitted to do their jobs in a crisis.

Empowering Subordinates to Influence You. In addition to trusting subordinates, leaders who give subordinates the power to influence their situation rapidly develop mutual trust. Leaders give power to subordinates by asking for and being receptive to their input and feedback.

Leaders from Operations Just Cause and Desert Storm found an open and honest command climate fostered cohesion and trust. Subordinates were encouraged to participate in warfighting sessions, rehearsals and after-action reviews (AARs). Many commanders spent a lot of time in an informal environment discussing with their subordinates upcoming operations, training and the general direction for the unit (TRADOC Pamphlet 525-100-2).

During the Yale-USMA study, the following comments by a platoon leader show that opportunities to listen and learn from subordinates abound.

We are a team; it is important to listen to what the soldiers have to say. During free time in the afternoon, I would sit down with the crew and practice fire commands. I would ask the driver, "What would you do during this situation?" In this way we learned together, building cohesion and establishing trust.



Fulfilling Commitments. Routinely fulfilling commitments to subordinates also fosters trust. Company command is probably the first level at which a leader has the authority and resources to ensure commitments are met. Commanders who successfully meet obligations or commitments demonstrate to their subordinates they have the ability (competence) and desire to satisfy their needs or interests.

Creating a Positive Work Environment. Finally, a leader who creates an environment that allows subordinates to make mistakes and learn from them readily gains their trust. Using mistakes as learning tools demonstrates the leader's concern for subordinates' long-term growth and development. Also, establishing a command climate that permits mistakes exposes the commander to risk. The leader's willingness to assume risk to promote subordinates' development increases the likelihood they will view him as trustworthy.

Peers and Superiors

Developing trust with peers is important to leaders because it affects lateral cooperation

and teamwork. A trusting relationship among peers provides each leader additional sources to turn to for advice and new ideas about how to accomplish missions. Also, when peers trust each other, they serve as a social support system, helping one another deal with and diminish stress. When peer leaders work together, the parent organization can accomplish more because of their mutual trust.

A leader builds trust with his peers by providing them assistance, being loyal, communicating with them, being competent and taking action to increase interdependence in the relationship. Similar to developing trust with subordinates, reducing fear of exploitation by showing concern for peers' welfare is the most important means to establish trust with them. The following narrative illustrates the degree to which one commander was willing to assist another to enhance mission accomplishment and mutual trust.

During my final NTC rotation as a tank company commander, I was cross-attached to a mechanized infantry battalion to form a task force. I was given a new platoon when I arrived at the NTC, which I quickly concluded was ill-prepared to fight. My first sergeant advised me to send it to an infantry company so as not to hamper the performance of our company during this crucial rotation. Against his advice, I sent one of my best tank



platoons to the infantry company.

Leaders in the study found that quickly gaining the trust of their bosses was crucial to their ability to lead effectively. A boss who trusts his subordinate leaders grants them more autonomy. This freedom allows leaders the opportunity to perform with greater imagination and achieve excellence more readily.

To build trust with the boss, a subordinate leader should accomplish all missions with precision and enthusiasm, be loyal and, most importantly, provide the boss honest information about his unit's activities and level of readiness.

Building trust takes an investment of time, energy and commitment. But in an Army that's downsizing daily, even as its missions are becoming more diverse and

numerous, the need to build trust and cohesion within units is more important than ever. Soldiers who trust their leaders to take care of them will be less affected by the negative impact of the drawdown and more able to focus their energies on accomplishing the mission.

Building trust is vital for success on the future battlefield where units often will be dispersed over hundreds of kilometers. Trust will be the glue that bonds warfighters into cohesive units capable of accomplishing any mission—from operations other than war to the most intense combat.

By understanding how trust is developed and applying the techniques to build it, leaders can harness the tremendous power of this combat multiplier and use it to create the kind of units the Army needs as it enters the 21st century.



Major Patrick J. Sweeney is an Instructor in the Department of Behavior Science and Leadership (BS&L) at the US Military Academy at West Point. He's currently serving as a Research Associate in the Center for Leadership and Organizations Research, also at West Point. Major Sweeney commanded A Battery, 5th Battalion, 11th Field Artillery, 6th Infantry Division (Light) Artillery at Fort Wainwright, Alaska. In addition, he has served with the 3rd Infantry Division (Mechanized) in Germany. He holds a master's degree in social psychology from the University of North Carolina at Chapel Hill. The author thanks Colonel George B. Forsythe, also of the Department of BS&L, for help in writing this article.

Leadership Vignette: *The Good, The Bad and The Ugly*

A micromanaging leader can destroy the performance and esprit de corps of an excellent organization because mid-level leaders and those who perform at the bottom have no say as to how things are done. Their initiative and motivation to perform are squelched. Confidence, trust, respect—they cease to exist.

The Good. The best battalion commander I ever served under had a favorite saying: "There they go and I'd better follow, for I am their leader." Everyone respected him.

What made him such a great battalion commander? He let everyone do his job and never talked down to anyone, regardless of rank or position. He worked and played with soldiers and told a good joke to get a smile or break the ice. He allowed for honest mistakes and praised freely, always rewarding excellence. He stood up for his unit and people—the bull#@\$\$% stopped at his desk. He was tough on those who compromised their integrity or morals ("You use dope, you dance to a rope"). He liked soldiers and they liked him.

The Bad. The battalion commander who replaced him was a micromanager. He trusted no one and gave no one authority to do anything.

He commanded through fear and also had a command philosophy: "My way or no way." He crucified soldiers for making mistakes and took credit personally for what little excellence there was during his tenure. He didn't like soldiers, and they didn't respect him.

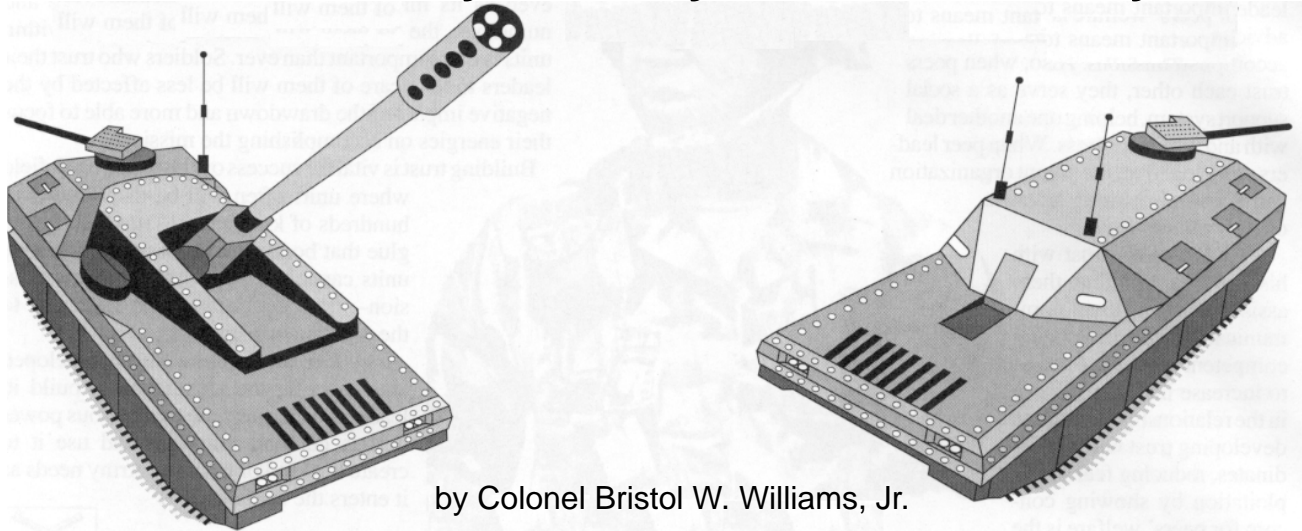
The Ugly. Under the good commander, the battalion flourished. For the 34 months of his command, the battalion was a high-performing organization. That battalion commander is a major general now.

Under the bad commander, the battalion stopped functioning in the band of excellence. Within six months, the bad commander had relieved the executive officer and several other leaders, had two firing incidents and had major maintenance problems. It was ugly.

A micromanager demands things happen his way only and doesn't listen to others, causing subordinates to stop thinking—only react to what they're told. The soldiers called the good commander their leader. The same soldiers called the bad commander a name. It also was ugly.

CSM Harold F. Shrewsberry
US Army Operation, Test and Evaluation Command,
Alexandria, VA

The AFAS/FARV for Lethality, Mobility and Survivability



by Colonel Bristol W. Williams, Jr.

The Paladin (M109A6) is here now and living up to its favorable press. It has demonstrated to the Field Artillery community the many advantages of exploiting technology to upgrade capabilities. Firing battery tactics used by the Field Artillery for most of this century have changed with the advent of Paladin. But these tactical changes don't address all the deficiencies in the close fire support system.

Exploiting technology to address close fire support system deficiencies is the goal of an ongoing cannon development program: the advanced Field Artillery system (AFAS) and future armored resupply vehicle (FARV). Figure 1 lists some enhanced capabilities of AFAS as compared to Paladin. The AFAS/FARV system will be built with state-of-the-art technology.

AFAS is a system composed of two vehicles—the 155-mm self-propelled howitzer and a resupply vehicle. This single system concept is fundamental. In the past, we developed the howitzer first and the ammunition vehicle as an afterthought. With AFAS/FARV, that approach is inadequate. Key attributes of each vehicle play a part in achieving unprecedented capabilities from the cannon system. In designing the system to meet warfighting goals, we considered what each vehicle must be able to do in tandem with the other. For example, delivery of fires from a rapid-shooting howitzer requires an ammunition vehicle that can provide projectiles at a supporting rate.

Although the AFAS/FARV fielding date is 2006, 1994 will be a watershed year in the continuing development of this key

program. This year will see not only the acquisition milestone decision that initiates funding for the program, but also maturation of key unique AFAS/FARV technologies. Figure 2 lists the AFAS/FARV technologies under development.

This article looks at the AFAS/FARV development and answers three questions: What are the technical innovations that separate this new system from any howitzer in the world, including the Paladin? How will Field Artillerymen of the next century employ this new weapon system? and What's the status of the AFAS/FARV development?

What technical innovations make AFAS/FARV unique?

Liquid Propellant. Probably the most technologically innovative component of the AFAS is the regenerative liquid propellant gun (RLPG). This new technology will allow a vastly improved rate of fire—10 to 12 rounds per minute as compared to four rounds per minute for the Paladin.

The rate of fire increases because liquid

propellant eliminates the need to prepare solid propellant increments—the need to cut charges. The gun automatically will meter into the combustion chamber the amount of liquid propellant needed to achieve the range to target, eliminating the clumsy labor-intensive work of preparing the charge. AFAS will load a projectile and, based on the section chief's selection, meter in the proper amount of propellant in preparation to fire. The section chief will select the number of rounds to fire, and the howitzer will compute and fire single rounds or bursts, as desired.

Not only will liquid propellant boost the rate of fire of the AFAS, it also will significantly improve range. The latest solid propellant munitions have a practical limit of 39 kilometers. But with liquid propellant, the tube and breech are different; thus, liquid propellant will allow the AFAS to reach out beyond the 40-kilometer limit—potentially as far as 50 kilometers.

The increased range is possible because of the way the propellant combusts in the weapon. Solid propellant ignition is an explosion that drives the projectile out of the tube. In comparison, the RLPG begins

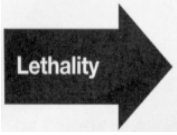
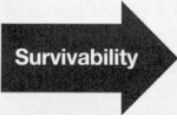
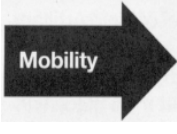
	Capability	Paladin	AFAS
	Rate of Fire	4 Rounds per Minute	10 to 12 Rounds per Minute
	Range	30 Kilometers	40 to 50 Kilometers
	Accuracy: Circular Error Probability (CEP) at 25 Kilometers	155 Meters	80 Meters
	Multiple-Round Simultaneous Impact (MRSI)	0	4 to 8 Rounds
	Ballistic Protection Level	Frgs	Dual-Purpose Improved Conventional Munitions (DPICM)
	Situational Awareness	None	Automated
	Vehicle Comparability	M60 Tank/M113 Armored Personnel Carrier	M1/M2 Tank
	Horsepower	440	1,500
	Cross-Country Speed	27 Kilometers per Hour	39 to 48 Kilometers per Hour
	90-Second Dash to Cover	560 Meters	750 Meters

Figure 1: Capabilities of the AFAS as compared to the Paladin.

AFAS/FARV

- Liquid Propellant
- Advanced Propulsion (Lightweight, Compact Engine with Higher Horsepower and Complementary Transmission and Power Train)
- Advanced Accuracy Suite
- Thermal Management
- Automated Ammunition Handling and Transfer
- Advanced Electronic Survivability Countermeasures
- Advanced Nuclear, Biological and Chemical Protection and Detection
- Decision Aids
- Built-In Diagnostics and Prognostics
- Embedded Training
- Increased Ammo Storage
- Simultaneous Rapid Rarm and Refuel
- Electronic Vehicle Operations and Control Systems
- Electronic Growth Potential for Countering Additional Threat Munitions
- Computer-Assisted Navigation
- Improved Maintainability with Chassis Commonality

Figure 2: The AFAS/FARV will use the latest technologies to operate and employ the system on the lethal, fast-paced and digitized battlefield; the two-vehicle system is being designed with growth in mind.

the propellant combustion and gradually feeds the liquid propellant into the combustion chamber, regenerating the reaction that causes the projectile to move. The liquid propellant advantage is a projectile that's accelerated longer but is subjected to less pressure, allowing a greater range with a softer launch (important as we attempt to put more sensitive loads in our projectiles).

Longer range gives the maneuver or combined arms commander much more flexibility in engaging different targets at depth but, more importantly, allows for more lethal massing across the front.

Accuracy. Being capable of shooting faster and farther, however, is not enough. The weapon system must be accurate. AFAS will be significantly more accurate than the current M109-series; for example at 25 kilometers, the circular error probability (CEP) will be almost 50 percent smaller for the AFAS. Technology built into AFAS will provide the accuracy to kill targets more efficiently—close, as well as deep.

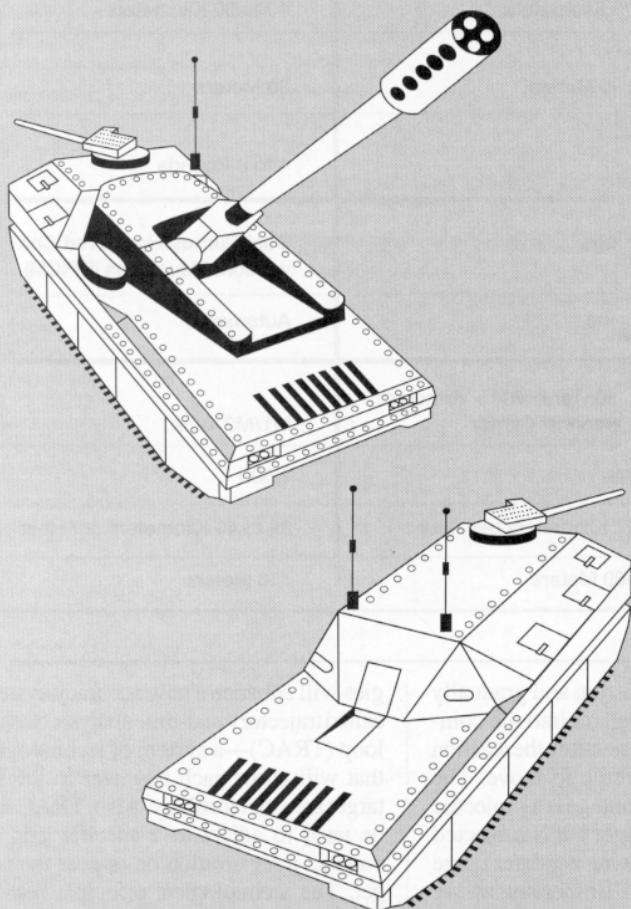
Improvements in accuracy are made possible by combining old and new technologies. The old include such capabilities as a built-in velocimeter to allow a round-by-round measurement of the muzzle velocities for use in the on-board ballistic computer and a sensor to measure the droop in the muzzle. These old technologies

will enhance a new accuracy system called trajectory real-time analysis closed-loop (TRAC)—a system of technologies that will allow each howitzer to infer a target area meteorology. Also, TRAC can be used to adjust to a specific grid or conduct a registration on or near the target. The technological principle behind TRAC's operation is to follow the projectile to the target area electronically. The most significant value of these accuracy improvements will be the ability to engage targets deeper and with good effects.

Multiple-Round Simultaneous Impact. The AFAS will have a unique capability: the ability to fire a time-on-target (TOT) from a single howitzer. The concept here is the same as often seen in firepower exercises when a 105-mm howitzer is used to demonstrate a high-low shoot. The first 105-mm round is fired at high angle, then the cannon is rapidly depressed to fire a second round at low angle. Both rounds impact at the same location at the same time.

The AFAS will automatically fire multiple rounds to land simultaneously at the same location. All the section chief must do is acknowledge the target and number of projectiles to fire, and the system will fire four to eight rounds that will impact on the target simultaneously. This capability is called MRSI, or multiple-round simultaneous impact.

Name-that-Howitzer Contest



The Field Artillery School, Fort Sill, Oklahoma, is conducting a contest to name the advanced Field Artillery system (AFAS) and its companion future armored resupply vehicle (FARV). Entries may be submitted by any individual or organization and must be received by 15 July 1994. (See the "Contest Rules" listed to the right for details.)






According to Army regulations, Field Artillery weapons names must be *action nouns*; examples are Killer, Conqueror, Peacemaker and Mauler. Contestants *cannot* submit the names of famous Americans, generals, animals, reptiles, insects or use Indian terms for AFAS or FARV because those categories are reserved for other types of weapons systems.

Proposed names should reflect the characteristics of the AFAS and FARV and Department of the Army (DA) modernization

efforts or concepts of warfare. Names should appeal to the imagination and suggest an aggressive spirit and confidence in the capabilities of AFAS and FARV, capabilities such as lethality, mobility, agility, versatility, endurance and others.

Winning entries will be determined by a select panel of judges comprised of commanders, NCOs, retirees, Army Acquisition Corps, DA staff and defense industry leaders who are either senior Field Artillerymen or work with Field Artillery systems or technology. The winner will receive a framed original artist's concept of the AFAS/FARV system named and a personal note from the Chief of Field Artillery. The winner will receive the award from the Chief of Field Artillery in a ceremony at Fort Sill, with the date of the ceremony to be determined. Second and third place winners also will receive a note from the Chief of Field Artillery.

Contest Rules

-  1. Each entry must be on a single page and include the action noun name proposed for the AFAS and a brief explanation of why the name was selected; the action noun name proposed for the FARV and a brief explanation of why the name was selected; and the full name, address and telephone number of the individual or organization submitting the entry.
-  2. Individuals or organizations may submit more than one entry; each entry must be submitted on a separate page.
-  3. In the event of duplicate-name entries, the entry received the earliest will be the one judged by the panel; the panel reserves the right to select the name for AFAS from one entry and the name for the FARV from another.
-  4. Entries must be received not later than 15 July 1994, mailed to:
**Commandant
US Army Field Artillery School
Name-that-Howitzer Contest
ATTN: ATSF-CN
Fort Sill, Oklahoma 73503-5600**
-  5. Contest decisions by the judges are final; however, the winning names must be approved by DA according to Army regulations and procedures before the names become official. All entries become the property of the US Government and will not be returned.

The implications of MRSI for the system's effectiveness are tremendous. A single howitzer will be able to produce the effects of a platoon of howitzers—two howitzers the effects of a battery. This unique ability, coupled with the lethality produced by greater range and accuracy,

promise to make AFAS the premier killer on the battlefield.

Automated Resupply. The innovation that most clearly illustrates the link between the AFAS and FARV is automation. Artillery historically is a labor-intensive business. Although we've tried to make it

easier on the soldier with such innovations as the loader-rammer or the conveyor belt, he still must handle large cumbersome projectiles. The size of howitzer crews, therefore, is large to accommodate the physical demands on the members. Automation, a science that has steadily

progressed since the 1960s, will allow us to reduce the AFAS crew size while moving ammunition more efficiently.

But it isn't enough to automate only a single portion of the ammunition chain. Bottlenecks can occur anywhere during processing. The ammunition chain for the AFAS/FARV will be a series of automated or semi-automated operations. First, the AFAS battalion S3 will determine the projectile configurations required, based on the mission, enemy, terrain, troops and time available (METT-T). Soldiers at the corps storage area will prepare the projectiles on palletized loading system (PLS) flat racks. After picking up these flat racks at the brigade ammunition transfer points (ATPs), the battalion ammunition section will deliver them directly to the batteries logistical resupply points (LRPs).

Here the FARV three-man crew will prepare the ammunition in what is probably the most physically demanding portion of the chain. Using crew-assist devices, the soldiers will fuze, mark (for automated identification) and weigh (for improved accuracy) each projectile before placing it on a conveyor belt for loading onto the FARV. Although the number and type of crew-assist devices isn't totally defined, lifting loads will be minimized and operations, such as fuzing, will be done on multiple rounds simultaneously. Placing the projectile on a conveyor for loading onto the FARV will be the last time a soldier touches the ammunition.

Once automation takes over, the soldier controls the process at his crew station. His computer also maintains an inventory of each projectile's location, weight and type. In about an hour, three soldiers can up-load a FARV completely (130 rounds of various types).

When the AFAS needs ammunition, the crew will pass a digital message to the platoon operations center (POC) specifying the resupply location (or projected location) and the type of ammunition needed. The POC then will direct one of the four platoon FARVs to rearm the AFAS in an uncompromised firing position.

The FARV will use its on-board position navigation system to locate the howitzer. Once the two vehicles are in position, a transfer arm will extend from the FARV to load the projectiles and propellant. The FARV will be able to replace a complete load of 60 projectiles and propellant in 12 minutes. After the transfer is complete, the FARV will move away and the AFAS will continue its mission.

Ammunition automation will contribute to improved lethality—the user's number one priority in the development of the AFAS/FARV. Improved lethality requires firing more projectiles in a short period of time more accurately. Automation will push more ammunition through the howitzer in support of the user's lethality priority.

Mobility. A close second in priority is closing the mobility gap between maneuver and artillery forces. Many studies and experience in Operation Desert Storm show that the M109 (including the M109A6) can't keep pace with Abrams tanks and Bradley fighting vehicles. This deficiency is even more pronounced when comparing cross-country mobility. The 1960s chassis of the M109 doesn't have the speed, acceleration or obstacle-crossing ability critical for mobility on rough terrain.

Cross-country mobility isn't as important with the trail and road orientation of today's tactics. But future tactics will call for more decentralized operations with many moves conducted by individual howitzers—fewer road marches or deliberate occupations. Because AFAS and FARV both have position navigation systems, the battle will be a series of moves punctuated with fire missions and resupply. Frequent movement is the essence of shoot-and-scoot tactics, the major contributor to system survivability.

The stated requirement for the AFAS/FARV is mobility comparable to the maneuver force. Several technologies are available that will allow the developer to meet that requirement. Of course, the engine is the key component of any mobility system. In the case of the AFAS/FARV, the government is pursuing two options: a turbine engine and a diesel engine, both in the range of 1,000 to 1,500 horsepower. These engines will be the power packs of the future, capable of generating tremendous power in a relatively small package.

The engines will be coupled with either the traditional hydrokinetic transmission (an updated version of the system in current tracked vehicles) or a new concept called electric drive. Under the electric drive concept, the engine generates electricity to power electric motors that actually push the vehicle forward, allowing for flexibility of design. Because the traditional mechanical links or cables are replaced by electricity, the location of the engine, transmission and

final drive can vary. For example, the engine could be in the rear of the vehicle with the drive sprockets in the front. Work done this year will go far to fully define the engine and drive for the AFAS/FARV.

Electronic Protection Measures.

Another area that requires improvement over the Paladin and other M109 howitzers is survivability. Although shoot-and-scoot tactics improve the survivability of any cannon, the nature of close support requires the system be able to operate in a counterfire footprint. AFAS/FARV (the ammunition vehicle moves in the same area) will be improved by increasing not only their ballistic protection, but also electronic protection measures. Potential systems on the AFAS/FARV include signature reduction measures, warning sensors that indicate the system is under attack and jammers that disable selected threat fuzes. These emerging technologies are under study to produce the best suite of self-defense innovations to defeat the most likely threats.

Situational Awareness and Decision Aids.

Like mobility, information management can contribute to system survivability. AFAS and FARV will be equipped with state-of-the-art computers that will alter the traditional howitzer crew's tasks radically. The howitzer will prepare the ammunition, lay the gun for direction and elevation, load the ammunition and fire the rounds. The crew's role will be to monitor the howitzer's readiness through the information displayed at the crew workstation.

The information will be not only technical firing data (currently available on Paladin), but also tactical information, such as intelligence, friendly maneuver graphics and the howitzer's current as well as predicted fuel, propellant and projectile status. All this information will provide the crew an unprecedented level of situational awareness—an understanding of what's going on around them and why. Such information will allow the crew to anticipate problems (such as low ammunition) and rapidly respond to changing situations.

Section chiefs will manage the increased volume of information by using decision aids. The computer will prompt the crew and recommend routine decisions related to fire missions, movement, ammunition

resupply and survivability. The section chief will have to deal with only the information important to him.

Digital information transmission, coupled with the computer power to manage the information, will make the crew more tactically effective. The availability and management of information will make AFAS and FARV a unique lethal component of the combined arms team.

How will Redlegs employ AFAS?

Redlegs will fight the AFAS/FARV using tactics similar to those for the Paladin. Greater dispersion will become routine—in fact, the AFAS howitzer is likely to be alone on the battlefield, connected to the fire support system and its logistics umbilical cord only through its communication systems.

A call-for-fire will pass directly through the POC to the required howitzer or howitzers. The nature of the target will allow the computer on board the AFAS to select a rate of fire and a shell/fuze combination and determine how best to attack the target. After the section chief enables the howitzer, the computer will fire at the correct instant to achieve the desired effects. When the mission (or missions, depending on the counterfire threat) is complete, the AFAS will displace to the next firing point where a FARV will meet it—not necessarily a section FARV—to rapidly reload the AFAS. When the FARV leaves, the AFAS will continue to fire and move, calling the reload location and ammunition requirements back to the POC. The FARVs will wait outside the counterfire footprint.

The AFAS will be in motion continuously, only stopping to fire and reload. Because AFAS will be able to deliver fire in 15 to 20 seconds (emplaced) and 30 to 45 seconds (moving), the system will *always* be ready to attack a target—a major advantage, for the maneuver commander (see Figure 3).

What's next in AFAS/FARV development?

This year, AFAS/FARV will reach some significant programmatic and technical milestones. Later this month, the Army system acquisition review council (ASARC) will examine AFAS afford-ability and the operational benefits before continuing the commitment to the program.

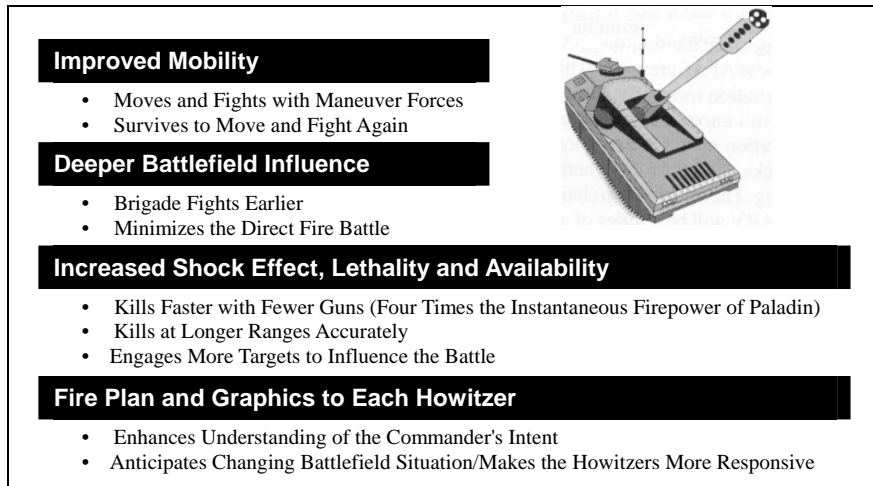


Figure 3: The advantages of AFAS for the maneuver or combined arms commander.

This important review will consider the program accomplishments as well as the demands on the shrinking Army budget.

Under an advanced technology demonstration (ATD), the technical community will evaluate AFAS crew station automation. This study will focus on the crew's ability to manage a howitzer through computer interfaces instead of directly with the system components. Actual artillery crews will assess the crew station modules and gather better ideas on soldier-system interface designs.

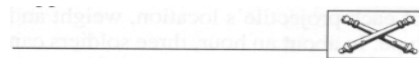
A second phase of the ATD will demonstrate the viability of the liquid propellant gun technology. A test platform equipped with a 52-caliber RLPG is being manufactured. This platform, or hardstand, will demonstrate automated movement of ammunition through the loading and firing sequence. It also will demonstrate the management of key processes for MRSI.

In addition, much work already has been accomplished in mobility. An automotive test rig (ATR) is near completion. This device will permit engineers to study the engine and drive system design for potential application to AFAS/FARV. The ATR is scheduled to be tested over demanding realistic cross-country courses beginning this year.

The crew module, weapons hardstand and ATR testing are milestones in the demonstration of key AFAS/FARV technologies. Although much has already been done in each area, the information gathered from these efforts will contribute greatly to moving AFAS from concept to reality.

Win quickly. Win decisively. Minimize casualties. These are the imperatives for the US Army as we evolve to a post-Cold War strategy. AFAS/FARV will include the technological advances required to meet the demands of the new strategy.

Modeling has demonstrated that an AFAS-equipped force is vastly more effective—75 percent more enemy systems killed and 32 percent fewer US losses. These are the efficiencies our close support system must bring to the combined arms team. No cannon system in the inventory—including Paladin—gives us the advantages or capabilities that AFAS will. The AFAS/FARV will dramatically improve our lethality, mobility and survivability and is the future of cannon close support.



Colonel Bristol W. Williams, Jr., is the Training and Doctrine Command (TRADOC) System Manager for Cannons (TSM Cannon) at Fort Sill, Oklahoma. His office is responsible for managing the development of all howitzers, their resupply vehicles and munitions on behalf of users, including the M109A6 Paladin and the Advanced Field Artillery System (AFAS) and its Future Armored Resupply Vehicle (FARV). He has held a variety of positions in Field Artillery units in Europe and the US, including as Commander of 5th Battalion, 17th Field Artillery, 210th Field Artillery Brigade, VII Corps, Germany. Colonel Williams is a graduate of the Industrial College of the Armed Forces, Washington, DC, and holds a master's degree from Central Michigan University.

Division Targeting Cell Meetings

Are Yours Productive?

by Lieutenant Colonel Harold T. Harvey

Most divisions convene targeting cell meetings on a regular basis during tactical operations. As a fire support Observer/Controller for the Battle Command Training Program (BCTP) at Fort Leavenworth, Kansas, I observed many targeting cell meetings, which varied significantly in format and productivity. There being little doctrine on the subject, I'm offering my thoughts (not necessarily BCTP's stance) on how to conduct successful targeting cell meetings.

Why Meet?

Generally speaking, your targeting cell meetings should coordinate staff efforts in the *Decide-Detect-Deliver* targeting methodology. Think of these meetings as one of two types: plans or operations.

A plans targeting cell meeting occurs before the operations order (OPORD) is issued. It focuses on the detailed execution of the *Decide* function, as outlined in *FM 6-20-10 Tactics, Techniques and Procedures for the Targeting Process*. Your meeting's purpose is to develop the high-payoff target (HPT) list, attack guidance matrix, target selection standards, target damage assessment (TDA) requirements and the initial decision support template (DST).

While much of the work is done by individual staff sections before the meeting, melding the staff estimates and the subsequent war-gaming to develop the required products can be a lengthy process. However, it's far better to spend the time up front to nail down *Decide* than have to make extensive changes later.

Once the operations order goes into effect, targeting cell meetings become more operational in nature—you focus on synchronization in the *Detect* and *Deliver* functions.

In a perfect world, your plans targeting meeting produced targeting products tailored for each possible branch that require no update. But, then again, in a perfect world, there would be no war. While some refinement of targeting products can be expected, avoid lengthy revisitation of the *Decide* function. Many a meeting owes its nonproductivity to becoming bogged down in that tar pit.

The balance of this article focuses on the operations targeting cell meetings.

Who Should Attend?

Who attends your targeting cell meetings is up to you. FM 6-20-10 describes the cell "core" as consisting of those personnel listed in Figure 1. Some of the part-time attendees may attend your meetings full-time. Their specific knowledge and expertise may significantly enhance information flow and synchronization. Some divisions have everyone attend; others keep attendance at a minimum. Your decision will impact on the amount of staff coordination that will need to be done outside of the meeting, the technical expertise available at the meeting, the time it takes for decisions to filter through the staff and the number of personnel pulled away from their jobs to attend.

Conspicuously absent in the discussion thus far are the division commander, G2, G3 and the fire support coordinator (FSCOORD). FM 6-20-10 is quite vague on their responsibilities as members of the targeting team. It states only that they're "key influences on the targeting process."

The commanding general (CG) does not routinely attend the operational targeting cell meetings in most divisions but impacts on the process through his guidance and by being the approving authority for targeting products or changes to targeting products. He may further influence the meeting by directing the chief of staff to preside, increasing command emphasis. The presence of the other three key decision makers lends itself to a more productive meeting. Their absence can cause key decisions to go unmade and the meeting length to increase unnecessarily.

Place and Time?

Hold the meeting at, or in the vicinity of, the division main command post (DMAIN) but away from the hustle and bustle and interruptions of the tactical operations center (TOC). Usually there's a briefing tent or van available, if scheduled in advance. The meeting place should be conducive to working without interruptions

Attendees:

- Deputy Fire Support Coordinator (DFSCOORD)
- G2 Operations
- G3 Operations
- Field Artillery Intelligence Officer (FAIO)
- Electronics Warfare Officer (EWO)
- G3 Air

Attendees on an As-Needed Basis:

- G2 Plans
- G3 Plans
- Target Analyst
- Chemical Officer
- Aviation Liaison Officer
- Collection Manager
- Assistant Division Air Defense Officer (ADADO)
- Assistant Division Engineer (ADE)
- Naval Gunfire Officer
- G5 Representative
- Staff Judge Advocate (SJA) Representative
- Air Liaison Officer (ALO)

Figure 1: Targeting Cell Meeting Attendees. FM 6-20-10 lists these personnel as the core attendees, but who participates in your meetings is up to you. You may decide to have some of those participating on an "As-Needed Basis" attend regularly.

and large enough to hold participants, map boards, etc.

Schedule the meeting for the same time(s) daily. If you start moving the time or place around, you'll lose participants. A well-run meeting will probably take under an hour.

A key consideration in determining when to hold the meeting(s) is the time at which air interdiction (AI) nominations are due to corps. If the air task order (ATO) is received at the same time daily, this may be a consideration as well. Knowing what joint suppression of enemy air defense (J-SEAD) packages will be operating where and when facilitates coordination of deep attacks. Yet another consideration is the schedules of key players. Whatever your considerations, choose the time and place that will enhance productivity and stick to it.

Staffers must show up at those meeting prepared to participate. They must have the requisite knowledge and products to convey necessary information to the group, answer routine questions and analyze requirements placed on their section for supportability. It should be a matter of standing operating procedure (SOP) what each staff member's responsibilities are before, during and after targeting cell meetings.

What Should Be on the Agenda?

Most divisions have an agenda buried somewhere in the bowels of their tactical SOP (TACSOP), written by the deputy or assistant FSCOORD. Some have been honed over time and are the basis for a productive meeting—others are not.

If what you've got is working, great! If not, here's a "type" agenda I've seen used productively in BCTP Warfighter exercises, one your unit may find useful as a starting point for adjustments (see Figure 2).

Roll Call: You've already decided who needs to be there and made it a matter of SOP, so enforce it.

Chairperson: A few words from the boss. The senior man present, be he the chief of staff or G3, stands up and briefs any changes in the commander's guidance or intent. The chairman also may want to issue guidance on the conduct or emphasis of the meeting. While division deep operations and counterfire often dominate these meetings, the situation

may dictate emphasis on another part of the battlefield framework.

G2: He starts with a short synopsis of the current enemy situation using the map and overlay. But he must temper the length of his pitch with how long it has been since the last staff update and what changes have occurred. I've seen targeting cell meetings held immediately following a TOC staff update with the G2 giving the same 10-minute briefing in both meetings—don't waste everyone's time!

This pitch should include what the enemy is expected to do during the next 12 to 24 hours (depending on when your next meeting is and the time of the next brigade or division operation), TDA received, anticipated future enemy operations, changes in high-value targets (HVTs) and the locations of detected or suspected HPTs. A technique is to present overlays showing the battlefield at 24, 48 and 72 hours out. These overlays should represent the coordinated "best guess" of how the G2 and G3 see the battle progressing.

G3: He starts with any late breaking changes to current operations and briefs operations in 24-hour periods out to at least 72 hours. He shouldn't rebrief the entire plan—just hit the high spots and any changes. He reviews the delineation of responsibilities for deep operations between the division and corps and division and brigade. What specifically is corps doing with its deep operations? How does the CG want to complement corps deep operations with his own deep operations to shape the division close fight? (Yes, we're revisiting the *Decide* function, but only briefly.)

Corps undoubtedly will adjust its plan for deep operations. You may need to adjust your plan to take care of HPTs corps had originally planned to take out. Likewise, it makes no sense to tie up acquisition and attack assets to duplicate efforts on targets corps is now handling. Having a representative at the corps targeting cell meeting is key to receiving this information in a timely manner. The ATO

Chairman	Roll Call Commander's Guidance/Intent
G2	Current Enemy Situation TDA Received/Assessment Future Enemy Situation Most Probable Enemy Courses of Action/Responses HVTs
G3	Current Operations Future Operations Delineation of Battlefield Responsibilities Shaping the Battlefield
DFSCOORD	Validate/Update HPTs and Attack Guidance Matrix Validate/Update Collection Priorities Task Division Collectors Nominations to Corps for Collection Review/Assign Attack Assets Against HPTs Nominate Targets to Corps Synchronization - Engagement Areas - Triggers - Following HPTs Until Engagement - SEAD/J-SEAD Requirements/Taskings - Air Corridors - Fire Support Coordination Measure Changes TDA Requirements/Taskings Final Product Checklist - Updated HPT List and Attack Guidance Matrix - AI Nominations - Taskings to Div Assets (Acquire, Attack, TDA) - Updated PIR and Collection Plan - Requests for Support from Corps (Acquire, Attack, TDA)
Chairman	Adjourn/Commander's Approval

Figure 2: Targeting Cell Meeting Agenda

also will clue you in as to what corps is doing.

The G3 must present a clear picture of how the CG intends to defeat the enemy, what forces he wants to take on at a given time and where. He should tell which HPTs are to be limited, disrupted, delayed, etc.

DFSCOORD. The DFSCOORD runs the rest of the meeting with participation from the masses. He starts by asking for any recommended changes to the HPT list or attack guidance matrix. These two targeting products should be prominently posted. With the update received, staffers may recommend changes to products for any phase of the operation.

Everything up to this point has been a revisitation of the *Decide* function. If the battle has gone pretty much as expected, you've had few changes and the G2 and G3 took minimal time to set the stage for the real purpose of this meeting: synchronizing *Detect* and *Deliver*.

Having validated your HPTs and thanks to the G2 knowing where they'll be on the battlefield at a given time, it's time to assign collectors against them. Your collection manager or G2 should offer any change in the status of collectors available. The collection manager should establish and update priorities for collection and update priority intelligence requirements (PIR) as required to reflect any changes in HPTs. Failure to reconcile these products will result in collection assets being focused on other than your HPTs. This is a common disconnect when the collection manager and the G2 or G2 representative don't both attend the meeting. Next, the meeting needs to determine which targets will require collection assistance from corps.

The DFSCOORD should run down attack assets available for the current battle and recommend to the G3 which to apply against which targets. The G3 air, air liaison officer (ALO), aviation liaison officer and electronic warfare officer (EWO) may concur or disagree, based on their knowledge of the target and the status and capabilities of their attack systems.

The DFSCOORD should propose a prioritized list of AI nominations to corps for attack 72 hours out. (An educated guess as to the location of the target at the time of attack is good enough at that point.) The DFSCOORD should review the AI nominations sent to corps for 24 and 48 hours out as well as the current ATO cycle. He also should refine grids of targets to be

attacked and assign other assets to attack those targets that either received no priority at corps or were not included in the current ATO.

Having decided which attack assets to apply against specific targets, you can use the meeting to conduct some basic coordination and synchronization. Trying to hit a moving, deep target can be reckless gamble, or a science, depending on the degree of synchronization of the *Detect* and *Deliver* functions. How exactly will updated targeting information flow from collector to attack asset? Once detected, how specifically are targets being tracked until they're attacked? What exactly is the trigger?

Divisions are using an assortment of visual aids and decision making tools. One division uses a matrix that lists each HPT, the collector focused against it, the attack asset applied against it and who is collecting TDA.

A DST is a must to portray probable enemy movements, decision points, named areas of interest (NAIs), target areas of interest (TAIs) and time-distance relationships. The DST will allow you to follow a HPT you've acquired. Failure to follow a target frequently causes deep operations to miss a target.

What engagement areas are being used? What entrapment mechanism is being used in the engagement area? Who is providing SEAD or J-SEAD? Can the attack(s) piggy back on a planned air interdiction package's J-SEAD? (The ALO can tell you this if he has the ATO for the time frame of the attack.) What air corridors are being used? (Ensure the assistant division air defense officer, or ADADO, gets the plan.) Are there any anticipated changes in fire support coordination measures (FSCMs) that may affect operations? Granted, the targeting cell won't be able to totally synchronize the attack. But by coordinating for synchronization as mentioned, it can give the attacking assets vital information they need to complete their planning and coordination.

Don't forget TDA requirements. During *Decide*, you determined which targets were critical enough to tie up collectors for TDA. You need to review and update which assets are tasked to provide specific TDA and pass nominations for TDA beyond your capabilities to corps. Be sure to follow up on these requests. If they're critical enough to warrant TDA, the CG will need assurance that corps will provide it in a timely manner.

TDA facilitates assessing the attack to determine if additional attacks against the same target are necessary. Failure to properly assess causes misallocation of scarce resources and missed opportunities. Following and assessing are so critical that BCTP now preaches *Decide, Detect, Follow, Deliver, Assess*.

Finally, go down the final product checklist in Figure 2 and ensure all have been accounted for. If you had the right decision makers present, you should have no problems producing and updating the products listed. Considerable time will be saved if staff members bring in draft products, as opposed to creating them from scratch during the meeting. The chairman should be delegated approval authority. Disapproval by the CG should be by exception.

A popular variation of this agenda is to conduct two meetings instead of one, usually 12 hours apart. One meeting concentrates on detailed synchronization of the next 24 hours operations while the other focuses on future operations out to 72 hours. Whatever your agenda, it should facilitate a coordinated staff effort to synchronize the targeting functions.

The products your targeting cell produces are critical to the division's success. Taking ideas from this article and tailoring them to your unit's needs should help your targeting meetings be more productive.



Lieutenant Colonel Harold T. ("H") Harvey is currently en route to the Allied Command Europe (ACE) Rapid Reaction Corps (ARRC), a combined corps in Germany. Until recently, he was the Fire Support Battlefield Operating System Chief for Operations Group A, Battle Command Training Program at Fort Leavenworth, Kansas, where he was a Fire Support Observer/Controller for three and a half years. Previous fire support experience includes two years as a Brigade Fire Support Officer (FSO) and a year as Assistant Fire Support Coordinator, both in the 6th Infantry Division (Light), Alaska, and eight months as a Brigade FSO in the 7th Infantry Division (Light), Fort Ord, California. Other assignments include commanding C Battery, 1st Battalion, 79th Field Artillery, part of the 7th Infantry Division (Light), and serving as S3 of the 5th Battalion, 11th Field Artillery, part of the 6th Infantry Division at Fort Wainwright.



Real-World Training at the JRTC: The Con Ops Battlefield is Somebody's Backyard

By Lieutenant Colonel Bruce A. Brant

The new *FM 100-5 Operations* manual changed Army doctrine from forward defense to force projection. Force projection usually begins as a contingency operation—a rapid response to a crisis. To fulfill this doctrine, units must train to deploy rapidly and operate anywhere in the world.

The Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana, was created to train light and special operations rapid deployment forces in contingency scenarios. Although only limited heavy forces participate in each rotation (usually a mechanized or armor team), the lessons learned at the JRTC discussed in this article are applicable to all units with a contingency mission. The deployment of a self-propelled firing battery in the 24th Infantry Division (Mechanized) from Fort Stewart, Georgia, to Somalia demonstrates that all forces, not just light, must prepare for contingency operations.

Getting There

Unique to the JRTC is that all units are part of a contingency force. Everything entering the theater at the JRTC (or early in any contingency operation) must arrive by air lines of communications. All personnel and equipment are brought from home station or through an intermediate staging base by strategic and (or) theater airlift on either actual or notional aircraft.

All supplies are combat off-loaded from C-130 aircraft or air dropped, using the containerized delivery system.

One problem associated with using an air line of communications is getting equipment on the aircraft and, subsequently, on the ground in the operational sequence in which units need them. All loads must go through a joint inspection with the Air Force. Often, loads don't pass and are sent to the rear of the line. Loads can be moved up or back in the air flow and might not arrive in theater when expected.

Using airlift means that all of a unit's equipment doesn't arrive at the same time. Each unit should make a priority vehicle list that's flexible enough to get a firing capability and command and control vehicles in theater as soon as possible. Units that are used to operating with *all* their equipment need to train to "make do" with what they get in the air flow.

Because JRTC units face an immature logistical theater and depend on air lines of communications for resupply, constrained resources force decisions by commanders normally not encountered during other training. Units accustomed to having their ammunition required supply rate (RSR) equal their controlled supply rate (CSR) soon find that ammunition management is paramount. Planning requirements, such as when to send the supporting naval gunfire ship off station to

refurbish or how to most rapidly move mortar ammunition from the forward flight landing strip to troops in contact, stress fire supporters in new ways, often pointing out training shortcomings.

Ammunition at the JRTC is replicated by using inert rounds that are the same weight and size as actual projectiles and powder. This realism stresses resupply vehicles and personnel, especially when convoys are ambushed or resupply planes canceled, which aggravates the ammunition problem and dictates fire planning parameters.

Units will depend on air transport for forces and supplies during contingency operations, so they should train for a worst-case scenario: be prepared to "do with" what they get.

The Battlefield

The most likely scenario contingency forces will face in the future is operations other than war in one of the far corners of the world. These missions could include peacekeeping, peace enforcement, support for insurgencies and counter-insurgencies, noncombatant evacuation operations (NEO), drug interdiction or disaster relief. Contingency operations that begin with a peaceful purpose, such as NEO or peacekeeping, could escalate into combat.

The opposing force (OPFOR) fire supporters will face won't threaten to dump tons of artillery rounds on their positions or call in multiple air strikes on them—although this has been the training focus for firing batteries in the past. The most likely adversary, as portrayed at the JRTC, is a Third World force with an organized insurgency, limited air capability and an army with older armored weapons. That OPFOR knows the terrain and has a civilian informant intelligence network. The threats to a firing battery include snipers, mines, ambushes, limited indirect fire and ground assaults (usually during emplacement or march order).

Major factors influencing operations on this battlefield are the presence of local civilians, non-governmental organizations (NGOs) and the media. Most units don't train to encounter such a "crowded" battlefield, a scenario that surprises soldiers when they start a JRTC rotation, even though most contingency operations will be near populated areas.

The press and NGOs may be in theater before military forces. Because of civilians, stringent rules of engagement (ROE) are established. The civilians may or may not be friendly, which adds to the confusion.

To follow the Fire Support Fundamentals, you must have—

- A tactically sound and simple scheme of maneuver.
- Detailed tactical and technical fire support rehearsals.
- Fire control measures and boundaries on identifiable terrain features.
- A simple but accurate clearance of fires procedure.
- Emphasis on target identification.
- Standardized maps and overlays.
- Simple, accurate graphics.
- Vertical and horizontal information flow.
- Most importantly, detailed battle tracking and reporting.

Figure 1: Following these Fire Support Fundamentals will help reduce the risk of fratricide.

On the JRTC battlefield, the media adds realism. A battery commander who's asked by a reporter about fratricide while the reporter holds a microphone in front of his face usually is unprepared to answer.

An element rarely found on the battlefield in home station training is non-governmental organizations. NGOs, such as the Red Cross or CARE, don't necessarily adhere to US military policy. They're independent of any government and follow their own rules and regulations. A unit may be required to support them but have little control over their actions.

Because of the nature of this real-world battlefield, fire support is especially challenging. The target-rich environment of 250 BMP infantry combat vehicles and T-72 tanks coming out of the sunrise is the least likely contingency scenario. Firing into populated areas under the intense scrutiny of the media with very restricted ROE is the more likely scenario, one in which most fire supporters haven't been trained to operate.

Indirect fire fratricide is always a major concern and could eliminate the use of fires altogether. There are ways fire supporters can minimize the chances of fratricide. One way is to adhere strictly to the fundamentals of fire support, as listed in Figure 1. Another is to carefully track the battle.

Battle tracking is the process of knowing where everything is on the battlefield, including friendly units and civilians. If units don't track the battle, then the best computer systems, survey methods, howitzers and gunnery techniques will be worthless because units won't be able to clear targets.

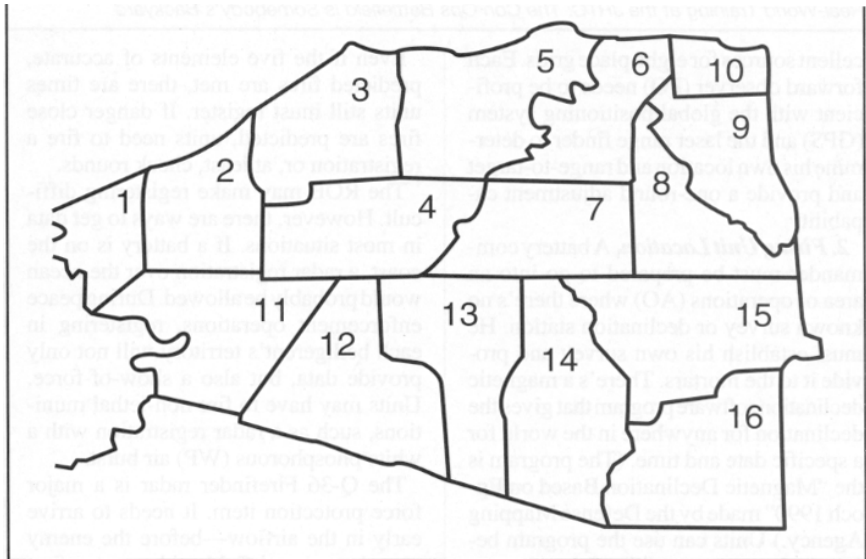


Figure 2: Battle Tracking Tool. This figure is an example of a battle tracking matrix, based on a 1:24,000 scale of Fort Chaffee Military Installation in Arkansas. The matrix must support the scheme of maneuver and delineate box-like boundaries on clearly identifiable terrain. A red or green identification system is used for each box to clear fires and aviation support, determine where friendly and enemy forces are, etc. Using a system such as this reduces fratricide, especially among light forces operating at night.

Figure 2 shows a tool units can use for battle tracking. Designed to support the scheme of maneuver, the battle tracking matrix usually is made and distributed by the maneuver brigade. To be effective, the matrix must have the boundaries of the boxes on clearly identifiable terrain and use a number or alphanumeric to identify each box. Most units call a box "red" if anyone is in it. A "green" box allows for rapid clearance of fires because it isn't occupied. When Army or Air Force aviation needs an area to search, a green area can be given. Enemy indirect fire assets identified by radar as operating in a green box can be rapidly cleared and fired upon. The commander of the unit in the area must clear any fires intended for a box designated as red.

But the matrix isn't just for clearing indirect fires. The entire task force must use the system and have the discipline to report their own unit's or other friendly, civilian or enemy activities often and accurately. For example, if a resupply convoy leaves the brigade support area (BSA) to go to a battalion trains position, the BSA sends the numbers of the boxes the convoy will pass through to the brigade headquarters, which then contacts units along the road in those areas. This reduces the threat of direct fire fratricide, especially at night.

Two techniques to help control civilians need the assistance of the task force psychological

operations/civil affairs (PSYOPS/CA) officer. A dusk-to-dawn curfew gets civilians off the battlefield during darkness, making identification of insurgents and clearance of fires easier. Also, the PSYOPS/CA staff can warn locals to stay clear of weapons systems, such as enemy mortars, that our forces will quickly retaliate against. This can save lives and reduce the support locals give to an enemy mortar team setting up in their backyard.

Operations

As soon as a unit enters the theater, it must establish an accurate firing capability. Accuracy, although always paramount, is even more important during operations other than war. Because of the ROE, presence of civilians and closeness of most indirect fires to maneuver forces, fires must be placed where they can do the least collateral damage, reducing the chances of fratricide, while still providing support. The challenge is to meet the five elements of accurate, predicted fires rapidly in austere circumstances.

1. Target Location and Size. Before deploying, units should get satellite imagery and photos of the area for use later in targeting. Also, AC-130 aircraft give real-time accurate target locations. The cameras of AH-64 and OH-58D helicopters and remotely piloted vehicles (RPVs) are excellent

sources for eight-place grids. Each forward observer (FO) needs to be proficient with the global positioning system (GPS) and the laser range finder to determine his own location and range-to-target and provide a one-round adjustment capability.

2. Firing Unit Location. A battery commander must be prepared to go into an area of operations (AO) where there's no known survey or declination station. He must establish his own survey and provide it to the mortars. There's a magnetic declination software program that gives the declination for anywhere in the world for a specific date and time. (The program is the "Magnetic Declination Based on Epoch 1990" made by the Defense Mapping Agency.) Units can use the program before deployment, providing firing element information for the fire support annex.

Fire support officers (FSOs) must make sure mortars have declinated their compasses and aiming circles when a declination station is established in theater. An initial declination station should be established at the forward landing strip and drop zone. Several stations should be established throughout the area—mortars can't be expected to travel long distances to declinate.

3. Weapon and Ammunition Information. Most units have ammunition set aside for deployments. Rounds should be taken from those lots and calibrated before a unit assumes mission status. Once in theater, there may not be time or an area suitable for calibration. However, the unit still needs to use the M90 chronograph during all fire missions.

4. Meteorological Information. The number of aircraft available for transport into theater dictates when in the airflow the meteorological (Met) section arrives; it may take several days.

Using the pi-ball technique helps collect Met data. All that's required is a theodolite, balloons and half-dozen bottles of helium. A balloon is released and tracked, indicating wind speed and direction. Surface temperature and density are taken and, using a backup computer system (BUCS), Met data is derived.

5. Computational Procedures. Units should take all battery computer systems (BCS), BUCS and charts with them—repair parts and facilities might not be available for a long time. FSOs must ensure that mortar platoons bring mortar ballistic computers (MBCs) and plotting boards.

Even if the five elements of accurate,

predicted fires are met, there are times units still must register. If danger close fires are predicted, units need to fire a registration or, at least, check rounds.

The ROE may make registering difficult. However, there are ways to get data in most situations. If a battery is on the coast, a radar registration over the ocean would probably be allowed. During peace enforcement operations, registering in each belligerent's territory will not only provide data, but also a show-of-force. Units may have to fire non-lethal munitions, such as a radar registration with a white phosphorous (WP) air burst.

The Q-36 Firefinder radar is a major force protection item. It needs to arrive early in the airflow—before the enemy can close the airfield with mortar fire. Units should take care not to separate the elements of the section, if possible. Also, a position and azimuth determining system (PADS) needs to come with the section.

Most maneuver commanders are knowledgeable about the importance of the radar. Many at the JRTC provide infantry support for radar security because the Firefinder is a high-value target for the OPFOR. The radar should be sited where it can accomplish the mission and survive. This may be with a firing battery, the administration and logistics operations center (ALOC), the brigade tactical operations center (TOC) or by itself, if reinforced with a security element.

The radar's mask angle is critical because mortars can fire underneath the beam. If positioned with a firing battery, the radar may have to be placed on a mound so gun section camouflage nets won't interfere with its operations and the radiation hazard will be lessened.

Placing the firing battery for effectiveness and survivability depends, as always, on mission, enemy, terrain, troops and time available (METT-T). Because the main threat will probably be from ground forces, a strongpoint or firebase provides the best defense. Also, a firebase facilitates firing 6400 mils, a requirement that will probably exist.

Most units have never built a firebase. They need to train with engineers to establish standing operating procedures (SOPs) and a realistic estimate of the time it takes to build a firebase.

Units also need to establish and practice firebase battle drills for all contingencies. The battle drills should include reaction to snipers, daily mine clearing on routes into the battery, convoy counter-ambush, repelling ground attacks, security during

march order and emplacement, patrolling, security when picking up containerized delivery system resupply, convoy operations, reporting inventory of items leaving the battery and battle tracking.

If the enemy poses an air threat and friendly forces don't have air superiority, units should not establish firebases. Excellent passive air defense measures, while maintaining a ground attack defense, may be the best protective posture.

Fire Support

Probably the most difficult mission for a fire supporter is clearing a target, especially in close terrain with civilians on the battlefield. First, he must know where he is. If at all possible, he should use a GPS. If he has any doubt about his location, he should fire a ground-burst illumination round or air-burst WP to get a bearing before calling for high-explosive rounds.

Next, he must know where other units are and if there are civilians in the area. Detailed battle tracking and diligent reporting are the keys to success. If all observers report every hour or so (sooner if moving) and the information gets disseminated to all elements in the AO, the risk of fratricide is lessened. Again, the battle tracking matrix is an effective tool.

Clearing indirect fire rapidly enough has always been a problem, especially when trying to fire on insurgents who strike suddenly and present targets for brief periods of time. Using priority targets and mortars can increase the firing response time.

The company FSO and commander need to decide who gets priority of fires within their area and provide, at least, their mortars and a forward observer (FO). The mortars can lay on a priority target. As the unit moves close to the target, it can reconnoiter the target by fire or delete it and have the mortars lay on another target. If the unit is fired upon, it can quickly shoot the priority target and then start adjusting rounds back toward friendly forces until it achieves effects on the enemy.

Another problem is attacking an objective when the terrain limits observation to 100 to 200 meters. If a unit needs to fire on an objective or parts of it that the FO can't see, the FO will have to adjust rounds on to it. The observer needs to get as close to the target as possible with local security and adjust with ground-burst illumination

rounds, smoke or WP until the rounds are within minimum safe distance of the observer. He may have to move away from the objective before he fires for effect.

Training Realism

Preparing for a contingency operation calls for tough, detailed and realistic training. There are several ways units can help prepare for contingency operations.

- Field training exercises with engineers are critical before deployment. The unit and engineers should develop and refine firebase SOPs to assure all-around security for the battery.

- Battalion air liaison officers (ALOs) should be included in training exercises and given the training dates well ahead of time. Too often they aren't integrated into training, leading to their being excluded from staff planning, targeting meetings or internal staff coordination—a major mistake.

Other members of the task force team must trust and have confidence in the battalion ALO for him to be effective. He must know not only how to control close air support (CAS), but also the best way to integrate CAS into the maneuver plan. The FSO should ensure the ALO trains with his unit *before* it deploys.

- A tactical exercise without troops (TEWT) with the company commander, platoon leaders, fire supporters, mortars and a few OPFOR is very effective. A one-to three-kilometer course can require the company write an order and fire support execution matrix, rehearse and move to an objective. Along the way, fire markers equipped with GPS can replicate fires

1. Thou shalt always know where thou art.
2. Thou shalt always know where thine infantry elements art.
3. Thou shalt always report thy position at each halt.
4. Thou shalt always have comms.
5. Thou shalt continuously update thy fire support plan, adding targets when stopped and deleting old targets.
6. Thou shalt use the mortars first.
7. Thou shalt complete and distribute a fire support matrix to commanders; mortars; scouts; tube-launched, optically tracked, wire-guided missiles (TOWs); the air liaison officer (ALO); supporting arms liaison team (SALT); etc., for each mission.
8. Thou shalt always designate a priority of fire.
9. Thou shalt always use mortars, SALT, etc., in the planning process.
10. Thou shalt plan for close air support (CAS), smoke and illumination for each mission.

Figure 3: The Ten Commandments of Fire Support.

across boundaries, on the objective, in response to ambushes, for adjustment in final protective fires (FPF), etc. Such an exercise is low-cost but has high payoff in terms of allowing players to make and learn from mistakes that don't "count."

- The best possible training is the combined arms live-fire exercise (CALFEX). The CALFEX builds team confidence in the fire support system while showing the system's destructiveness to maneuver partners. CALFEX planning must start months ahead to secure CAS and Army aviation for the training and to allocate ammunition. Firing artillery over the heads of maneuvering soldiers at minimum safe distance, coordinated with mortars, CAS and attack helicopters, takes detailed planning and risk assessment. (See the 82d Airborne Division's planning process outlined in the article "Company CALFEX: A Critical Fire Support Synchronization Exercise" by Captain Kevin M. Felix in the April 1994 edition.)

The CALFEX

payoff is realistic training and a demonstration of the synergistic effects a task force can bring to the battlefield.

- Training the fire support team (FIST) is challenging, not only because of the technical skills the team must learn, but also because the members must apply those skills in a variety of situations, according to the scheme of maneuver and METT-T. But if the FIST trains to the Ten Commandments of Fire Support (see Figure 3), it will be well on its way to having the tools to accomplish any mission.

Whether deploying to the JRTC for a rotation or to one of the far corners of the world for an actual contingency mission, the keys to success are tough, realistic training, thorough planning and detailed SOPs. Fire support for contingency operations means being flexible, versatile and disciplined.



Training realism at the JRTC, including replicating the size and weight of ammunition for handling and air resupply, makes Redlegs deal with authentic conditions.

Lieutenant Colonel Bruce A. Brant is the Senior Fire Support Observer/Controller at the Joint Readiness Training Center, Fort Polk, Louisiana. In his previous assignment, he commanded the 1st Battalion, 319th Airborne Field Artillery Regiment in the 82d Airborne Division, Fort Bragg, North Carolina. Other assignments include S3 of the 25th Infantry Division (Light) Artillery and Executive Officer of the 1st Battalion, 8th Field Artillery, also in the 25th Division, both at Schofield Barracks, Hawaii; S3 of the 2d Battalion, 5th Field Artillery, the same battalion in which he commanded a battery, part of the 41st Field Artillery Brigade in Germany. Lieutenant Colonel Brant holds three master's degrees: Education Administration from Texas A&M University and History and Military Theater Operations, respectively, from the Command and General Staff College and School for Advanced Military Studies, both at Fort Leavenworth, Kansas.

The Emerging National Military Strategy—Enduring Goals, Evolving Ways and Means

by Colonel John R. Wood and Major Steven A. Greene

During the past six months, the Army Staff has worked closely with the other services and the Joint Staff to finalize a revised national military strategy. As of this writing, our national military strategy is in the final stages of drafting and will be one of the first definitive statements of military purpose and strategy for the post-Cold War era.

Leading the Army's effort in this critical endeavor is the Strategic Plans and Policy Division in the Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS). This group of strategists and policy analysts has spent considerable time assessing the changed security environment and what it means for the Army and the armed forces as a whole. What follows is a brief synopsis of some of their analysis and how they see the emerging national military strategy supporting a revised set of security objectives for the 1990s.

The Army of the 21st century will operate in a dramatically different strategic environment than its Cold War predecessors. That much is certain. We are well-versed in the litany of change brought about by the end of the Cold War. What is less clear is how these changes in the strategic setting will affect the Army as it executes its role in the emerging national military strategy.

Within the defense community, we're still coming to grips with the new realities of the post-Cold War world. Today, we are engaged in an intensified debate over what ought to constitute our security and military strategies and how best to implement the ensuing strategic directives. The services are rigorously examining essential security requirements and their corresponding key operational requirements. The outcomes of these debates, coupled with assessments of the strategic environment, will determine many of the characteristics and tenets of our future Army—the road map for the Army's transition from a Cold War force to a viable 21st century force.

New Strategic Realities

In assessing the new realities of the strategic landscape of the 1990s, it's important to distinguish between what has changed and what has remained the same. Our national interests, fundamentally, are unchanged. The basic objectives of our

national security goals are the same as they have been for the last 218 years: to protect our citizens' lives and personal safety, both at home and abroad; maintain the nation's political freedoms and independence with her values, institutions and territory intact; and promote the material well-being and prosperity of our people. What has changed is the nature of the threat to these interests.

While the former Soviet Union may no longer be an ideologically motivated nuclear threat to US existence, the world today is still a dangerous place. Threats to US interests are more ambiguous and can come from a variety of sources. These new dangers fall into four broad categories: dangers posed by nuclear weapons and other weapons of mass destruction, including the dangers associated with the proliferation of these systems; dangers posed by regional powers hostile to US interests that are attempting to gain hegemony over their regions, either through aggression or intimidation; dangers to democracy and reform in the former Soviet Union, Central and Eastern Europe and elsewhere; and dangers to our economic well-being and competitiveness.

There are also a series of "lesser" dangers that have the potential to expand and engage US interests. These include terrorism; internal conflicts among ethnic, national, religious or tribal groups that undermine stability and international order; subversion and lawlessness that

weaken friendly governments; and environmental deterioration. These dangers represent a more "nontraditional" threat—one that's no longer purely military in nature. Transnational forces, such as refugee flows and illegal narcotics trafficking, are representative of these new, nontraditional dangers.

Taken as a whole, it's a strategic environment in which there's greater, not less, regional instability. Complexity and uncertainty will be the defining characteristics of the security environment for the foreseeable future. A range of new strategic realities defines the Army's required responses to new threats to historical interests.

In this environment, we no longer have the luxury of focusing on a single threat scenario; the bipolar nuclear standoff of the past actually simplified our threat analysis. We now must contend with a variety of potential threat scenarios, few of which are well-developed. Because of these characteristics, we can't forecast the requirements of the security environment with accustomed accuracy. The implications of these new realities are very significant: our force will need to have the capabilities to handle multiple, even simultaneous, contingencies under a greater variety of operational conditions.

While it's a dangerous world in many respects, it's also a world in which the number of regimes openly competing against US interests are greatly reduced. In military vernacular, the world is turning "Blue," albeit varying shades of blue. During the Cold War, we could have colored roughly half the global map "Red," or hostile, given the presence of an antagonistic Soviet Union and its client states. This dictated the way we approached missions. The Army's mission was, in simple terms, to defend as part of the Blue against Red. That mission drove almost everything we did and showed up on every situational overlay in that context.

Now there's very little Red on the map, and what remains is isolated. Such Red regimes are no less dangerous today. But most states show up as Blue or neutral, which dramatically alters how we'll execute defense guidance.

Today, we find ourselves less often confronting organized enemy forces. Deploying soldiers may find themselves increasingly contending with dangerous, often violent, anti-US factions in a particular region or state rather than an adversary directly attacking US interests.

Our actions and policies, not our ideology, will be the greater determining factors

as to whether or not the US has enemies in such situations. The enemies of the future will emerge, for example, because of disputes over market access or rights to technologies or, perhaps, how the US supports the implementation of a peace agreement.

Somalia is an example of this new strategic reality. The US decision to intervene and provide humanitarian assistance was enthusiastically received by the Somali people and welcomed internationally. When that limited mandate was expanded to include detaining Somali warlord General Aideed, US soldiers quickly came under attack by the local population.

The initial goodwill generated by our presence in Somalia evaporated with the change in policy—as did our ability to influence a peaceful settlement among the rival Somali clans. The breakdown in relations resulted because of the change in approach for achieving a political settlement, not because of any attack on US interests by a declared adversary.

Emerging National Military Strategy

In this setting, we're less occupied with defending nations, drawing lines or discrediting competing ideologies. America no longer has the objective of defending the free world. The emerging national security strategy, instead, focuses on a strategy of democratic enlargement and sustained engagement.

Democratic Enlargement. This strategy advocates preventing threats to our interests by promoting and enlarging the world's community of free market democracies. It strives to make the most of the commonality of values and interests inherent in democratic states by expanding and adapting mechanisms to facilitate cooperation among democracies. It's a proactive strategy based on active US leadership in establishing fair and equitable relations with our friends and allies across the gamut of political, economic and security dimensions. The emphasis is on helping "friends" and not unnecessarily making enemies. Again, this is important because in the Blue world we essentially determine if we have enemies by our policies or actions. In turn, this places a greater premium on functions such as interagency coordination and multilateral or coalition operations.

In this construct, the military instrument of power is but one means of assuring a secure and stable environment for US interests. Increasingly, the decisive center of gravity is political, diplomatic or economic—not

military. In our expanding Blue environment, the armed forces will play a greater supporting role with an interagency team taking more and more responsibility.

The interagency team is political, diplomatic, economic and military, made up of representatives of the Department of Defense, Department of State, National Security Council, Joint Staff, Arms Control and Disarmament Agency and, depending on the issues involved, other agencies, such as the Departments of Commerce, Energy, Agriculture, etc. It's responsible for developing US government policy guidance; issuing implementing instructions, normally in the form of executive orders or Presidential directives; and assigning executive agents to carry out the policy directives. Within the context of national security affairs, the interagency team produces policy guidance for not only the armed forces, but also US ambassadors and their staffs.

As the senior US Government representative, the country ambassador is the lead figure in orchestrating US foreign policy for the region. He's the leader of what, in many parts of the world, is becoming more a political area of responsibility and less a military theater of operations. This is not to say, however, that ambassadors control military operations or forces; the responsible military Commander-in-Chief (CINC) exercises command and control over all deployed US forces while providing support to the ambassador and his country team. The latter is comprised of the Defense Attache, the military group in country (if there is one) and any State Department personnel assigned to the ambassador. Additionally, the ambassador and his country team provide assistance for and help coordinate the work of non-governmental organizations (NGOs), such as the Red Cross, CARE or UNICEF.

For the military, this is a more balanced approach to accomplishing security objectives and contains a series of important new roles with activities to support the ambassador's policy initiatives (see the figure on Page 36). Providing security; helping with communications and tactical

mobility requirements; interacting with the host nation military; and providing logistical, engineer and medical assistance to the host nation are some of the ways the Army provides support.

By providing operations security and helping to establish control of situations, the Army helps create the conditions necessary for political and economic solutions to take hold and work. This is a significant change in that until just a few years ago, the military instrument of power was seen as the principal means of protecting and promoting US foreign policy interests. The shift in the "center of gravity" away from principally military solutions to a more balanced set of political-military-diplomatic ways and means constitutes an important new strategic reality.

Increased US Army participation in multilateral or coalition operations is an inevitable reality of the new security environment. Our military strategy recognizes that most future operations will be joint or joint and combined. Working multilaterally supports efforts to strengthen and expand the coalition of democracies. It allows us to develop important strategic relationships, gain access to key facilities and train with potential coalition partners.

Our purpose in emphasizing multilateral operations is preventive—detering conflict by being engaged in conflict resolution mechanisms, such as the Partnership for Peace initiative sponsored by NATO or the Missile Technology Control Regime originally established by the US. Failing to prevent the outbreak of conflict, this approach still allows us to develop the operating conditions necessary for success on the battlefield.

In support of democratic enlargement, the Army will find itself operating in a less disciplined international community. Deterrence, as we currently know it, may no longer deter. The nature of conflict today is such that we'll find ourselves required to achieve objectives that aren't always at the core of our national interests. There are a variety of potential scenarios where we may employ military capabilities to restore order and provide stability while our opponents may be fighting for survival, both physical and governmental.

“Increasingly, the decisive center of gravity is political, diplomatic or economic—not military....the armed forces will play a greater supporting role with an interagency team taking more and more responsibility.”

This "asymmetry of stakes" potentially dilutes our ability to deter. The situation in Bosnia is an example of this construct. Threatening an adversary with an overwhelming conventional strike or even a nuclear response when the adversary knows American interests are only marginally at stake lacks credibility.

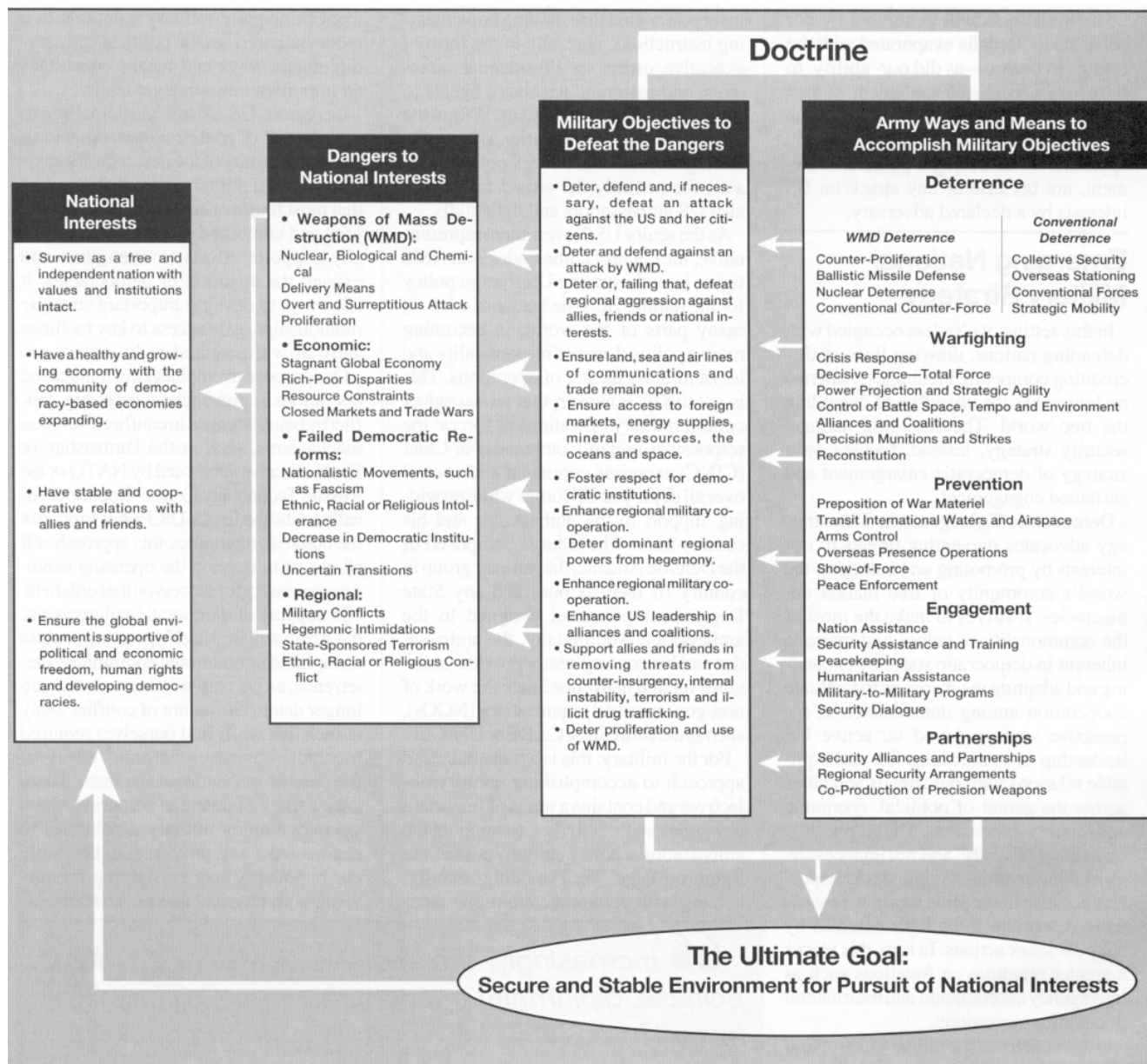
Exerting influence in a multi-dimensional world dominated by localized conflicts will be increasingly difficult and will require us to employ innovative ways to help and support

"friends" and allies. NATO Secretary General Manfred Woener neatly summed up this new reality when he said, "The collapse of Soviet communism has left us with a paradox: there is less threat but also less peace."

Sustained Engagement. Another significant new reality influencing our national military strategy is the expansion in mission requirements for the services. Implementing the emerging strategy of sustained engagement is generating a significantly greater operational pace. The

Army is doing more things in more places more frequently than any time since the end of World War II, except for the periods of the Korean and Vietnam conflicts.

On any given day, the Army has between 16,000 and 20,000 soldiers operationally deployed in 60 to 70 countries performing overseas presence missions. This is in addition to the 125,000 soldiers permanently stationed abroad. These deployment numbers represent a 300 percent



Army Support for Our National Military Strategy. The decisive center of gravity is increasingly political, diplomatic and economic vice military, calling for new roles and activities for the Army. The Army supports the national military strategy by pursuing military objectives to defeat dangers to our national interests. The far right column lists the "Army Ways and Means" for accomplishing those military objectives.

increase since 1990. More importantly, they highlight that US forward presence is more than just forces stationed overseas.

Not only are the number of missions increasing, but also the types of missions in which the Army is being asked to participate. A battalion commander in the 1990s faces a potential mission set that ranges from joint training exercises to humanitarian assistance missions to peace support operations to mil-to-mil activities to nation assistance projects. These new requirements are all in addition to his principal responsibility—warfighting.

Army in Transition

These changes in the nature of the threat to US interests and the strategic environment necessitated a fundamental reassessment of national security objectives. The services, in a variety of fora (most notably former Secretary of Defense Les Aspin's "Bottom-Up Review"), undertook a comprehensive review of how military ways and means could be employed to counter the redefined set of dangers to our national interests. This analysis has resulted in a reoriented list of military security objectives. The focus of these objectives continues to be deterrence—detering regional aggressors, deterring the proliferation and use of weapons of mass destruction and deterring dominant regional powers from hegemonic ambitions.

Along with deterrence, emphasis now falls on a range of once secondary military objectives. These include strengthening democratic institutions, enhancing regional military cooperation in support of allies and friends and rendering greater support to US country teams in their assistance programs. The aim of these once-secondary military objectives is the creation of a more secure and stable environment in which to pursue our national strategic goal of strengthening and expanding the community of free market-oriented democracies. Pursuing these objectives, the military can diminish or eliminate the new range of threats to this overarching strategic goal.

Army Capabilities. To meet the operational requirements of these reoriented security objectives, the Army is transforming itself. The Army of the 21st century will be a smaller, continental US (CONUS)-based, power projection force oriented on regional contingencies and capable of rapidly deploying to fight in all world theaters. This focus contrasts with the forward-deployed, containment-based,

“Simply put, armies in democracies do not get to pick their battles.”

East-West orientation of the past 50 years.

The Army's transition to a power projection force will be shaped by five cardinal operating capabilities. First, Army forces will need to be versatile, able to readily adapt to a wide variety of mission requirements. Second, our forces will require capabilities to operate as members of joint, combined or interagency teams. Third, they'll need to be a modernized lethal force, possessing the abilities to win quickly and decisively. As the fourth cardinal operating capability, the Army will need to preserve and build its technological dominance in command, control, communications and intelligence (C³I). Finally, the Army will have to be a force capable of rapidly deploying to mature or immature locations anywhere in the world.

Several cautions and a reminder guide Army thinking about this transition. Describing the kind of force we are going to be is one thing; actually making the transition is a bit more difficult and potentially dangerous. During its transition, the Army must exercise caution to ensure expanding commitments to operations other than war (OOTW) are balanced against the requirements to be ready to execute our primary mission—deterrence and warfighting. The Army must guard against being seen as "all things to all people." Certain communities are beginning to refer to the Army as the "lender of choice" for activities such as peace operations.

Being seen as primarily an "OOTW force" causes concern for a number of reasons. The foremost danger is that it will affect how we're resourced. This, in turn, will define our ability to man, organize, train and modernize the force. The outcome of this decision path would be, in the worst case, an Army lacking sufficient capabilities to execute its wartime commitments.

If there's a single imperative that guides our transition, it's that the Army must remain a ready, highly trained, modern force, capable of deploying rapidly to crises around the globe and, once there, winning decisively as part of a joint and combined team.

This caution is made fully recognizing that making the transition to support the reoriented national security objectives is

not an option for the Army. Some reorientation was inevitable, given the magnitude of the changes in the security environment. Providing soldiers to help distribute relief supplies or to serve as observers along a contested border, while not the traditional picture of what armies do, is the reality of today's Blue world.

Simply put, armies in democracies do not get to pick their battles. For example, accomplishing a peacekeeping or humanitarian assistance mission is not a choice, and they represent the new "flash points" on the strategic map. These are missions the Army is going to have to do and do well—to overlook them is to risk losing one's relevance.

A second caution concerns the finite size of US military forces and the expanding demands on our capabilities. The absence of any direct threats to our core interests means our armed forces can be smaller. The Army, like its sister services, is going to be significantly smaller. In slightly less than 10 years, the Army will have gone from 18 active divisions to 10.

As part of this reduction, a smaller percentage of the force is going to be stationed overseas. By 1999, almost 70 percent of the total Army force will be based in CONUS. This compares with 51 percent in 1989.

The smaller force means the amount of resources dedicated to national defense can be reduced substantially. Spending for national defense is at its lowest level since before World War II—virtually every statistical category used to quantify defense expenditures shows a downward slope.

Current defense budgets reflect a more balanced approach to national security with greater emphasis on protecting US economic interests. Already more than \$385 billion has been redirected from defense to domestic investment. The Army, for the foreseeable future, will operate in an austere fiscal environment.

Understanding the finite size of the force and the limits on resourcing, it's imperative the Army be coldly analytical and realistic in providing recommendations on the capabilities of its forces. We must guard against slipping back into the Cold War mindset when resourcing considerations were different and less restrictive.

Doctrinal Guides. And now a reassuring reminder—the Army's transition will be guided by a familiar source: its doctrine. The Army is a doctrine-based force, using doctrine as the authoritative guide for all operations. It connects military objectives with Army ways and means.

The Army is aggressively developing new doctrine and revising existing doctrine in light of the new strategic realities. In June 1993, the Army completed its update of its keystone warfighting doctrinal manual *FM 100-5 Operations*. It recognizes that Army forces act across a range of evolving military operations and increasingly act as part of combined operations. Complementing this broad perspective are *FM 100-6 Information Operations*, *FM 100-8 Combined Army Operations* and *FM 100-16 Army Operational Logistics*, all under development, and the newly published *FM 100-19 Domestic Support Operations* and *FM 100-23 Peace Operations*; they represent new doctrine intended to articulate operational guidance for new missions.

The doctrine in *FM 100-5* also highlights the ongoing evolution to joint warfighting as central to US military strategy. The services reached agreement on a final version of *Joint Publication 3.0 Doctrine for Joint Operations* in October 1993. Like *FM 100-5* for the Army, *Joint Publication 3.0* is the primary warfighting manual for the joint force commander (JFC). And, like its Army counterpart, *JP 3.0* is complemented, for example, by *Joint Publication 3-07.3 Joint Tactics, Techniques and Procedures for Peacekeeping Operations*, as well as other joint publications describing operations in the new strategic environment.

Overall, the efforts to describe the ways and means in doctrine of how the Army supports national military objectives, whether as a service or as part of a joint or combined force, are central to the process of reorienting the force.

Army Strategic Operational Imperatives

Taken together, the new range of threats, strategic realities and redefined security objectives hold a number of important strategic and operational imperatives that must guide the Army transition from a post-Cold War force to a 21st century force.

Build Versatility. The Army will need to retain a balanced, adaptable mix of armored, light and special operations forces. Maintaining this mix of force capabilities

enhances the commander's ability to respond decisively to the broader range of missions he or she can expect to encounter in the future.

FM 100-5 defines versatility as "the capacity to be multifunctional, to operate across the full range of military operations and to perform at the tactical, operational and strategic levels." Building versatility into the force ensures that units can conduct many different kinds of operations, either sequentially or simultaneously, with the same degree of success. In an environment characterized by diverse, regionally oriented threats, our forces must be able to shift focus, tailor focus and move from one role or mission to another rapidly and efficiently. Leader development is a critical step in this process.

Versatility requires competence in a variety of missions and skills. A smaller force required to respond to a range of possible situations implies a multi-functional capability—an ability to tailor units to accomplish the full spectrum of military operations.

Fielding a force trained and ready for combat naturally embeds many capabilities for operations short of warfighting. The reverse of this equation is not true. Preparing the force to execute counterdrug operations, for example, does not develop the skills necessary for combat.

For most of the last 50 years, we've focused on the single point on the operational continuum—warfighting. But this single-mindedness is no longer enough. Mission demands and politically charged environments surrounding today's OOTW prevent the facile assumption that success in warfighting assumes success in these other missions. The expectation today is that we have forces readily capable of fighting and winning wars and successfully conducting operations other than war.

While there are inherent risks in having the Army undertake OOTW tasks, there are also viable strategic rationale for executing these kinds of missions. Establishing a field hospital in Zagreb, conducting joint US-Russian peacekeeping training, assisting Belarus with denuclearization or constructing water distribution systems in Honduras are just a few of the many low-risk, low-cost means of generating presence, reassuring "friends" and establishing stability abroad. The returns on these relatively small investments in sustained engagement are potentially very high and, hence, strategically significant.

Maximizing the "economy of force"

benefits inherent to OOTW potentially allows us to support warfighting in major regional contingencies and, by producing regional stability, helps compensate for some of the resource restrictions we face.

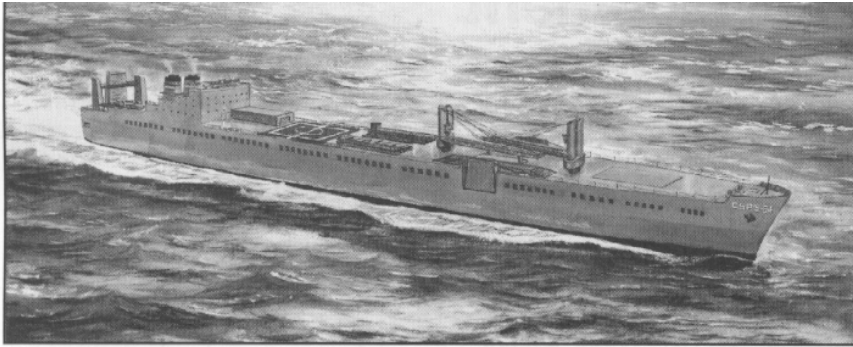
Improve Deployability. The second imperative is to improve Army deploy ability. Strategic mobility is the linchpin of our power projection strategy. Our ability to credibly project power rests on our ability to respond quickly and deploy forces rapidly to points anywhere in the world. Decreasing deployment times is a critical operational requirement.

The Army is approaching this imperative on four fronts. The first is aimed at enhancing airlift. The Army continues to be the most vocal supporter of the Air Force's effort to field the C-17 Globe-master. The services are committed to purchasing 40 aircraft initially with an opportunity to buy an additional 80 by 2001.

The C-17 will provide the Army both inter-theater and intra-theater lift that can deliver twice as many combat-ready loads as a C-140 and up to four times as many as a C-130. If the Army had had this capability for Operation Desert Storm, it could have delivered an additional two light infantry brigades and 12 tactical fighter wings in the first two weeks of conflict.

On the second front, the Army is aggressively supporting the Navy's program to upgrade sealift capabilities. Between now and the year 2001, the Navy is committed to fielding a 63-ship fleet of roll-on/roll-off ships via conversions and new constructions. During this time, the Army will upload equipment for an armored brigade on each of eight long-range, medium-speed, roll-on/roll-off ships for fast transport wherever a contingency arises. Additionally, 47 of these ships will be stationed near strategic Army seaports for surge requirements of forward-deployed units and prepositioned forces.

Successfully implementing these enhancements to airlift and sealift will enable the Army to move three divisions anywhere in the world in 30 days and a five-division corps with its support package in 75 days. During Desert Storm, it took 76 and 118 days, respectively, to accomplish these tasks. Improving our sealift and airlift means more sustained, heavy combat power will be available to the warfighting CINC earlier in the fight—when he needs it most.



The Army is aggressively supporting the Navy's program to upgrade sealift capabilities—including this long-range, medium speed, roll-on/roll-off ship (LMSR).

Prepositioning of equipment is the third initiative designed to improve force deployability. The Army is prepositioning nine brigade-sized unit equipment sets at strategic locations around the world. These equipment sets enable the Army to introduce ready-to-fight forces into a conflict very quickly—specifically heavy maneuver forces.

The Army initiatives with prepositioning are not in competition with similar actions being executed by the Marine Corps. Our initiatives complement their capabilities by providing for the rapid introduction of a sustained, heavy land force component.

Finally, the Army is committing resources to upgrade its CONUS military installations. As we complete the transition to a CONUS-based force, posts and depots will take on a greater role in supporting the new power projection engagement strategy. Army installations will not only be the homes and communities for our soldiers and the training areas for our units, they also will be the power projection platforms from which we assemble and rapidly deploy the force. Improvements to rail heads, rail lines and port facilities are all part of the strategy to quickly move forces from fort to port to foxhole and back.

Modernize the Force. Getting to the fight is half the task. Once there, the Army must be able to respond decisively and win quickly. This requires a modernized force.

The Army is pursuing a number of initiatives to improve the lethality of the force. Key among these are an air armored reconnaissance capability; an upgraded, more deployable anti-armor capability; greater ballistic and cruise missile defenses; and enhanced precision-guided munitions and deep strike weapon systems.

Modernizing the force, however, is tough business and getting tougher. After paying

the bills to continue to recruit a quality force, train the force and develop the leadership to guide it, there's not much left. Today, the Army has about \$10 billion available for modernization projects—down from \$24 billion just two years ago. The new fiscal reality is causing the Army to shift how it goes about its modernization mission.

To maintain its critical warfighting advantage, the Army is going to continue to leverage technology to maximize our existing systems, but the emphasis will be on horizontal technology integration (HTI) and digitization. HTI involves inserting common enabling technologies—such as second-generation, forward-looking, infrared sensors—across all weapon systems and platforms within the force. The goal is a shared, common view of the battlefield in real-time where we are able to apply decisive, overwhelming power across the entire maneuver space. The Army is committed to having a digitized corps by the end of the century. This revised modernization approach enables us to retain and improve our best systems while conserving valuable resources for the development of new systems.

Conclusion

Today's Army is reshaping itself to respond to the demands of the 21st century, both for combat and during peacetime operations at home and abroad. The Army of the 21st century will be a CONUS-based power projection force that's regionally focused, one that's required to maintain a 360-degree view of the world. It will be a force capable of responding to two nearly simultaneous major regional contingencies. It will be shaped for joint and coalition operations, building on our institutional strengths. Although the majority of the force will be based in CONUS, it will keep a permanent presence in Europe,

Southwest Asia and the Pacific to deter aggression and promote stability. The strategic demands of this vision ultimately explain the steps the Army is taking to become a 21st century Army—not just a smaller version of the Cold War force.

The Army will continue to pursue strategic mobility and force modernization aggressively so it can get the force to the fight quickly and win decisively. The Army also will continue to embed capabilities within the force to respond to the wider range of operations it can expect to perform in the years ahead. Finally, the Army will engage in aggressive overseas presence operations to build and strengthen the coalition of democracies.

If this sounds like a lot, it is. But, as was stated before, in a democracy, an army can't pick its fights. Completing the transition to a CONUS-based power projection Army capable of success from warfighting to peacekeeping operations demands the best of leaders and soldiers.



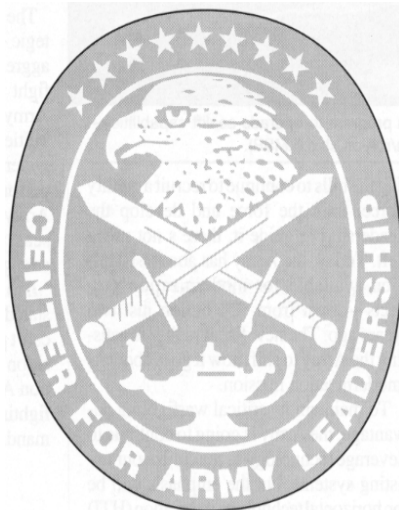
Colonel John R. Wood is Chief of the Strategic Plans and Policy Division, Office of the Deputy Chief of Staff for Operations and Plans, Washington, DC. In his previous assignment, he attended Georgetown University as a Senior Service College Fellow. Colonel Wood commanded the 3d Battalion, 8th Field Artillery, part of the XVIII Airborne Corps Artillery, Fort Bragg, North Carolina, and has served in a variety of Field Artillery positions in Korea, Germany and the US. He holds an MBA from the University of Chicago and a Master of Military Art and Science from the Command and General Staff College, Fort Leavenworth, Kansas. Colonel Wood has been selected to command at the brigade level.

Major Steven A. Greene is a Policy Analyst in the Strategic Plans and Policy Division of the Office of the Deputy Chief of Staff for Operations and Plans. In his previous assignment, he was a Project Officer working on Conventional Arms Negotiations in the J5 Directorate of the Joint Staff, also in Washington, DC. Major Greene served as commander of two batteries, both in the 3d Battalion, 29th Field Artillery, 4th Infantry Division (Mechanized), Fort Carson, Colorado; and as the Battalion Fire Direction Officer in the 1st Battalion, 4th Field Artillery, 2d Infantry Division, Korea. He holds a Master of Public Administration from Harvard University.

Officer Leader Development for the 21st Century

by Brigadier General Randolph W. House

We have a great Army today with great leaders—talented, hardworking officers, NCOs and senior civilians. America's Army must continue to grow and develop high-quality leaders determined to fight and win and dedicated to serving the nation. And we grow great leaders with the right mix and quality of institutional training, self-development and operational assignments.



Although this article is about officer leader development, most of what it covers also applies to NCOs and civilians.

The Warrior-Leader of the 21st Century

In the post-Cold War environment, we can continue to expect nontraditional threats, a constantly changing geopolitical world and operations throughout the spectrum of conflict anywhere in the world. Our warrior-leaders must be versatile. As commanders they must be decisive, agile, creative, intuitive, culturally sensitive and visionary. As leaders, we expect high levels of professional ethics, selfless service and commitment. They must demonstrate strong interpersonal, counseling and assessment skills. And finally, as soldiers, our leaders must maintain their warfighting focus and edge.

Our leaders must be part of learning organizations, organizations in which everyone can learn from his mistakes as well as successes. Officers must promote a positive command climate, honest evaluation and straightforward counseling. Successful leaders teach, coach and mentor their subordinates. More importantly,

they give them room to grow, make mistakes and learn from those mistakes. Everyone makes errors of judgment or has oversights; the key to success is learning from these experiences. A learning organization fosters the command climate that allows this to happen.

This climate is characterized by teamwork, loyalty and dedication. In this environment, people enjoy open communications and are treated with dignity and respect; in addition, subordinates are empowered to take the initiative.

Our after-action review (AAR) process is key to establishing this environment. Aside from the Army, few organizations have institutionalized this process for focused introspection and free exchange of views. We can trace our victories in Panama and the Gulf directly to our open command climate and our AAR tradition. We must continue to honestly assess ourselves.

Good leaders continually evaluate talent as accurately as they can. Great leaders constantly evaluate themselves. They judge their subordinates, both formally by evaluating them on officer and NCO efficiency reports and informally by giving them feedback and counseling them.

The Army attracts intelligent, competitive people who all want to do well. One

of the biggest challenges our leaders will face is differentiating among subordinates in a superb talent pool. Evaluation, therefore, becomes harder when everyone is so qualified—tough calls for leaders.

The key to successful evaluation will continue to be a straightforward counseling program. Good leaders talk to their subordinates; they also listen. In high-performing organizations, subordinates know where they stand because leaders tell them; evaluations are never a surprise. Performance counseling is a routine part of the organization's culture.

Leaders provide subordinates career advice through professional counseling. We must continue to provide subordinates realistic expectations of success, encouraging all to serve according to their talents and opportunities.

Finally, future leaders must continue the tradition of selfless service. America's Army has gone through the stressful changes of downsizing, including selective early retirements and retention boards. We're through the worst. We must continue to learn from our experiences—build learning organizations as we conduct AARs, counsel subordinates and write performance evaluations.

Changes in the Institution

Our current leader development system is sound; we developed the leaders who fought and won in Operations Just Cause and Desert Shield and Storm. Our warfighting focus is correct—we must never lose the edge that brought us so many victories. But as is true in all high-performing organizations, our people continue to enhance and improve good systems. This is what makes our leader development model strong.

Our current three-pillar model of leader development—institutional training, operational assignments and self-development—is solid (see the figure). In the near term, we can expect the institutional pillar to maintain its vitality. The operational assignment and self-development portions will become stronger as the Army reaches its downsizing end-state and leaders refocus on professional growth. In the future, these pillars will move closer together with less noticeable distinctions among the schoolhouse, unit and self-development.

The institution will no longer be limited to a few weeks or months of training spread throughout a soldier's career. He will have access electronically to the institutional

information and resources throughout his career. For example, the Command and General Staff School at Fort Leavenworth, Kansas, (Combined Arms and Services Staff School, Command and General Staff College, School for Command Preparation, School of Corresponding Studies and School for Advanced Military Studies) will be a "college without walls." Students will be able to access the schoolhouse electronically from their homes or units. The institution will provide the resources for learning a new task, preparing for a new assignment or studying a foreign language.

Stronger Self-Development

In the future, self-development will continue to be extremely valuable in our professional development, for it's through self-development that we sharpen the skills we learn in schools and operational assignments. Professionals will continue to pursue excellence through individual study, reading and writing.

The military qualification system (MQS) that has served officers well is evolving. The Center for Army Leadership, part of the Command and General Staff College, just completed a holistic review of the MQS program. With input from commanders

worldwide, we reaffirmed that the theory behind MQS is sound—it's a great tool for self-development. The challenge is to meet future leaders' needs with smaller staffs at proponent schools developing MQS products and smaller budgets Army-wide.

An immediate change we're making is the format and delivery system for MQS products. We've had paper-based products distributed through the Army Training Support Center at Fort Eustis, Virginia. By the end of FY 94, we'll distribute MQS products on CD-ROM. This change is the first step on the information super highway.

To meet the changing needs of America's Army, the name of MQS is changing and so is the focus. The new Officer Foundations Standards (OFS) system will still include branch-specific tasks but emphasize common leader tasks. Analysis for this change is underway at the proponent schools, which are refining the common task lists to support officer self-development well into the next century.

OFS will evolve into a fully automated system by the latter part of this century. From around the world, users will be able to log on through their computer modems and access a series of menus at Fort Leavenworth within the areas of institutional training, operational assignments

or self-development. In each of these areas, the user will have the ability to reference instructional materials, reading lists, "lessons learned" or tactical scenarios.

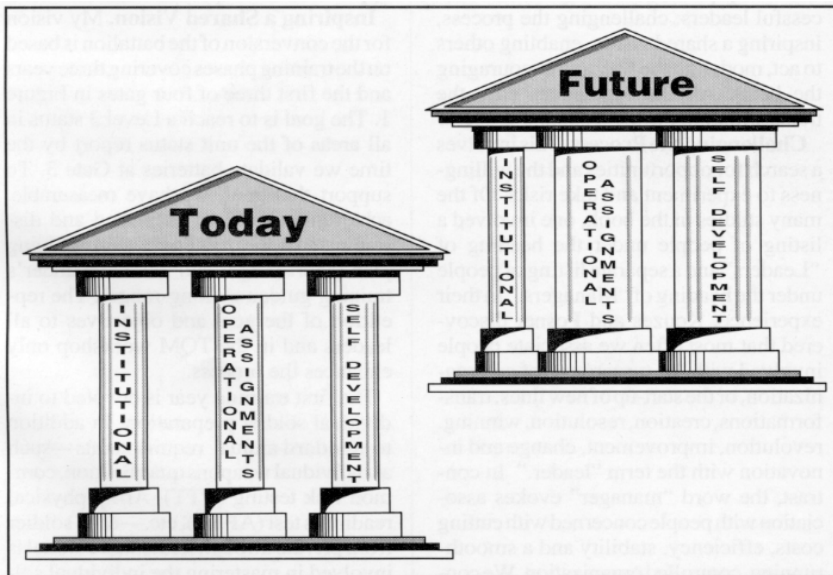
Classroom without Walls

Moving along the information super highway, OFS will be linked and fully interactive with all other leader training and development products. For example, student leaders won't just read about a historical battle, they'll fight it and see the results of their decisions in real-time.

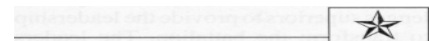
Under this system, a newly assigned leader will be able to network with the institution to prepare for his duties. He'll be able to access "lessons learned" from others who have held the position, recommended reading lists and pertinent information about the job and unit. While in the new assignment as part of his self-development, he'll be able to tap the institution to develop or maintain a language proficiency, learn about another culture or study history.

When returning to the schoolhouse for training, students will use an internet system to access information for research, assignments and projects. Computers will bring the resources of numerous libraries and institutions to their finger tips.

The technology to create a "classroom without walls" and access information from anywhere around the world already exists, and we must use it to maintain our leader development edge. America's Army deserves the best.



Today's three-pillar model of leader development—institutional training, operational assignments and self development—is sound. In the near term, the operational assignments and self-development portions will become stronger as the Army downsizes. In the future, the three pillars will be closer together with the separations among their activities less distinct. For example, a soldier will have access to information in the institution while performing duties in his operational assignment or during self-development.



Brigadier General Randolph W. House has been selected to command the 1st Infantry Division (Mechanized), Fort Riley, Kansas. His previous assignment was as Deputy Commandant of the Command and General Staff College, Fort Leavenworth, Kansas, preceded by serving as Assistant Division Commander for Operations and Training, 4th Infantry Division (Mechanized), Fort Carson, Colorado. He commanded the 2d Brigade, 1st Cavalry Division at Fort Hood, Texas, and in Southwest Asia during Operations Desert Shield and Storm; 1st Battalion, 61st Infantry, 5th Infantry Division Fort Polk, Louisiana; and two Infantry companies, including one in Vietnam. Among other assignments, Brigadier General House has served as Executive Assistant to the Vice Director and Director of the Joint Staff, Joint Chiefs of Staff, and Staff Officer in the War Plans Division of the Office of the Deputy Chief of Staff for Operations and Plans, both in Washington, DC.

The challenges presented by the conversion of an Army National Guard (ARNG) Field Artillery battalion from 8-inch self-propelled howitzers to the multiple-launch rocket system (MLRS) highlights how commanders can use leadership skills to affect change in their organization. Fundamental leader actions guide soldiers through any transition. A basic understanding of these leadership principles may help other officers and NCOs meet the challenges of change in their units.

Our battalion is one year into a three-year conversion to MLRS. As commander of the 1st Battalion, 181st Field Artillery, Tennessee Army National Guard and part of the 196th Field Artillery Brigade, I depend on my leaders to help our soldiers convert the battalion from within—embrace the changes.

In anticipation of the new mission and equipment, soldiers experience a degree of excitement, but many also fear the unknown, particularly those in a service battery who are displaced by the reorganization into a headquarters and headquarters service battery and some 13B Cannon Crewmen who don't qualify for conversion to 13M MLRS Crewmen. This uncertainty challenges superiors to provide the leadership to transform the battalion. The leaders must do so with confidence to inspire their soldiers to trust them because the soldiers look to them for answers to many questions. Leaders should adopt a confident "Follow Me" attitude throughout the change process, exhibiting confidence in themselves and their soldiers as they pass through conversion gates in the transition.

To assist commanders and senior NCOs in this process, we revisited some lessons learned from personal experience and as outlined in professional publications and incorporated them into leadership instruction in our Total Army Quality, or Total Quality Management (TQM), workshop. I used the book *The Leadership Challenge* by James M. Kouzes and Barry Z. Posner (San Francisco: Jossey-Bass, Inc., 1987) as a guide for leader implementation of change in our organization.

Success in leadership, according to *The Leadership Challenge*, boils down to five leadership practices common to all successful leaders: challenging the process, inspiring a shared vision, enabling others



ARNG Battalion Transition to MLRS: *Meeting the Challenges of Change through Leadership*

by Lieutenant Colonel Alan N. Clark

to act, modeling the way and encouraging the heart. All these practices ease the transformation during a change process.

Challenging the Process. This involves a search for opportunities and the willingness to experiment and take risks. Of the many studies in the book, one involved a listing of people under the heading of "Leaders" and a separate listing of people under the heading of "Managers." In their experience, Kouzes and Posner discovered that most often we associate people involved with the turnaround of an organization, or the start-up of new lines, transformations, creation, resolution, winning, revolution, improvement, change and innovation with the term "leader." In contrast, the word "manager" evokes association with people concerned with cutting costs, efficiency, stability and a smooth-running, controlled organization. We conducted an exercise in our TQM workshop in which participants determined the differences between the two and found the book's definition to hold true.

The definitions, of course, are applicable to the MLRS transition process, lending credence to the need for leaders to take risks—lead—while steering their personnel through the change process. But those same leaders must use management skills as well to help soldiers pass through the gates of the military occupational specialty (MOS) conversion process shown in Figure 1.

Another excellent example of the creativeness that leaders must use to challenge the process is in the logistics arena. The ARNG Field Artillery battalion has the same questions about what to do with its 8-inch howitzers and other

M110-unique equipment as its active duty counterparts have. How soon do we turn in the howitzers and give up the 8-inch mission? If the equipment is still here when MLRS arrive, where do we store all the items? How much money do we need to allocate for continued maintenance on equipment that later

will be transferred laterally? These and other questions demand answers from commanders who must be willing to challenge the process somewhat to find opportunities to experiment and take risks.

Inspiring a Shared Vision. My vision for the conversion of the battalion is based on the training phases covering three years and the first three of four gates in Figure 1. The goal is to reach a Level 3 status in all areas of the unit status report by the time we validate batteries at Gate 3. To support that goal, we have measurable, achievable objectives published and disseminated in the battalion's yearly training plan (short-range) and the commander's training guidance (long-range). The repetition of the goal and objectives to all leaders and in the TQM workshop only enhances the process.

The first training year is devoted to individual soldier preparation. In addition to standard annual requirements—such as individual weapons qualification, common task testing (CTT), Army physical readiness test (APRT), etc.—each soldier from private through lieutenant colonel is involved in mastering the individual soldier skills to prepare himself for his role in an MLRS battalion. Subsequent training years have collective training objectives followed by validations in Gates 2 and 3.

The vision of the future as an MLRS unit is enhanced around the army by reminders

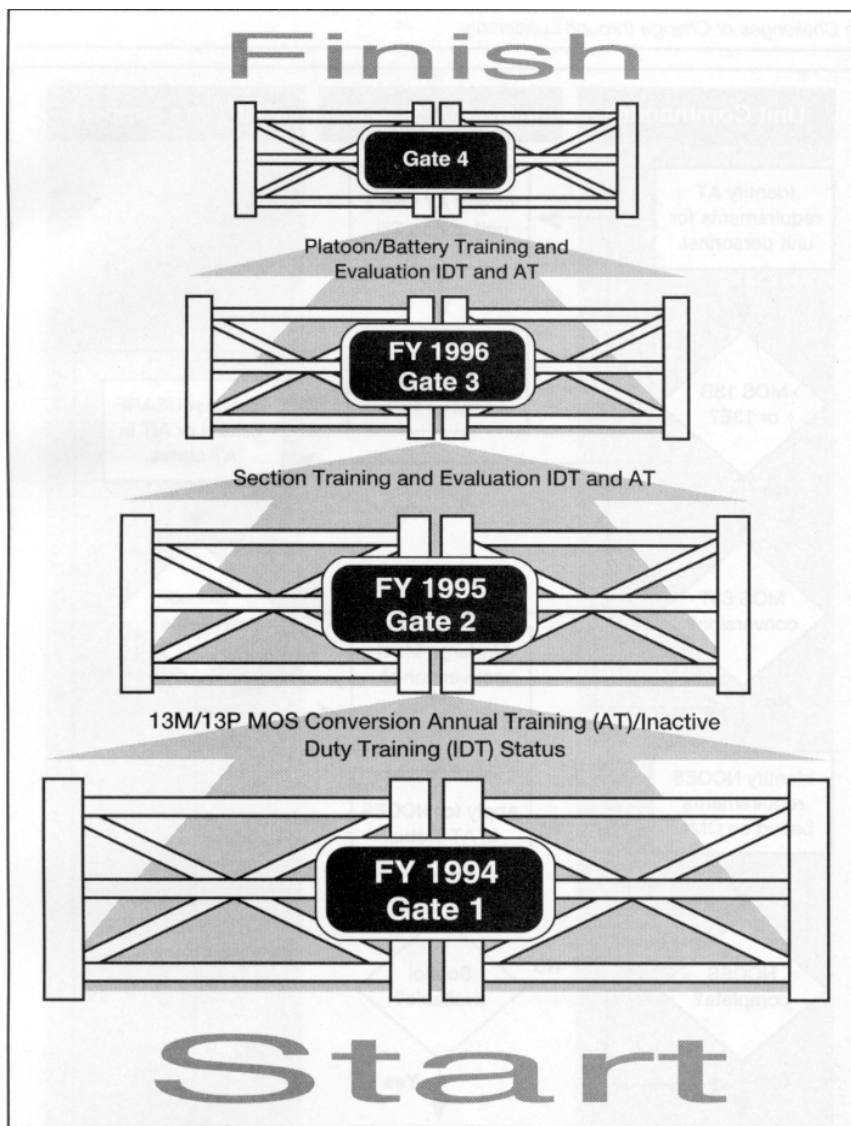


Figure 1: Reserve Component Field Artillery Battalion MLRS Conversion Training Cycle.

in the form of posters and other visual devices, asking soldiers to stay "plugged in" to the vision. We also reiterate the vision regularly in training meetings with commanders and first sergeants and in formations when we have the opportunity to focus on the future with all soldiers.

Enabling Others to Act. According to Kouzes and Posner, "Leaders know that they cannot do it alone. It takes partners to get extraordinary things done in an organization" (Page 131).

There are many ways in which enablement is a factor in the MLRS transition program. The ARNG battalion collaborates with the Field Artillery School's Gunnery Department and MLRS Division at Fort Sill, Oklahoma, to establish schedules and training plans for the cadre course and crewmen qualification during

a two-week Gate 1 annual training (AT) period. The fire direction specialist Gate 1 training is a three-week course.

For soldiers who don't need to change MOS, an excellent opportunity exists to attend the appropriate NCO educational systems (NCOES) course in AT status. In addition, the battalion needs well-trained support personnel for the fielding process. Our battalion adopted the decision flow chart shown in Figure 2 (Page 44) to help commanders decide where to send their troops during AT.

For Gates 2 and 3, we'll have an active component new equipment training detachment (NETD) from the Field Artillery School allocated to us. The NETD will include an officer and nine NCOs with active duty MLRS experience to provide technical and tactical training assistance.

Another example of collaboration is the coordination between the US Army Missile Command at Redstone Arsenal, Alabama, and our battalion to ensure smooth deprocessing of equipment, beginning at least one year in advance of the first battery fielding. The deprocessing includes introductions, briefings and many man-hours spent on modification table of organization and equipment (MTOE) scrubs.

The MLRS transition process is not the time when the commander should withhold information or power. To be able to ensure the conversion is effective, he has to empower others to act on his behalf—the project is too big for one man to manage alone. His logisticians, trainers and personnel specialists must be empowered to work on critical issues for the commander. Empowering others creates a sense of ownership in the process by integrating responsibility and instilling a sense of pride.

Modeling the Way. Setting the example is what leaders have always been asked to do in the military. The important point in the MLRS transition process is to model confidence for the troops. I liken it to leading a safari through the jungle. The troops have to think their leader knows where he is going; then they have no difficulty following his lead. The leader must be confident he's in the right jungle headed the right way. This confidence comes from leaders' immersing themselves in *FM 6-60 Tactics, Techniques and Procedures for Multiple-Launch Rocket System Operations*, in the materiel fielding plan and in any and all facets of the transition so they comprehend the direction in which they're headed.

This example is reinforced by what *The Leadership Challenge* refers to as "planning small wins." The change must be viewed as a series of small wins, not one gigantic leap into the unknown. As soldiers successfully complete each portion of the MOS conversion, for example, this must be celebrated as a win, an accomplishment, leading them into the next part of the transition, thereby building confidence as the conversion journey takes place. It's vital that commanders become cheerleaders throughout the transition, emphasizing the wins and resisting the temptation to be critical during momentary setbacks.

Encouraging the Heart. Every time a leader celebrates accomplishments and recognizes individual contributions, he encourages the heart of his soldiers. The awards process is an established method for rewarding individual soldier achievement,

and commanders need to take advantage of it—especially during the transition period. We've also used Morale Welfare and Recreation funds to purchase MLRS key chains and leather coasters to present to each soldier as a memento of his role in the conversion process.

Recognizing that soldiers could get confused about their future, I attempted to get them thinking about the unit as a place where they *want* to be, not where they *have* to be. By positive reinforcement of the sequence of events leading up to the first fielding, we attempted to instill a sense of excitement into our soldiers, reinforced by the celebration of significant accomplishments. The morale of our soldiers is high, which is a significant factor indicating the conversion process is "taking." Arranging for an M270 launcher to be brought to the armory drill hall for a battalion formation six months before the first battery fielding gave soldiers the feeling that the conversion was inevitable and allowed them hands-on experience with the new equipment. Having access to the MLRS early chipped away at the feeling of facing the unknown and instilled excitement in the soldiers—both encouragement to the heart.

Conclusion. Leaders can't take a back seat in the transition process of their organization. Fielding the MLRS in the Army National Guard requires leaders step forward with confidence and guide their soldiers through the process. They must be leaders *and* managers, risk-takers, visionaries, enablers, role models and willing and able to encourage the heart.

Conversion is no time to let the troops see leaders frustrated or confused; that will become the model they'll follow. Conversion is the time to lead soldiers into a brighter future.



Lieutenant Colonel Alan N. Clark, Army National Guard, commands the 1st Battalion, 181st Field Artillery, Chattanooga, Tennessee, which is part of the 196th Field Artillery Brigade. On Active Guard/Reserve status, he works full-time for the battalion, which is in the process of converting from 8-inch howitzers to the multiple-launch rocket system (MLRS). His previous assignments include Executive Officer of the 1st Battalion, 181st Field Artillery in Chattanooga and in Southwest Asia during Operation Desert Storm; S1 and Operations and Intelligence Officer for the 196th Field Artillery Brigade; and Commander of

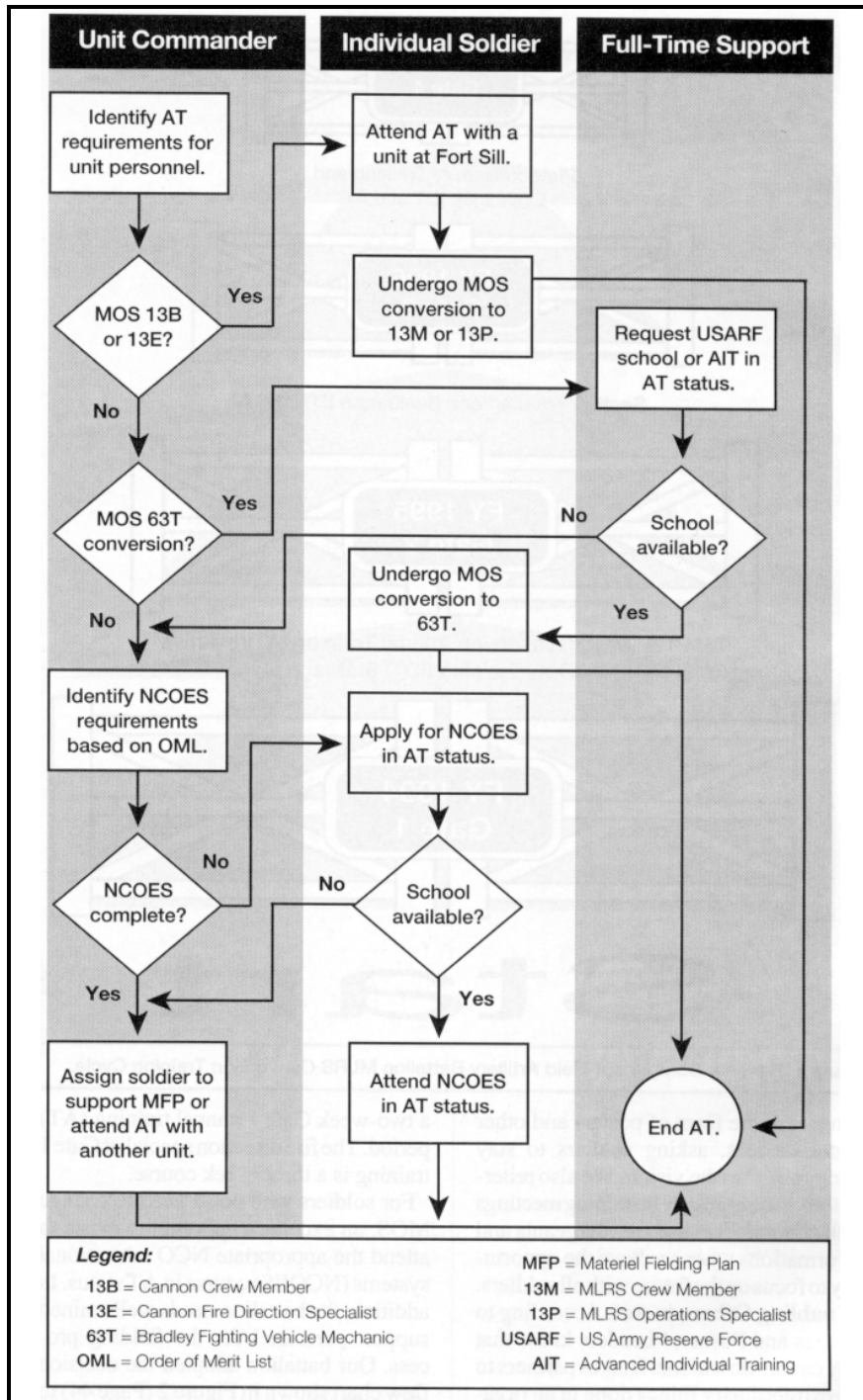


Figure 2: The Training Year 94 Annual Training Process for Private (E1) Through Staff Sergeant (E6). As part of the 1st Battalion, 181st Field Artillery's MLRS conversion process, the battalion adopted this decision flow chart to help battery commanders decide where to send their troops during annual training.

Headquarters Battery, 1st Battalion, 115th Field Artillery, also part of the 196th Field Artillery Brigade. Lieutenant Colonel Clark is a graduate of the Command and General Staff College, Fort Leavenworth, Kansas,

and the Defense Strategy Course of the War College, Carlisle Barracks, Pennsylvania, and holds a Doctorate in Education from the University of Tennessee at Knoxville.

Dragonfire IV: Anatomy of a Fire Support Exercise

by Brigadier General James F. Brickman
and Major Robert G. Beecher

The XVIII Airborne Corps Artillery achieved a major milestone in its continuing evolution as part of the Army's Contingency Corps when it completed Dragonfire IV in October 1993. The latest in a series of annual corps-level fire support training exercises, Dragonfire IV vastly expanded both the scope and complexity of this major training event. It integrated the joint and combined fires of four Army divisions, a Marine division, an Air Force composite wing, two Active Component and four National Guard Field Artillery brigades, the 1st Canadian Division Artillery and a corps aviation brigade (see Figure 1).



The exercise achieved several significant "firsts" for the corps artillery: the first fully distributed, computer-driven simulation at four dispersed locations; incorporation of a Reserve Component (RC) division as the opposing force (OPFOR); a live-fire exercise incorporating cannon and rocket artillery, tactical air and Army attack aviation in both close and deep fires with the concurrent deployment of combat engineers for survivability operations and the corps Signal brigade for a complete supporting communications architecture; and direct linkage to a concurrently running division-level maneuver exercise.

This article examines the anatomy of Dragonfire IV as a complex large-unit fire support exercise and its implications for future corps fire support training. While a large-scale Field Artillery training exercise is not unusual, Dragonfire IV provided unique perspectives on planning, organizing and coordinating large-unit fire support training.

Training Requirements

The Army generally provides each corps a Battle Command Training Program (BCTP) opportunity every two years. This frequency is inadequate, however, to train and sustain collective mission-essential skills for fire support operations in a corps artillery. With normal personnel turnovers, higher level units frequently find themselves struggling just to achieve a partially trained status with little hope of substantial improvement. Unit leaders, therefore, must leverage existing, or create other, training opportunities to fill the void.

The XVIII Airborne Corps Artillery has conducted Dragonfire exercises for several years, but they have been incomplete, at best. They were constructed as lock-step live-fire exercises driven by a master events list (MEL) and directed by ad hoc organizations. These exercises worked on technical fire direction for subordinate units, principally scheduled and massed fires, but failed to provide either technical or tactical training to the corps artillery

Army			
Active Field Artillery	National Guard Field Artillery	US Army Reserve	Other
XVIII Airborne Corps Artillery 18th FA Brigade 42d FA Brigade 82d Airborne Division Artillery 24th Infantry Division (Mechanized) Artillery 101st Airborne Division (Air Assault) Artillery	113th FA Brigade 151st FA Brigade 196th FA Brigade 209th FA Brigade	4th Battalion, 17th Field Artillery	82d Airborne Division 18th Aviation Brigade 1st Corps Support Command 20th Engineer Brigade 35th Signal Brigade 525th Military Intelligence Brigade
Marine			
Active Field Artillery	Reserve Field Artillery	Other	
10th Marine Regiment	3d Battalion, 14th Marines	2d Marine Division 8th Marine Regiment	
Air Force			
23d Wing			
Canadian			
1st Canadian Division Artillery			

Figure 1: Units Participating in Dragonfire IV. The exercise integrated the fires of Total Army, joint and combined units in fully interactive battle simulations at four dispersed locations.

headquarters or the fire support element (FSE).

Dragonfire III in 1992 was typical of these exercises. The corps artillery G2 and G3 planned and wrote the script for the exercise. A reasonably cooperative enemy massed in the Fort Bragg impact areas. The exercise limited intelligence to the script, and all fires were part of a close fight. The exercise structure fragmented the corps artillery staff between exercise controller and tactical controlling headquarters functions. The FSE provided both exercise and forward observer control and passed the right kinds of missions (as depicted on the MEL) to the appropriate fire control center.

The exercise was valuable to battalions and of some worth to Field Artillery brigades but was of very limited value to the corps artillery staff. Consequently after Dragonfire III, the corps artillery commander directed his staff to develop a more rigorous and inclusive exercise.

Development

As with any tactical mission, the commander's intent and guidance (Figure 2) provided the focus for development of Dragonfire IV. The commander's guidance to his staff was to develop a simulation-driven command post exercise (CPX) using a Southwest Asia scenario and focus on integrating fire support and command, control, communications, computers and intelligence (C⁴I). The CPX phase was to be followed by a MEL-driven, joint live-fire exercise similar to previous live-fire exercises. Initial discussions allowed the staff to frame the problem and develop courses of action for the commander's consideration. Figure 3 shows the broad training objectives derived from this process.

Interoperability. Some of our training objectives are obvious. For example, the corps must operate in a joint environment, especially for coordination of fire support.

To Exercise—

- Joint and combined interoperability.
- Active and Reserve Component interoperability.
- Command, control, communications, computers and intelligence (C⁴I) integration.
- Tactical and operational levels of fire support.
- Combat service support operations.

Figure 3: Dragonfire IV Training Objectives. These are the broad training objectives the staff developed, based on the commander's intent (Figure 2) and guidance: "develop a simulation-driven CPX using a Southwest Asia scenario and focus on fire support and C⁴I integration."

During Dragonfire IV, in addition to the Air Force's 23d Composite Wing, we also included the 2d Marine Division as part of the land force, thereby expanding joint interoperability training for the primary contingency force.

Other training goals were the result of force structure limitations. Despite the contingency force mission, the Field Artillery force structure in the XVIII Airborne Corps includes only two Active Component (AC) Field Artillery brigades. Our mission-essential task list (METL), on the other hand, requires us to command and control up to six brigades of artillery. Although we would expect them to come from the AC in a crisis, we don't believe we'll deploy the corps without significant contributions from the RC. The exercise, therefore, not only would enhance interoperability between AC and RC units, but also would provide unprecedented opportunities to train at the large-unit level for the RC Field Artillery brigades.

Communications. Still other training goals derived from problems identified in previous exercises. Communications is always critical, but Dragonfire IV was

particularly challenging because of systems compatibility caused by the varying levels of player unit modernization, which was compounded by the distributed nature of the exercise.

The matrix in Figure 4 shows the mix of communications and fire direction capabilities employed during the exercise. Integrating these systems required extraordinary effort from the corps artillery communications staff and the 35th Signal Brigade. Equally important, it enabled the corps artillery to highlight connectivity problems and identify required solutions.

Refinement. After the commander established his intent and training objectives, the command issued a broad invitation to participate in the exercise. The invitation described a self-evaluated BCTP-type exercise with the opportunity to integrate unit-specific training objectives into a larger training framework. We built Dragonfire from the start as a fire support exercise; therefore, we crafted the tactical scenario and the scheme of maneuver around fire support training goals.

Setting the training objectives early helped participants eliminate those tasks that wouldn't support the training goals of their units. For example, one early accommodation was elimination of an extended reconnaissance/counter-reconnaissance engagement because it didn't support player units' objectives. We accommodated other training needs and tactical capabilities, which resulted in a list of start of exercise (STARTEX) rules that helped the exercise take shape.

The final exercise script had a US/Canadian Corps operating in Southwest Asia initially with a covering force, reverting to a defense, then transitioning to the offense. The OPFOR consisted of a typical Soviet-style front: two combined arms armies directly opposing the corps in the first operational echelon and a tank army as the follow-on force. The front also contained two artillery divisions, an airborne division and a separate motorized rifle division.

Training Resources. The corps artillery staff was responsible for planning and executing the exercise, but the unprecedented scope of the exercise caused the corps to designate it as a corps exercise. This was important because it "fenced" the time, resulted in corps-generated products to drive the exercise and allowed the corps artillery to reserve the corps battle simulation center (BSC) and, essentially, the entire Fort Bragg range



To conduct a corps-level fire support CPX and live-fire exercise driven by a Southwest Asia scenario that will practice joint and combined interoperability with Active and Reserve Component units associated with the XVIII Airborne Corps. The exercise should provide the opportunity to evaluate artillery C⁴I and the execution of planned fires.

Figure 2: Commander's Intent for Development of Dragonfire IV.

Equipment	Digital Heavy TACFIRE	Digital Light TACFIRE	Voice	Remarks
VRC 12 Series Radio-FM			X	Secure & Non-Secure
SINCGARS Radio-FM	X	X	X	Non-Frequency Hopping
GRC 106 HF Radio-AM	X		X	Non-Secure
PRC 132 HF Radio-AM	X	X	X	Non-Secure
MSE			X	TID Not Available [required to pass digital over MSE heavy or light TACFIRE]
TACSAT			X	

Legend:	
SINCGARS = Single-Channel Ground and Airborne Radio System	MSE = Mobile Subscriber Equipment
HF = High Frequency	TACSAT = Tactical Satellite
	TID = Tactical Interface Device

Figure 4: Communications Matrix. This figure shows the mix of communications and fire direction capabilities employed during Dragonfire IV.

area. The corps artillery also coordinated for National Guard armories in outlying areas to allow player unit tactical operation centers (TOCs) to stretch communications to expected battlefield distances.

The staff plainly lacked experience in planning an exercise of this magnitude. Consequently, the G2, the entire G6 section, the fire direction officer (FDO), G3 plans and most of the G4 shop worked full time on the exercise for five months. The manpower dedicated to this one project was the most significant resource impact on the organization.

Generally, the corps artillery assumed the common overhead costs for the exercise and individual units paid their own implementing costs. The corps artillery controlled costs by moving the exercise dates to best accommodate unit training plans and then overlaid other unit training on the Dragonfire exercise. For example, the 10th Marine Regiment conducted its annual major gunnery exercise on Fort Bragg during Dragonfire IV; therefore, there were no additional travel or support costs required to incorporate them into the exercise. The 82d Airborne Division embedded a division-level BCTP train-up into the exercise, again avoiding the overhead costs associated with a separate exercise.

Among the most critical resources for the exercise was the staff of the Fort

Bragg BSC. The staff spent a great deal of time working with the corps artillery to ensure the distributed simulation, a first for them as well, would produce the training benefit desired. This assistance proved to be essential to the success of the exercise.

As in BCTP, a highly skilled OPFOR is key to a successful exercise. The most obvious choice, the Leavenworth World Class OPFOR, couldn't support the exercise, but we discovered a great training secret in the 75th Division (Exercise) in Houston, Texas. The 75th Division proved invaluable in developing an enemy plan within the training concept and, subsequently, during the CPX.

Final Checks. The final stage of the preparatory phase was the central and most difficult requirement: communications. The corps artillery conducted a full-system communications exercise just before STARTEX to validate the links among the four distributed locations. This exercise included using combat net radios (CNRs), mobile subscriber equipment (MSE) and high frequency (HF) nets carrying both voice and digital signals. We initially experienced a problem with providing both send and receive tactical fire direction system (TACFIRE) communications between Forts Bragg and Stewart but were able to complete the exercise

without any appreciable communications problems between the BSCs.

Administratively, the Blue Force operated from BSCs at Forts Bragg, Stewart and Campbell and the OPFOR from its simulation center in Houston. We also deployed a full tactical voice and data communications structure within and among posts. MSE nets provided local communications, and ground mobile force (GMF) terminals provided tactical satellite (TACSAT) links among posts.

Redundant commercial communications lines connected the BSCs. These lines provided the backbone TACFIRE linkage with units in the field and for the BSCs' computer linkage. Units established full tactical communications nets, to include digital nets, at home station training areas; terminated communications at the local BSCs; used the commercial backbone among BSCs; and routed the communications from the BSCs into the tactical net at each distant end to provide communications among posts over tactical nets.

This architecture provided complete tactical communications for the exercise.

Execution

At STARTEX, the Blue Force was in position to execute tactical missions, and the OPFOR began moving toward the Blue Force defensive positions. The Blue Force issued a five-day intelligence buildup, OPFOR division reconnaissance was in contact with the corps covering force and the lead echelon regiments were about five hours from contact. STARTEX was also the initiation of Blue Force deep operations to disrupt and delay second-echelon divisions in the corps sector and set the conditions for a successful counter-attack.

The covering force consisted of the 101st Airborne Division (Air Assault) with eight Field Artillery brigades or division artilleries positioned forward. This provided 27 additional battalions of mixed-caliber artillery and was a significant battle command challenge for both the division and corps artilleries. While the 101st Division was conducting covering force operations, the remainder of the corps' maneuver units were preparing defensive positions in the main battle area, and the 10th Mountain Division (Light Infantry) assaulted to seize and establish a strongpoint in an urban area. The next 80 hours challenged every supporting and participating unit to



practice all tactical tasks to which we had previously agreed.

After the simulation-driven CPX, units moved from their off-post locations to occupy positions on Fort Bragg with their firing elements and began a 36-hour live-fire exercise to build and maintain technical skills. We broke the live-fire period into three days of 12 hours each and gave the Field Artillery brigades and division artilleries freedom to execute their own training during the first and third days.

The corps artillery controlled all firing during the second day, planning and executing pre-planned targets, to include suppressions of enemy air defenses (SEADs), joint SEADs (J-SEADs), joint air attack team (JAAT) operations and both Army and Air Force close air support (CAS).

Lessons Learned

The exercise provided many insights into tactical operations, exercise design and execution and training management. The corps artillery staff started learning far before the execution of the exercise.

While developing the tactical and administrative concepts, the staff faced the issue of the Marine organization and whether or not to integrate II Marine Expeditionary Force (MEF) into our exercise. The issue affected Dragonfire IV in two ways. First, inclusion of the Marine force as a MEF would have brought with it the air wing, which was important in terms of exercising joint fires. Additionally, Marine Corps doctrine calls for the MEF to be introduced as an integrated force on the battlefield, and this exercise precluded the opportunity to exercise that set of the doctrinal force array. Ultimately, the problem was avoided when the MEF was unable to participate due to other commitments.

We found the Joint Exercise Simulation System (JESS) was weak as a joint contingency force model. Marine Corps equipment is not part of the data base and had to be emulated by substituting Army equipment. While this did not preclude joint fire support coordination, expanding this type of exercise into a joint force maneuver exercise would require higher fidelity within the maneuver battlefield operating system (BOS). Full modeling of Marine equipment is a clear requirement.

The exercise also gave us a tremendous appreciation of communications systems' capabilities. Dragonfire IV represented the

first complete MSE exercise for the corps artillery. We quickly replaced our skepticism with respect for the capabilities of MSE. The state-of-the-art equipment was stretched over doctrinal corps distances and provided better than 98 percent reliability.

We also saw the weakness of MSE, principally in our inability to interface digital fire support systems with the packet switch capability of the system. Hardware and software solutions currently are being worked with the combat and materiel developers.

We could have done several things to make the exercise a better training vehicle. A better plan for developing and publishing the corps' operations order and supporting products would have helped. While using the corps artillery staff to plan the exercise and prepare most of the products was valuable experience for the staff, building a combined arms exercise with a single branch staff is a difficult task. Had the corps staff been available, particularly the planners, they undoubtedly would have produced higher quality products and assured a more complete battlefield representation.

Another exercise shortcoming was the inability to play the logistics more fully. Because of contingency operations requirements, the 1st Corps Support Command was limited to minimum essential support to soldiers in the training areas.

During combat operations in Desert Storm, the XVIII Airborne Corps Artillery identified doctrinal inadequacies in logistics support to non-divisional artillery. More robust participation in the simulation by the logisticians would have allowed further analysis of the problem, exploration of potential organizational and doctrinal solutions and more appropriate training.

Finally, during live-fire, we blocked time for units to practice separate tasks but did not integrate units. Mutual support unit operations are difficult to execute and, had they been included in the live-fire plan, would have more fully exercised critical tactical skills. Next time we'll integrate training to exercise this very important task.

The Future

A significant outcome of Dragonfire IV was we validated the capability to conduct a distributed CPX. This capability will be critical across the Army to enhance

training within funding constraints. Training in preparation for the XVIII Airborne Corps BCTP Warfighter this year will employ a distributed simulation that will allow the corps and its major subordinate commands to participate without the extensive costs of moving units to, and supporting them at, Fort Bragg. It also may allow us to expand the training to increase corps slice participation, enhancing readiness and strengthening habitual relationships through training.

Planning already has begun for Dragonfire V. The next iteration will be an opportunity to evolve the Dragonfire series toward a new XVIII Airborne Corps training paradigm. This evolving approach to training will raise the level of participation in the Dragonfire exercises with the intended outcome of enhancing training for, and the sustainment of, non-divisional corps-slice units—tremendous value-added for the corps. In addition, the evolving exercise can include training to sustain corps command and control requirements, and the exercise can be integrated into the corps' planning process to validate and rehearse the plan. Finally, the continued integration of Marine and Air Force units provides substantive opportunities to practice joint operations. Expanding Dragonfire advances our "train as you'll fight" mantra.

Conclusion

Large-unit training can be difficult and resource-intensive. Synchronizing disparate unit calendars, scheduling training support facilities to the exclusion of other users and finding the resources are all tough.

The most significant training management conclusion from Dragonfire IV is that we validated the ability to provide effective distributed training. This capability allows large units to train critical battle tasks effectively in a more cost efficient manner. Multi-echelon, multiunit, semi-independent training provides a means of amortizing costs over a larger customer training base, therefore, increasing efficiency.

Exercises such as Dragonfire IV validate operational planning and demonstrate the benefits of rehearsals. Using a professional OPFOR enhances both the quality of the training plan and the exercise director's

flexibility during execution. Expanding the use of this training medium will help fill a training void at the large-unit level and produce a better Army.



Brigadier General James F. Brickman commands the XVIII Airborne Corps Artillery, Fort Bragg, North Carolina. His other commands include the 101st Airborne Division (Air Assault) Artillery, Fort Campbell, Kentucky; US Army Force Integration Support Agency, Washington, DC; the 2d Battalion, 18th

Field Artillery, 212th Field Artillery Brigade, Fort Sill, Oklahoma; and two batteries, one each in Vietnam and Korea. Other assignments include serving as Assistant Division Commander of the 1st Infantry Division (Mechanized), Fort Riley, Kansas, and Deputy Commander of the Combined Arms Combat Activity, Fort Leavenworth, Kansas. Brigadier General Brickman holds a Master of Business Administration from the University of Oklahoma.

Major Robert G. Beecher is the G2 of the XVIII Airborne Corps Artillery at Fort Bragg. His previous tactical assignments include command of Service Battery, 1st

Battalion, 73d Field Artillery, and C Battery, 3d Battalion, 8th Field Artillery, both in the 18th Field Artillery Brigade, also at Fort Bragg; Field Artillery Intelligence Officer for the 3d Infantry Division (Mechanized), Germany; and Brigade Fire Support Officer for the 2d Armored Division in Southwest Asia during Operation Desert Storm. Major Beecher holds a master's degree in Systems Management from the University of Southern California and is a graduate of the Combined Arms and Services Staff School and Command and General Staff College, both at Fort Leavenworth.

REDLEG REVIEW

BOOK REVIEW

On Artillery.

Bruce I. Gudmundsson, Praeger Publishers, Westport, Connecticut: 1993, 176 pages.

Because of the technical nature and traditional "black art" image of artillery, comparatively few serious historical studies have ever been written on the subject. Within the past 15 years or so, only a handful of books have appeared that belong on every artilleryman's bookshelf. The several excellent books by Ian Hogg have tended to focus on the guns and their ammunition and supporting equipment. On the tactical side, Shelford Bidwell and Dominick Graham have examined British artillery doctrine in their book, *Firepower*. Christopher Bellamy did the same for the Soviets and Russians in *Red God of War*; Robert H. Scales, Jr., now a brigadier general, who rose through the US Field Artillery ranks, analyzed artillery in small wars in *Firepower in Limited War*; and British Colonel J.B.A. Bailey's masterful volume, *Field Artillery and Firepower*, is an analysis of the last 100 years of artillery on the battlefield, based principally on English-language professional journal literature.

In *On Artillery*, Bruce Gudmundsson provides another important piece to the puzzle by concentrating on the experiences of the French and German Armies during the 20th century. He actually starts his analysis with the lessons of the Franco-Prussian War, as seen by both sides.

The present-day artilleryman may well ask himself why he should be interested in the fire support tactics of a war fought more than 120 years ago—what possible relevance could this have to his understanding of fire support tactics today? The answer lies in the interactive relationship between tactics and weapons technology, a relationship that always has been particularly close in the area of artillery.

The period starting with the 1870s saw the first explosive growth in technology that resulted in a major disconnect between the capabilities and effects of military weapons versus the tactical doctrine for their employment. By the start of World War I, this technology-doctrine gap was very wide, which, in part, contributed to the stagnation and horrific slaughter that became so

characteristic of that war. By the end of World War I, the gap was starting to close and the basic framework of modern battlefield tactics began to take shape.

Almost all the elements of modern tactical doctrine can trace their origins to World War I. This is especially true for fire support, where in some ways the ideas of 1918 had even moved ahead of what the contemporary technology could deliver. These World War I concepts were developed and refined in the period between the world wars and then tested and further modified in World War II. Their effects are very recognizable in the tactical principles of the 1990s.

By drawing from the tactical manuals and the professional journals of the French and German armies from the Franco-Prussian War through World War II, Gudmundsson's book makes a major contribution to our understanding of the process as these two major players of the period worked through it. The French and the Germans interpreted the broader fire support lessons of World War I very differently, and to a large extent, they were both wrong. These errors contributed significantly to France's early defeat in World War II as well as to Germany's ultimate defeat.

In his last two chapters, Gudmundsson shifts from French and German sources to American and Israeli experiences in an effort to draw conclusions about artillery's role in the post-World War II era. Throughout the book, Gudmundsson focuses on the apparent conflict between artillery's close support and deep battle missions, a conflict he believes is exacerbated by the deep capabilities of modern systems.

Some artillerymen may take issue with much of what he says in these final sections. The future tactical impact of the fiber-optic guided missile, for example, may be just the opposite of what Gudmundsson forecasts.

On Artillery is a solid contribution to the history of fire support tactics. It belongs on every professional artilleryman's bookshelf. And if the book's final chapters prove a bit controversial and generate some discussion—so much the better.

LTC David T. Zabecki, USAR
Cdr, 313th Rear TOC (RTOC)
Kaiserslautern, Germany