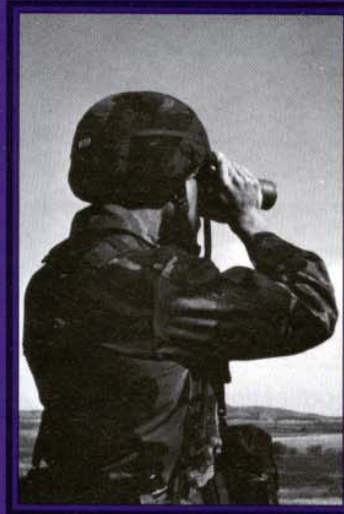




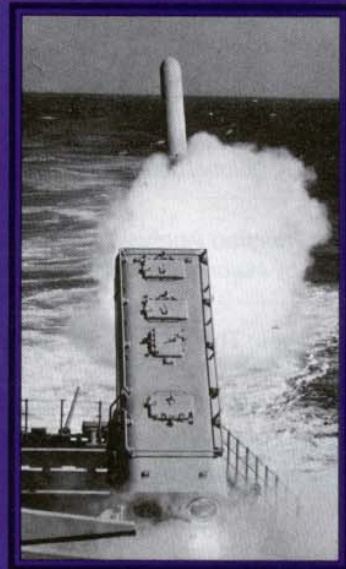
Field Artillery

A Professional Bulletin for Redlegs

October 1993



Joint Task Force





October 1993

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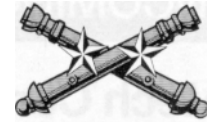
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Preparing for the Purple Battlefield

Young leaders may assume that only senior officers at higher echelons conduct joint operations. They should dispel that notion—all operations are joint. Neither uniforms of green nor blue will dominate the front lines of our battlefields. Combat will blend the colors of the armed services into the "purple battlefield."

Our challenge is to focus on preparing to execute joint fires in these future fights. Successful joint operations must integrate fires at every level—from the theater commander to the forward observer.

Master the Art of Versatility.

Diversity of requirements characterize all joint operations. To adapt tactics, techniques and procedures to meet the unanticipated conditions of joint combat, fire supporters must master the versatility inherent in their own weapons systems.

For the D-Day invasion of Europe in 1944, innovative artillerymen helped devise procedures for firing 105-mm howitzers while still afloat on landing craft. This enabled them to provide critical support during the assault on the Normandy beaches. Before the war, no one had envisioned employing artillery in such a unique fashion.

This tactical innovation is an example of adapting men and weapons to fit the face of future battle. Modern fire supporters must become equally skilled in modifying forces to fit the unique requirements of joint warfare.

Army artillerymen have inspired much of the new thinking on joint operations. The Depth and Simultaneous Battle Lab at Fort Sill is one example. The Lab experiments with concepts linking the capabilities of our armed forces to provide real-time fire support for commanders at the operational level.

Fight with Purple Fires. Executing joint fire support requires the expertise to think across service boundaries. And expert knowledge of the capabilities and limitations of all the land, sea and air forces is a prerequisite. This proficiency must include understanding the weapons systems; command, control, communications and intelligence; and tactics of our sister services. For example, reading *Air Force Manual 1-1 Volume 1 Basic Aerospace Doctrine for the United States Air Force*

is a must for Field Artillerymen. This manual articulates the Air Force's approach to conducting military operations. It's as essential to air planners as *FM 100-5 Operations* is to ground commanders.

Combined operations, fighting with allied and other friendly forces, further complicates the challenge of preparing for the next battle. Most future campaigns will find American armed forces executing in concert with other nations. Fire supporters must be familiar with the capabilities and doctrine of the military powers that frequently act with the United States.

“Successful joint operations must integrate fires at every level—from the theater commander to the forward observer.”

Train Joint. Joint training is the steel that welds the fighting force together. We must train the purple team. Joint duty assignments and major training exercises, such as Ocean Venture and Dragon Hammer, are valuable experiences. But such training exercises are inadequate to maintain small-unit proficiency in joint operations. The challenge falls on local commanders to find opportunities to integrate joint training into already overcrowded and under-funded training plans.

We must find the means to build effective training bonds with our sister services. It's said that the finest steel comes from the hottest fire. Our success depends on leaders who are willing to meet the challenge and forge the steel bonds in joint training.

Study the Joint/Combined Battlefield. Knowing the purple way of war is not a simple task. Units and leaders must bear the responsibility for learning about the other services. The knowledge provided at Army schools offers only an introduction to Air Force, Naval and Marine systems. The capabilities of friends and allies are rarely touched on. An adequate appreciation of our fellow warriors approach to battle can be gained only through self-study and unit training. Self-development is the key to preparing joint fire supporters for the next battle.

For example, military history is replete

with examples of joint operations. As you study it, you'll find the history of joint operations includes both brilliant and botched examples of joint warfare.

On the 11th of July 1944, the Americans scheduled an airborne drop by the 506th Parachute Regiment in support of the assault on Sicily. Plans for inserting the regiment shifted at the last minute. The naval task force had already sailed. Changes in the flight path for the airborne operation were radioed to the task force, but the ships were under radio silence.

The command and control system devised for the operation did not allow for effective coordination. Both Army and Navy anti-aircraft units fired on the airborne column as they approached the drop zone. Casualties were high, very high.

The tragedy of drop zone Sicily remains a powerful cautionary tale on conducting joint operations. The disasters of the past, however, are only part of the story. Joint combat history is rich in thought-provoking ideas. The Falklands, Urgent Fury, Just Cause and Desert Storm are recent campaigns that offer a bountiful source for the study of joint operations. Study them.

Studying military history requires more than a casual read. Establish "training objectives" for joint operations and select battles that offer potential insights into the conduct of joint warfare. Study the past in the identical manner you'd evaluate contemporary tactical problems. Make the examination of history equivalent to an exhaustive after-action review.

Meet the Challenge. The fire supporter who believes the joint environment will remain far removed from his daily routine is wrong. In fact, the day may soon arrive when his routine shifts to executing a vital mission on a foreign shore. From the first moment of deployment, he'll be expected to think and execute with a "joint perspective."

Combat leaders must find the skills and knowledge to execute on the purple battlefield. They must develop them today, or they won't be prepared for tomorrow.

Fire Support!



The Mech Company FIST...A Proposal for Reform

The heavy mechanized company fire support team (FIST) is obsolete. While the need for well-trained, well-equipped artillery "eyes" on the battlefield hasn't diminished, attaching these assets to a maneuver company is a misuse of resources.

Instead of attaching FISTs to companies, the FISTs should be kept at the task-force level. The two primary reasons for this are the doctrine of massed fires and the limited amount of fire support available to the maneuver task force. These necessitate centralized control of fire support, the basis of top-down fire planning. Because top-down fire planning is the bedrock of artillery planning doctrine, why not take this concept one step further and formally employ top-down execution as well?

Normally a direct support FA battalion provides a pyramidal fire support element to its supported brigade with a fire support officer (FSO) advising and coordinating at the brigade, task force and company/team levels. Fire planning begins at the top and filters down to the company FIST.

The company FIST refines the task force targets to support its company mission and then submits its own (usually mortar) targets. Because the FIST is attached to a maneuver company, its primary mission is to support that company with indirect fire support. The company FSO produces a company fire support plan much like the task force and brigade FSOs produce fire support plans for their commanders.

The Problem:

FIST Employment

Unfortunately, a credible company fire support plan is impossible to produce. The ultimate problem facing the company FSO is the lack of indirect assets available to him. Here's why.

The doctrine of massed fires states that artillery is most effective when a large volume of fire impacts within a short span of time on a target. Indeed, this is embodied in the JMEMs [Joint Munitions Effectiveness Manual] table, where 54 rounds of DPICM [dual-purpose improved conventional munitions] are needed to kill one BMP [Soviet amphibious infantry combat vehicle]. The result is the FA battalion usually won't

fire anything smaller than a battalion-three, 72 rounds, against armored targets.

Because a battalion-three takes three to five minutes to call for, clear, compute and fire and an enemy mechanized force moves approximately 20 kilometers per hour (1,000 meters every three minutes), a mechanized task force commander can't expect to have more than three missions fired per FA battalion during a defensive engagement. By the time the fourth mission would be ready to fire, the outcome of the engagement probably will have been decided. The same is true in the offense, except the limiting factor is the speed of the friendly advance.

Massed fires alone, however, don't negate the credibility of company fire planning. If every brigade had 10 artillery battalions supporting it, then there would be plenty of fire support to allocate. Unfortunately, a brigade usually can expect to have only one direct support and one reinforcing battalion supporting it, which makes artillery missions an extremely limited, precious commodity.

If the task force can expect only three artillery missions (an optimistic assumption, depending on the priority of fires within the brigade), then the company FSO can't realistically expect to have any fire support to plan. Even mortar fires may be monopolized by the task force, especially if it doesn't have priority of artillery fires or needs to plan for special missions, such as smoke.

Because we mass fires with limited resources, the task force is the lowest echelon that can realistically expect to plan for and receive indirect fire assets. Most fire supporters, as well as task force commanders (company commanders usually are not so enlightened), are well aware of this. With fire support so precious, the task force commander can't afford to allocate indirect assets to the company. In fact, he can't even afford to keep his FISTs tied to the companies.

Despite company FIST doctrine, most FISTs are employed as de facto task force assets. Whether the FIST is going to a task-force-designated OP [observation post] or firing task-force-designated targets, most company FISTs do very little execution in direct support of their companies. They have become task force executors instead of company planners, i.e., COLTs [combat

observation lasing teams]. The primary difference between a FIST and a COLT is that, unlike the COLT, the FIST has an FSO who fully participates in the task force planning process. Thus, when the task force FSO is killed, the FIST usually is able to take over the task force FSO's duties.

Unfortunately, most FISTs are forced to maintain the pretense of being a company asset, even though they're employed as task force assets. Company FSOs still go to company operations orders, make overlays for the platoon leaders, go with their commanders on engagement area development and do all the other company-level planning tasks the FSO traditionally does. They submit targets they know will never be shot and prepare company fire support plans they know will never be implemented. This is a waste of another precious wartime commodity—time. All the time FISTs spend with their companies could be better used refining and preparing to execute the task force fire support plan, which is their unspoken focus anyway.

The Solution:

The Task Force FIST

To improve the execution of the task force fire support plan, the mission and structure of the FIST must change. We must take the FISTs away from the companies and put them under task force control with a primary mission of execution. The mech-infantry FIST could leave a two-man FO [forward observer] team with the company and put the rest of the FIST under task force control. Instead of calling the FISTs A, B, C FIST, etc. to match the companies, they'd be called FIST 1, FIST 2 and FIST 3 to emphasize their independence from the companies. In an environment of high attrition of FISTs and the importance of "eyes on target," the task force commander needs all his fire support eyes where he thinks they'll matter most.

NTC [National Training Center, Fort Irwin, California] experience has shown that execution is the hardest part of a FIST's mission. A centralized FIST structure would allow the FISTs to devote their time to refining target locations, emplacing triggers, reconnoitering movement routes, rehearsing and performing other tasks that result in top-notch execution.

Task force FISTs also would provide the task force commander options previously too difficult to be practical. For example, the commander could beef up his organic scouts with GPS-G/VLLD [global positioning system-ground/vehicular laser locator designator]-equipped fire supporters to provide improved intelligence and deep fires. He could split up individual FIST sections into mounted and dismounted elements, doubling his "eyes" and adding flexibility to his observation plan. (Of course, company FISTs could perform such tasks, but they don't train for them.) Should a company need a FIST for a particular mission such as counter-reconnaissance, the commander can always temporarily attach a FIST to support that company. If the Engineers and Air Defense can succeed with such a structure, then why not the Field Artillery?

Sentimental arguments about "habitual" FIST/company relationships aside, there are some legitimate concerns about the proposed task force FIST structure. For example, it may not apply to light infantry operations. Maneuver company commanders surely would object to "their" FISTs' being snatched away from them, limiting their fire support (in spite of the fact that a FIST without any hope of getting the fire support the company commander demands isn't much of an asset for that commander).

The most significant problem with the task force FIST, however, is survivability. At the NTC, FISTs almost always die when they venture out on their own without protection. Even BRDMs [Soviet scout vehicles] and dismounted infantry can destroy a FIST-V [FIST-vehicle] with minimal trouble. Because a task force FIST would operate much more independently than a company FIST, survivability would be a problem.

Unfortunately, company commanders probably wouldn't be willing to direct their own precious assets to protect an

asset that doesn't really work for them. The habitual relationship that used to protect the FIST would have to be replaced by a task force directed survivability plan, which requires a task force commander who's dedicated to the concept and willing to allocate the appropriate maneuver and engineer assets.

Just because the task force FISTs would be operating more independently doesn't necessarily mean they'd go to their OPs by themselves. The commander could attach a FIST section to his scouts, have the FISTs move with the companies until they are close to their OPs, put a FIST on a high OP near the LD [line of departure] or come up with any other solution that works. The bottom line is the task force FIST would have to train to be very flexible, with survivability options a high training priority.

Even more important, however, would be a well-trained task force FSO who understands the survivability issue and incorporates it into his fire support plan. He would have to balance target value against the probability of the FIST's getting into position to observe the target. If the target is very important, he could even assign it to several FISTs, increasing the probability that a FIST would be able to see it.

FIST training would be another problem. Because we train as company FISTs, many of the tasks required of a task force FIST aren't covered very well. The task force FIST essentially would have to perform all the tasks of both a company FIST and a COLT. This means more than being able to call in Copperhead or erect the targeting head. It means knowing a little bit about infiltration, scout tactics, FIST survivability, task force fire planning and enemy order of battle. Though most these tasks aren't new to a company FIST, they would receive greater attention by a task

force FIST. Remember, the task force FIST still could be employed temporarily as a company FIST, so its training needs would be added to those already existing for the company FIST.

One other debatable issue is whether or not the task force FIST would need an officer. Based on NTC experience, the answer is, "Yes, it would." The success of the task force FIST is predicated on a team chief knowing the task force maneuver and fire support plans as well as anyone else on the task force staff. It isn't enough to know one's targets and triggers. When the fog of war descends, only a well-informed FIST chief who has attended all the OP orders, rock drills and rehearsals will be able to take the initiative and follow through on the commander's intent. This has been demonstrated time after time as company FSOs have been forced to assume the duties of task force FSOs due to attrition, communications problems or unexpected enemy action.

Yes, there still would be a place for a young lieutenant in the task force FIST. In fact, given the greater demands placed on the task force FIST, it would need a lieutenant even more than the company FIST does. Besides, where else would future task force FSOs learn their trade?

Given the reality of massing fires with limited assets, the task force FIST is the best choice available. The Field Artillery community needs to seriously reassess FIST doctrine and incorporate some of the concerns expressed here. We can speak for the majority of our battalion's fire support officers in saying we've already debated the issue and concluded the task force FIST is the best FIST structure for the heavy-mech force.

2LT Brian Parillo, FA
CPT Dale Puett, FA
FSOs, 5-29 FA
Fort Carson, CO

Response to "Accurate Predicted Fire"

In his letter to the editor, Lieutenant Colonel John M. House is wrong in suggesting we should change training standards to allow commanders to decide when and how to take shortcuts in artillery procedures ("Incoming," February 1993). His assertion that "The requirement to provide the *most* accurate predicted fires has subverted our requirement to provide fires *sufficiently* accurate

when requested" raises an important question: How are we to decide what is "*sufficiently*" accurate? Even with modern technology, a battery commander, fire direction officer or artillery battalion S3 rarely has the information to make such a decision.

Lieutenant Colonel House cites missions fired in Operation Desert Storm that only later were discovered to have been

danger close. There were no friendly casualties, but the result could have been tragic. Allowing subjectivity to modify our gunnery standards, as manifested in the five requirements of accurate predicted fire, would undermine the hard-won confidence of maneuver commanders in the accuracy of our fires.

A firing battery commander is the most powerful captain on the battlefield. He controls more firepower than any other combat arms captain, bearing responsibility

for orchestrating the actions of more than 100 men into a single firing machine that delivers long-range fires on time, on target, every time. Only training to the highest possible standards will enable him to fulfill his mission.

The issue is not "extreme" gunnery

standards. Speed and accuracy are achieved through good planning and tough training to consistently high standards. Rather than compromising gunnery standards to compensate for deficiencies in planning, technical proficiency or other areas, we should consistently strive to meet

and exceed standards in all areas. In no other way can we provide maneuver commanders the consistently timely and accurate fires they expect and deserve.

CPT Steven A. Stebbins, FA
Chapel Hill, NC

Fire Support NCO: Transition Training for the Universal Soldier

The evolution of the fire support sergeant—MOS [military occupational specialty] 13F—has produced an extremely versatile soldier. The modern fire support sergeant can be found throughout the Army and is expected to be knowledgeable in all aspects of maneuver tactics. Some of the different positions he may be assigned to include light infantry, attack aviation brigade or battalion, airborne, ranger, air assault, mechanized or armor units or as an AFSSO [aerial fire support observer]. This versatility makes the fire support sergeant a valuable asset for all commanders. However, this versatility creates problems in transitional training during PCS [permanent change of station] moves. There are a number of variables in fire support sergeant positions that call for special emphasis on transitional training.

Tactics. Fire support sergeants are expected to transition easily from one type of unit or position without much difficulty. This frequently is not the case. While most fire supporters are versed in basic artillery doctrine, their knowledge of maneuver tactics in various types of organizations may be lacking. During light infantry operations, for example, fire planning and battle development progresses at a very deliberate pace. Fire support sergeants have enough time to survey the battlefield and engage targets.

This contrasts greatly to the high-speed tactics of mechanized movement. During the rapid pace of mechanized warfare, targeting becomes increasingly difficult as large sections of terrain are covered. As the ground campaign came into its full stride during Operation Desert Storm, mechanized and armor FISTs [fire support teams] progressed from one map sheet to another in a matter of hours.

AFSSOs experience problems not normally encountered by other fire support personnel. By examining the AFSSO environment, we can shed light on the uniqueness of the position.

In 1988, several fire support sergeants received letters requesting volunteers for the AFSSO program. The OH-58D scout helicopter was fielded to provide the Field Artillery an observation platform. The aircraft was equipped with a DMD [digital message device] and a variety of radio equipment. To increase the aircraft's potential, the mast-mounted sight was added. This sight contains a very powerful laser designator and both day and night vision equipment.

As an AFSSO veteran with more than 500 flight hours and a light infantry background, Staff Sergeant Daniel Willey speaks firsthand regarding the OH-58D: "The single biggest problem I faced was that little of my experience and technical knowledge was usable as an AFSSO. I had to stop planning for the slow, deliberate pace of light infantry and begin adapting to the faster pace of a heavy corps."

Staff Sergeant Willey is not the only fire supporter to undergo these changes. During Operations Desert Shield and Storm, fire support sergeants found themselves crossing not only battalion and brigade boundaries, but division and corps as well.

Physical Fitness. The differences in the physical fitness requirements of light and

mechanized units is evident. The key to survival in a light infantry unit is a high level of physical fitness and a comfortable pair of boots. It is an eye-opening experience for a fire support sergeant who carries a combat load of 100 pounds and begins a 25-mile road march with his infantry company for the first time. Priorities for that NCO then become upper body strength and hardening his blistered feet. Although a high-level of physical fitness is a standard throughout the Army, light infantry soldiers must emphasize mental and physical conditioning.

Equipment. The most difficult part of moving from one fire support sergeant job to another is learning the different equipment found in the various units. Vehicle, communications and targeting equipment familiarization becomes increasingly difficult with each move or change of station.

For example, light infantry fire support equipment consists of radios, binoculars, compasses and rucksacks. Whereas, mechanized or armor units are equipped with a FIST-V (FIST-vehicle), G/VLLD [ground/vehicular laser locator designator], LFR [laser range finder] and a system of complex communications equipment.

1. Identify the unit special tasks required of the 13F for that position: METL, battle tasks and collective and individual tasks.
2. Interview the soldier and review his Personnel Qualifications Record 2-A and Military Jacket 2-1. Determine the soldier's qualifications and experience for the position.
3. Evaluate the soldier on the tasks required for the position, written and hands-on.
4. Train or retrain the soldier on weak tasks.
5. Give the soldier a physical test: APFT [Army physical fitness test] and (or) a road march with his basic load of equipment.
6. After determining the physical capabilities of the soldier, establish a plan to improve his physical stamina.
7. Set up a section certification to evaluate the section's proficiency. The certification must identify individual and collective tasks.
8. Identify the incoming fire support sergeant before his arrival and include the unique specifications of his new assignment in his welcome packet.

Steps in preparing, evaluating and training 13F NCOs new to your unit.

It has become quite a training distractor for commanders to train or retrain fire support personnel on equipment unique to their units. In many cases, training time is not allocated to allow soldiers to refresh themselves on equipment procedures. "Learning to operate the equipment was a major setback in my transition from light to mechanized infantry," according to Staff Sergeant Pedro Torres. Although some equipment training is received during NCO courses, this training only familiarizes the individual and should not be confused with the level of proficiency needed for combat effectiveness.

It can be an overwhelming experience for a fire support sergeant who has never stepped inside a FIST-V. He often is forced to learn his new responsibilities from the soldiers he's expected to train. Six months ago, Staff Sergeant Oscar Francois transitioned from Lance Missile Crewman (MOS 13N) into the 13F MOS. "I was expected to lead and train my soldiers to become technically proficient on equipment I was only vaguely familiar with," he said.

Training. Soldiers changing occupational specialties in mid-career face limited formal training in advanced skill levels. Most NCOs receive only skill level one training during reclassification.

ANCOC [advanced NCO course] is an example of how this type of training can affect a unit. Seven out of 18 students in ANCOC Class 2-93 transitioned into the 13F MOS after gaining proficiency in another MOS. Not only did these soldiers face transitioning dilemmas, but they also ventured unprepared into the complex world of the fire support sergeant.

Without the benefit of some form of transitional training, these NCOs face extreme challenges in keeping pace with their peers. In addition, if these NCOs are teamed with inexperienced fire support officers, their lack of proficiency will hurt unit readiness.

With the myriad of transitioning problems facing fire support sergeants, the need for transitional training is evident. Currently, on-the-job training is the primary means in training incoming personnel. A commander places a fire support sergeant in his duty position and relies on the NCO's peers and subordinates to indoctrinate him. This not only puts undue pressure on the transitioning NCO, but also places him in the position of being trained by those he leads. This causes problems for an NCO in asserting his leadership role within his unit and establishing himself as the subject matter expert for his soldiers.

FIST certification and fire support refresher training are additional systems used to ensure the proficiency of fire support leaders. FIST certification is a training and testing process that requires fire support personnel to validate their proficiency in their MOS. Fire support refresher training is used to reacquaint fire support personnel after being away from their MOS for a period of time in jobs such as drill sergeant or recruiting duty. This type of training, usually two weeks, covers primarily skill level one tasks and does not prepare the NCO to perform at his own skill level.

Transition training programs must be implemented and enforced at the MACOM [major command] level (see the

figure). Training subjects should include maneuver doctrine and the equipment particular to that unit, a period of physical fitness adaptation and field training exercises to validate proficiency. By providing this training for transitioning NCOs, fluctuations within the band of excellence will diminish.

Overlap time between outgoing and incoming soldiers must be established for this system to work. This allows the NCO to profit from the experience and knowledge of his predecessor or peers. It also gives the transitioning soldier time to review the doctrine and SOPs [standing operating procedures] particular to his unit.

Establishing a certification program tailored to the unit's METL [mission-essential task list] is the key factor. Battalion command sergeants major have the responsibility to prepare and initiate a certification program that trains and certifies the fire support sergeant at his current level. The sergeant major can use the MTP [mission training plan] and soldier's manual to identify the tasks the fire support sergeant must perform in his new position.

A continuous training program that focuses on the unit mission will keep the fire support sergeant proficient in his MOS while transitioning him from one type of organization to another. With command emphasis, the fire support sergeant will continue to be a valuable asset on the battlefield as well as the *universal soldier*.

FA ANCOC Class 2-93
SFC Dennis R. Plunkett, SGL
FA NCO Academy, Fort Sill, OK

FA ANCOC-BNCOC LFX

Training is our top priority. Teaching skills that make our NCOs better at training their subordinates is one of the objectives of the NCO academies (NCOAs). At Fort Sill, Oklahoma, the NCOA provides the skills necessary to fight, win and survive on the battlefield.

This is accomplished through a series of training events. First, students learn in a small-group classroom environment where they train on the common leader combat skills required of every NCO. Second, students train on the technical skills required at their skill levels. At the end of the course, advanced NCO course (ANCOC) and basic NCO course (BNCOC) students put the skills they

learned in the classroom to use in a combat training environment.

The Field Artillery NCOA has developed a battle exercise to link ANCOC and BNCOC students into one combined arms LFX [live-fire exercise] that ties all weapons, fire control and targeting systems together. This three-day exercise provides equipment-based field training that tests the students' ability to train, lead and follow on the battlefield. It includes basic rifle marksmanship and a M109 howitzer live-fire shoot.

Training lanes place the student in a leadership position that evaluates his combat leadership skills through a series of situational exercises. TOC [tactical

operations center] operations and military graphics are integrated into the exercise, exposing the FA NCO to the fundamentals of TOC operations. The FA NCOA battle exercise is totally run and led by NCOs with the students as the leaders and the cadre training and evaluating them.

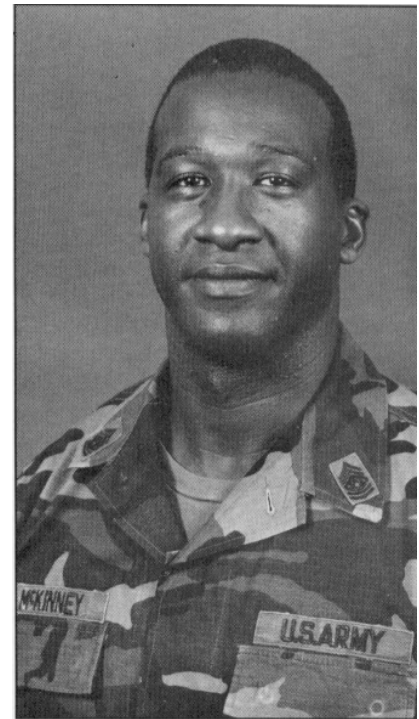
Quality training for our NCOs is the FA NCOA's top priority. The ANCOC-BNCOC LFX is another way of ensuring our NCOs can train, lead and follow.

CSM Harold F. Shrewsbury, FA
Commandant, NCO Academy
Fort Sill, OK



Command Sergeant Major James C. McKinney,
Sergeant Major of the Field Artillery and Fort Sill,
Oklahoma

Advice to NCOs Today— *Be Patient and Professional*



Q *Who has had the greatest influence on your career progression to command sergeant major of the only two-star Field Artillery command in the Army?*

A The people who have had the greatest influence on me have been my soldiers. Sometimes they thought I was too hard on them because I held them absolutely to the standard. But I also worked hard to be fair and looked out for them. In doing that, I gained their confidence and respect. Together, we made a team—we succeeded.

Officers have had an impact on me too. I've been blessed with many commanders who allowed me the freedom to do my job. But I've worked with some officers who didn't trust or have confidence in NCOs. Every time I ran into that attitude, I made it a personal challenge. Let me tell you what I tell NCOs when they ask how to get officers to let them do their jobs: "Whatever piece the officer gives you to do, you do it to the best of your ability, and before you know it, you'll have the whole pie."

I also worked for two NCOs who have been my heroes and mentors: Command Sergeant Major Eli Barber and Command Sergeant Major Marcellos Speight—both retired now. They've had tremendous influence on my development and how I try to develop others.

Sergeant Major Barber was Infantry and my command sergeant major when I became the first sergeant of the 2d Battalion, 10th Field Artillery at Fort Benning, Georgia. His leadership style—his way of getting his point across—had major impact on me. He was *not* a "zero defects" individual. So, you could make mistakes, honest mistakes, and as long as you didn't make mistakes a private would make, you were okay. If you

learned from your mistakes, you were successful in his eyes.

Sergeant Major Speight was the command sergeant major of the 3d Infantry Division [Mechanized] Artillery [Germany] in the late 1980s and the first sergeant major I worked for after becoming a command sergeant major. He was cut out of the same mold as Sergeant Major Barber. He had a way of chewing you out and making you feel good about it. But once he chewed on you, he didn't hold a grudge; you started with a clean slate.

Q *What have been the biggest challenges you've faced during your 25-year career?*

■ If you go back a few years, I was what they called a "liaison sergeant"—now a fire support sergeant. My biggest challenge, I think, was trying to convince maneuver soldiers what an asset the Field Artillery can be to them, that we were part of a combined arms team. Maneuver units didn't know enough about Field Artillery to use it. So I had to know Field Artillery *cold* and sell it.

The young NCO today faces the same challenge, but not as great as when I first started working with maneuver units. The war in the Persian Gulf has proven to maneuver units that Field Artillery is a powerful asset.

Another challenge is getting the military and civilian schooling to develop professionally. This is even more important today—getting to the right schools in NCOES [NCO educational system] at the right times for promotions and retention. As of this month, *all* levels of the NCOES schools are required before a soldier can get promoted to the next higher rank.

Now, you ask, if an NCO needs a school for promotion, why is getting him to that school a challenge? Too many unit leaders

still don't understand the impact it has on their NCOs when those NCOs don't get to their courses in a timely manner. And, in some cases, a commander is too focused on the unit's mission or the task at hand to turn the NCO loose for school. The commander doesn't realize that by sending his NCO to school, he may lose the NCO for a couple of months, but that NCO will be a greater asset to him when he returns.

The new technology that's coming into the FA is another challenge for today's NCOs—the M109A6 Paladin coming on board that's capable of semiautonomous operations and the high-tech AFATDS [advanced Field Artillery tactical data system] scheduled for fielding in 1995. A lot of NCOs aren't computer literate, and senior NCOs tend to be set in their ways—don't want to change the way they've always done business. Admittedly, that's hard to do. But the computer—high-tech equipment—is here to stay, and we'll only see more.

■ *What advice would you give young, ambitious NCOs who aspire to the most senior NCO positions?*

■ I'd like to use three letters to advise them: "B"—Be patient, "S"—Stay focused and "T"—Take care of your soldiers. The Army's going through a lot of changes with even more to come. Because of constant changes, we don't know which direction we'll travel, so we must



be patient. The Army takes care of its own, and it will continue to take care of its own in the future.

Because of the drawdown, we must stay focused on the mission and the task at hand. If you're a drill sergeant training new recruits, you're obligated to make them the best soldiers you know how to make them. If you're a gunner or a howitzer section chief, you're responsible for training your section for war—when war comes, it's too late to train them. So, I want you to stay focused on your job.

Finally, NCOs need to take care of soldiers. The bottom line is that if you take care of your soldiers, they'll take care of you. They'll have all the confidence in the world in you if they know you're looking out for their best interests.

Q *What do FA units do well in training and what needs improvement?*

A For the past three years, I've been with a training command [Seventh Army Training Command, Germany] that trains every part of the combined arms team. We train extremely well as a team. The CTCs [Combat Training Centers] have allowed us to do that.

But what NCOs don't do well is training management. Preliminary SDT [self-development test] results show low scores in training management. And, by the way, the SDT "counts" for all active duty soldiers, starting this month—FY 94.

Many NCOs train their soldiers too often on those tasks they, personally, know the best. They need to train to the unit METL [mission-essential task list] battle tasks—all the tasks.

NCOs need to make training challenging with different scenarios or environments, different techniques or missions. Sergeants don't vary training because they fear they'll embarrass themselves in front of their soldiers if things don't go well during the new training. It's all about taking risks.

NCOs are weakest in the assessment part of training management—knowing

which of the tasks their soldiers need training on. It's very difficult to know what to train, but it's also part of that risk taking. You do your homework—even asking your soldiers what they need more training on—and then design training for and train the tasks, varying the scenarios and techniques.

I ask all commanders and leaders who understand training management to grab their NCOs and make them just as smart on that process.

Q *How will fielding AFATDS impact our 13P MLRS [multiple-launch rocket system] Fire Direction Specialists, 13C TACFIRE [tactical fire direction system] Specialists and 13E Cannon Fire Direction Specialists? What's the plan for consolidating those MOSs [military occupational specialties] into a new 13D?*

A With the fielding of AFATDS in about June 1995, the FA School had considered combining 13Ps, 13Cs and 13Es into one MOS. In about five years, we're looking at combining just two of the MOSs—13C and 13E—into the new 13D MOS FA Tactical Operations Specialist.

The 13Ps will stay as they are because the ballistics and firing techniques for cannons as compared to rockets and missiles is too different to add the 13Ps to the 13D MOS. The MOS configuration must fall out based on the requirements of each technical field.

Version 1 AFATDS software only will be able to execute tactical fire control. Later versions of the software will be able to compute technical data as well as execute tactical fire control, explaining why we're waiting five years to combine the MOSs.

Q *With the fielding of the M109A6 Paladin, what new demands will be placed on 13B Cannon Crewmember NCOs?*

A The Paladin is a magnificent weapon with many new high-tech capabilities.

13Bs will have to be computer literate. The section chief will sit in front of the computer display unit long periods of time, and he's going to get tired and, maybe, miss something. So cross-training will be more important than ever before, cross-training among all crew positions. 13Bs also will need a good sleep plan to rotate soldiers in and out of the howitzer section so they can be effective when needed.

The section chief must be able to work independently. In some ways, he'll be a "platoon sergeant" of a very small, but powerful platoon. The howitzer may be employed in pairs and shoot and scoot rapidly, covering a lot of ground. He'll have new responsibilities, for example, managing his ammunition and resupply. The section chief will have to know land navigation to employ the Paladin.

So the Paladin will place a lot of new demands on 13B NCOs, especially the section chief. He'll have to have a different mind-set.

Q *What effect is the Army's downsizing having on the career progression of NCOs?*

A As the Army grows smaller, the positions in it, including those at the top, decrease—but, eventually, all will be proportionate. It goes back to NCOs being patient.

Schools are very important. The Army completed the linkage between NCOES schooling and promotion. The PLDC [primary leadership development course] is required for promotion to sergeant, BNCOC [basic NCO course] for staff sergeant and, as of the first of this month, ANCOE [advanced NCO course] became a prerequisite for promotion to sergeant first class and the Sergeants Major Academy a prerequisite for sergeant major. NCOES schools are required across the board for promotion.

But we have to face reality here. Because the Army is shrinking, in a state of flux, and several positions are not yet proportionate to the number of soldiers still in the Army, some fully qualified soldiers aren't getting picked up for promotion. They often ask, "What did I do wrong?" In a lot of cases, they did *nothing* wrong.

I was fortunate enough to sit on the 1993 sergeants first class promotion board. For some MOSs, we had a very large number

“...the FA School had considered combining 13Ps, 13Cs and 13Es into one MOS. In about five years, we're looking at combining just two of the MOSs—13C and 13E—into the new 13D MOS FA Tactical Operations Specialist.”



INTERVIEW

of soldiers who were fully qualified for promotion, but

the board could only select a painfully small percentage of them, based on the numbers the Army projects it needs.

Of course, the percentage of those selected for promotion varied from MOS to MOS, and some fared well. For example, the FA's 13Fs had about a 42 percent selection rate; they fared very well. So what did the 13Bs, who didn't fare so well in the selection process, do wrong? Nothing. They had as many quality soldiers up for promotion as the 13Fs had. We've just had cannon unit inactivations in the Army's downsizing that currently has the 13B requirements for sergeants first class out of proportion to the number of fully qualified staff sergeants up for selection.

What determines who's part of that percentage selected? One major factor is potential. A soldier's potential is apparent by the quality of his performance in his job, and of course, the tougher the job, the better the opportunity to show potential. But the board focused on performance rather than jobs. We first acknowledged that soldiers and NCOs have very little to do with what jobs they're assigned, but they have everything to do with how well they perform in those jobs.

It's important to try to seek the hard jobs: section chief, platoon sergeant, first sergeant—those are tough jobs. But the board also saw drill sergeant, recruiter and instructor as tough jobs. But that's only one piece of the pie.

Another important factor for selection to promotion is military and civilian education. The average soldier considered for promotion to sergeant first class by our board had about 13 years of civilian education—one year of college. On the 1993 first sergeants' board, those selected had about two years of college. It's very difficult these days to be a sergeant major without at least two years of college.

Q *How effective are our BOSS [better opportunities for single soldiers] programs and what can we do to improve them?*

A BOSS programs and the single soldiers who represent those programs are as effective as leaders will allow them to be.

I was in Germany when one of our communities ran a pilot for BOSS about three years ago. The program was very

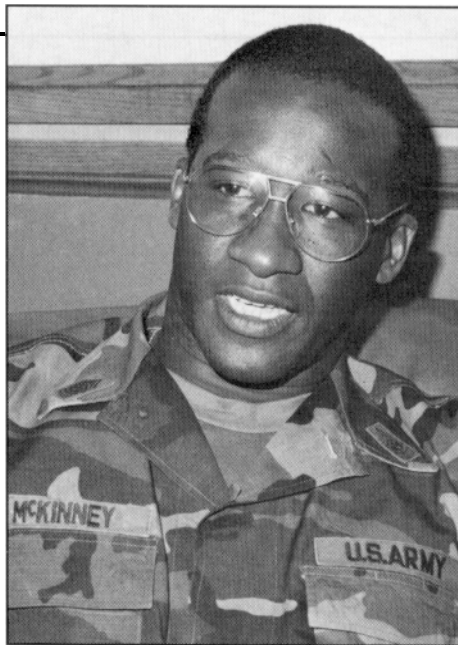


Photo by Kevin Tucker

effective because commanders not only allowed single soldiers to voice their opinions, but also *listened* to what they had to say. Single soldiers can tell you a lot about what's right and wrong in the community and how to fix what's wrong.

Without open communications, the program is a waste of time—eyewash.

Q *The Army strives for excellence in family support. How do units make those programs effective?*

A The concept of the family support program is tremendous. Unfortunately, in my experience, some of the programs weren't successful. Unit family members of soldiers of all ranks must be involved—must willingly participate—for the program to succeed. And the commander must be involved, take full responsibility for the program because it's *his* program.

It's a great help to the commander if his spouse takes that program and runs with it and other spouses of unit leaders are involved. But he must stay in touch, and they must go into it with open minds, open hearts and open ears, or they'll turn off the family members of the more junior soldiers and the program will fail.

All unit family members must be valued for their contributions to the group. Again, it boils down to open communications and the true spirit of taking care of our own. I'm concerned about family support programs—making them more effective.

Q *What three things would you like to accomplish as command sergeant major of the Field Artillery?*

A First, I'm establishing a two-way flow of communications from the Sergeant Major of the Field Artillery down to the soldier who pulls the lanyard. With this interview and the electronic communications link I set up through E-Mail (or PROFS) to FA sergeants major and the artillery community, I can communicate with and get feedback from Redlegs stationed worldwide. I can keep my finger on the pulse of the Field Artillery.

Another goal I have is to maintain the quality training we're providing our soldiers. I'll visit training areas and units all over the world to look at training and listen to soldiers.

Last, I'll help Major General [John A.] Dubia, Chief of Field Artillery, focus the force on his vision for the Field Artillery of the 21st century. Providing the NCO perspective, I'll help him "read" the constant changes in the Army, assess where we must be in the year 2020 and focus our efforts to get there. And to do that, we need your help.

Q *What message would you like to send Field Artillerymen stationed worldwide?*

A The keys to our success during these uncertain times are maintaining open communications and staying focused on the tasks at hand. As we do our jobs and take care of soldiers, we ensure they'll be prepared for whatever combat challenge they face.

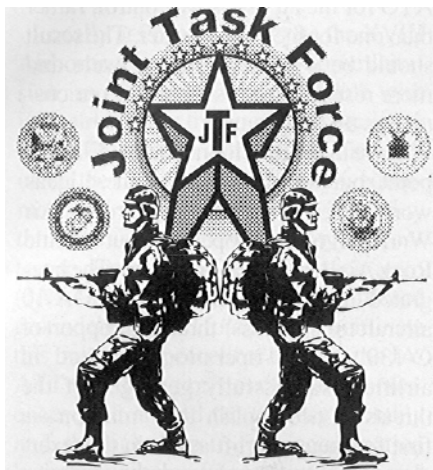
With patience and professionalism, we'll weather the storm.



Command Sergeant Major (CSM) James C. McKinney became Sergeant Major of the Field Artillery and Fort Sill, Oklahoma, on 19 July. His previous assignment was as CSM of the Seventh Army Training Command in Germany. In his 25-year career, his experience includes Battalion Chief Computer, Nuclear Computer Operator, Division Artillery Assistant Operations Sergeant, Senior Field Artillery Instructor at the Infantry Center, First Sergeant and 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. Sergeant Major McKinney holds a bachelor's degree in Management from the University of Maryland and is a graduate of the Sergeants Major Academy, Fort Bliss, Texas. Among other decorations, he was awarded the Legion of Merit and Meritorious Service Medal with four oak leaf clusters.

The AirLand Composite Wing

by Brigadier General Bobby O. Floyd, USAF



Back in the fall of 1990, the Chief of Staff of the Air Force, General Merrill A. McPeak, who was then the Commander of Pacific Air Forces (PACAF), proposed the concept of a composite wing. This new wing would have as a part of its force structure most of the basic air assets necessary to successfully carry out mission-type orders (MTOs) to attack specific targets at specific times.

Upon assuming duties as Chief of Staff, one of General McPeak's many initiatives was the formation of an airland composite wing, to be located

near its Army customers. This concept became reality 1 June 1992 with the stand up of the 23d Wing at Pope Air Force Base, North Carolina, next door to the XVIII Airborne Corps with its 82d Airborne Division at Fort Bragg.

23d Wing Mission and Tasks

The concept of operations for the 23d Wing specifies that our mission "...is to rapidly deploy a highly trained composite force and successfully plan and execute air operations. These operations may be conducted in any theater, region or contingency area as

part of any force, joint or allied, in support of national and/or military objectives."

To accomplish our mission, the wing focuses on close air support (CAS), air interdiction (AI) and airlift. Our wing will provide CAS, both day and night, to enhance the combat capabilities of the units we support. We aim to find and eliminate enemy concentrations that threaten to impede the Army's progress on tomorrow's

fluid and fast-moving battlefields and provide an all-weather airdrop capability for the Army over those battlefields. We've been given the right tools to do those jobs.

Assets. The 23d Wing operates three different aircraft in four flying squadrons. These aircraft, the A-10, OA-10, C-130E and F-16C, provide the wing considerable combat capability. The 75th Fighter Squadron operates 15 A-10 and nine OA-10 aircraft as the primary element supporting the wing's CAS mission. With an armament load of up to 16,000 pounds plus its GAU-8/A 30-mm Gatling gun, the A-10 is a potent, dedicated CAS aircraft that took out many Iraqi tanks, artillery pieces, armored personnel carriers and a host of other targets during Operation Desert Storm. The OA-10 performs the forward air controller (FAC) function, spotting targets and coordinating air strikes and airspace deconfliction among aircraft.

The 2d and 41st Airlift Squadrons each fly 18 C-130E aircraft to provide theater mobility and resupply as well as airdrop support to our Fort Bragg and other Army customers. With up to a 42,000-pound payload and near legendary flexibility for employment worldwide, the C-130 Hercules remains the prime mover for combat insertion and resupply of airborne forces. Equipped with 28 adverse weather aerial delivery system (AWADS) aircraft for airdrops in virtually all but the most severe weather, plus another eight basic station keeping equipment (SKE)-equipped aircraft capable of following AWADS, the two squadrons provide a very significant airlift capability for the wing.

The 74th Fighter Squadron rounds out the wing's air assets, flying 18 F-16Cs for both "top cover" against enemy air during our composite operations and for putting ordnance on target in the CAS and AI roles. With a day and night delivery capability,



Paula Rollins, USAF

Representative aircraft from the 23d Wing's composite team together for the first time on Pope AFB's flight line. From L to R: F-16 Fighting Falcon, C-130 Hercules and A-10 Thunderbolt.



A Pope AFB C-130 Hercules heavy equipment load exits the aircraft during a practice supply delivery. The C-130's container delivery system uses gravity to pull from one to 16 bundles of supplies from the aircraft.

500-mile combat radius and both air-to-air and air-to-ground weaponry, the multi-role F-16's performance was also most impressive in desert combat.

The forces assigned to the wing are capable indeed, but what assures the wing's effectiveness is the concept behind its employment in combat.

Employment Concept. Three basic ideas drive the airland composite wing. First, we put the players from different aircraft and missions together on one base under one boss so they practice together constantly—improving their ability to fight as part of an overall package. Second, Air Force people are located near their customers so they learn to live, work, plan, train, deploy and fight together as an integrated team on a daily basis. Finally, our composite wing is assigned a specific combat mission so we can run our own part of the war, cutting the mission planning and execution cycle to a fraction of the time it takes under other conditions.

Composite force practice is the daily fare of the 23d Wing. Whether operating out of Pope Air Force Base over local ranges or at deployed locations across the country, the men and women of the flying squadrons regularly plan, brief and fly missions combining two or more of the wing's different aircraft. As a consequence, the amount of communications necessary among aircraft in flight has decreased measurably. Pilots know and anticipate the moves their counterparts will make.

Terminology for threat reaction and countermeasures, once foreign to some crew members, now is a common dialect. The

result is an air team that handles the task well without requiring the months of spin-up time we may not have in the next conflict.

By living next door to our Army counterparts in the XVIII Airborne Corps, we've developed close working relationships at both the personal and professional levels. Knowing the right person to talk to in order to make things happen provides the potential for many innovative training opportunities. Army ground units can routinely train with air assets. We do our best to be responsive to these requests and are

working concepts to improve that responsiveness.

By assigning an MTO to the 23d Wing instead of a regular air tasking order (ATO), we have the flexibility to decide what weapons we'll employ, where and when (within the limits of the MTO). Within the composite wing operations center (CWOC), we develop our own ATO for the air assets we control, rather than one for the entire theater. The result should be a shorter decision cycle and more responsive air support for our customers on the ground.

We're in the developmental stage at this point, but we already know these ideas work well. We used them at a recent Air Warrior II exercise operating out of Little Rock Air Force Base, Arkansas. The integrated employment of A-10 and OA-10 aircraft to "suppress" threats in support of C-130 airdrop operations resulted in airlifters successfully getting past the threats to accomplish their mission—a first for theater airlift assets in this exercise. This success forced the exercise planners to rewrite their scenario, much the same as we'll want to do for any would-be adversary in a future conflict.

Dedicated and responsive CAS, top cover and safe escort of airborne troops, equipment and supplies to the landing zone sound like pretty good offers for combat-bound warriors. So how can the



CPT Tye Brown, 1LTs Tom Glockzin and Phil Houlihan and CPT Dave McCabe, part of the 2d Airlift Squadron, plan a mission to Mombassa, Kenya. The 30-day mission was the squadron's second in support of Operation Restore Hope.

fire support team in the field take advantage of these capabilities, especially when the situation and targets may change rapidly? The best way to answer this is to look at how we do business with the Army today and our plans for the future.

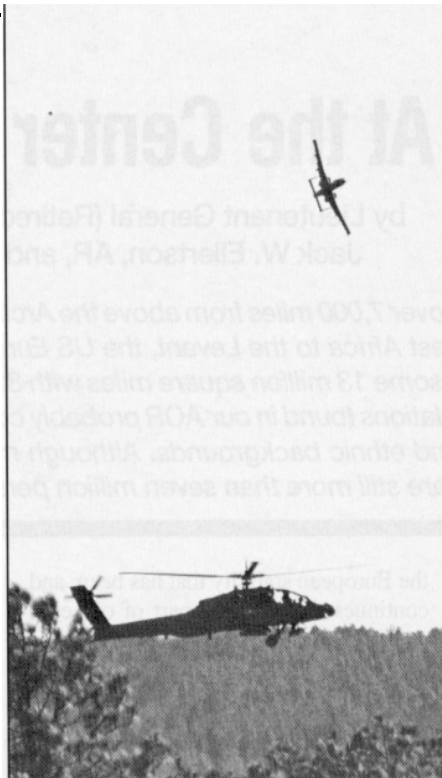
23d Wing-Army Interaction

Locally at Pope, we integrate the XVIII Airborne Corps and 82d Airborne Division into our daily flying schedule with joint airborne/air transportability training (JA/ATT) airdrop and airland missions, using the C-130 to move troops, equipment and supplies. Further, we employ the A-10s and OA-10s with Army helicopters to accomplish joint air attack team (JAAT) missions against simulated ground threats and forces. We coordinate this training in peacetime through the JA/ATT scheduling process at joint conferences held around the country monthly and through face-to-face coordination between unit members at Fort Bragg and Pope. We're dedicating an increasing portion of our training to this joint and composite effort in exercises across the country.

Interface with Lead Units. In addition to our flying units, the 23d Wing incorporates the 18th Air Support Group (18th ASG) with the tactical air control parties (TACP) associated with the divisions and brigades assigned to the XVIII Airborne Corps. Another key unit of the 18th ASG is the 682d Air Support Operations Center (ASOC) Squadron that also supports the XVIII Corps.

These Air Force members communicate directly with their Army counterparts, passing on requests for air support to one of two receivers. If there's air cover overhead and the battle is fluid with an immediate need, the TACP call the OA-10s directly for the support where required. If it's a pre-planned strike, the TACP pass the word to the ASOC.

In a deployed contingency, the ASOC plugs in directly to the CWOC, which converts the requested strikes into mission taskings for the 23d Wing. Operations continue in this manner for three to seven days until the main fighting force arrives. At that point, the CWOC reverts to a wing operations center (WOC), working under the direction of the joint forces air component commander (JFACC) and receiving ATOs as any other deployed wing would from the theater air operations center (AOC).



A 75th Fighter Squadron A-10 begins its bomb run while a 229th Aviation Group Apache helicopter marks the target during a recent Flying Tigers exercise. (Paula Rollins, USAF)

This direct plug-in sidesteps the requirement to forward requests to a large and immobile AOC that must then take the time to grind through unit status reports, choose units to task and develop an up to 50-page ATO for all air assets in the theater.

Herein lies the essence of the airland composite wing concept. When the request is passed directly from the TACP through the ASOC to the CWOC, the wing's combat plans and combat operations functions have the option (depending on the timing of the request, its criticality and the assets available) of dispatching a more timely response. That response may range from being immediate support (depending on what wing or wing-controlled assets are on ground or airborne alert) to support in less than 24 hours versus up to 72 hours with the AOC approach. (We need 24 hours to allow for a crew rest, mission planning and the aircraft preparation cycle.)

Fire Supporter Support. The benefits to be derived from this shorter response cycle are potentially huge and should translate to lives saved and ground gained. Ground commanders working with the 23d Wing will know they have greater

flexibility in requesting responsive air power to support their advance.

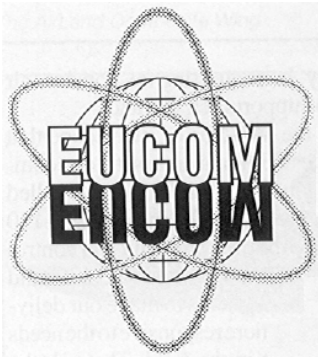
Should the MTO be of such scope that we require additional air assets to accomplish the job, we'll ask for help. If called for, these assets might include AC-130 gunships, airborne command and control communications (ABCCC) EC-130s and a host of other systems to make our delivery capability more responsive to the needs of fire support in the field. Through the use of existing Army and Air Force communications capabilities, the TACP to 23d Wing interlinks will help snuff out pockets of resistance to the Army's advance, redirect the supplies and reinforcements needed to sustain a fight or insert forces to initiate hostilities in a new direction.

With the unstable and rapidly changing world political situation, the opportunities for employing the airland composite wing are likely to increase. While we must be prepared to fight alone in some cases, we most likely will be an integral part of a joint effort. Recent history suggests this is the rule, not the exception.

As such, it remains our primary goal to provide responsive, tailor-made air support for you, our Army customers. The composite wing concept, embodying experienced team players who can adapt rapidly to change, provides support when you need it most—helping us both to achieve breakthroughs on the battlefield to win. *When you call, we'll be ready.*



Brigadier General Bobby O. Floyd, US Air Force, is the Commander of the 23d Wing, Pope AFB, North Carolina. He also has commanded the 60th Military Airlift Wing, Travis AFB, California, and the 57th Military Airlift Squadron, Altus AFB, Oklahoma. Among his other assignments, he served as Deputy Director of Forces and, then, Deputy Director of Programs and Evaluation, both for the Deputy Chief of Staff for Programs and Resources, Headquarters, Department of the Air Force in Washington, DC. Brigadier General Floyd is a Command Pilot with more than 4,500 flying hours, including 160 combat missions in South Vietnam. He holds a bachelor's degree from the US Air Force Academy, Colorado Springs, Colorado, and a master's degree in business from Central Michigan University and is a graduate of the Armed Forces Staff College, Norfolk, Virginia, and Air War College, Maxwell AFB, Alabama.



— At the Center of the Vortex

by Lieutenant General (Retired) Robert D. Chelberg, Colonel Jack W. Ellertson, AR, and Major David H. Shelley, IN

Stretching over 7,000 miles from above the Arctic Circle to the Cape of Good Hope and from West Africa to the Levant, the US European Command's (USEUCOM's) area of responsibility (AOR) covers some 13 million square miles with 82 countries and 118 US embassies and consulates. The variety of populations found in our AOR probably couldn't be more diverse: more than one billion people of all religions and ethnic backgrounds. Although many of the region's major military powers are reducing in size, there are still more than seven million persons under arms.

Economically, we deal with nations that already enjoy some of the world's highest standards of living, some that are in transition from the failures of communism and some whose citizens face daily despair in the face of the most grinding poverty. Political systems include stable European states with pluralistic systems similar to our own, East European and African countries moving from totalitarianism to more open societies and a few countries that haven't yet realized the dream of freedom.

While all these characteristics have been with us to some degree for years, what is new is the focus of EUCOM. Most US soldiers have served at least one tour in Europe—a tour focused on deterring a Soviet advance on the Allied Command Europe (ACE), characterized by US Army Europe (USAREUR) alerts, nighttime occupations of general defense plan (GDP) positions and patrolling the inter-German border. Those days are gone.

Today we face a region where the restraints imposed by superpower confrontation are gone, a region where resurging ancient hatreds have replaced the old bipolar tensions. These changes have caused us to shift our focus to regional and subregional conflicts that are breaking out with increasing frequency.

We no longer face the relatively simpler bipolar issues of just a few years ago. The issues not only include many of the old challenges, but also those posed by the breakdown of control over the former Soviet nuclear arsenal, the danger of spillover from the carnage in the Balkans and the natural and man-made scourges that ravage sub-Saharan Africa.

With the dawn of this new epoch, American forces are still needed to help sustain the European stability that has been, and

continues to be, a key part of our economic and security interests. Half the top 12 importers of US goods are European as are more than half of the countries with whom we enjoy a trade surplus. Our annual trade with Europe is estimated to be responsible for more than two million American jobs. The starkest illustration of how tightly our interests are tied to continental stability is the enormous cost in American lives and treasure needed to win the two world wars.

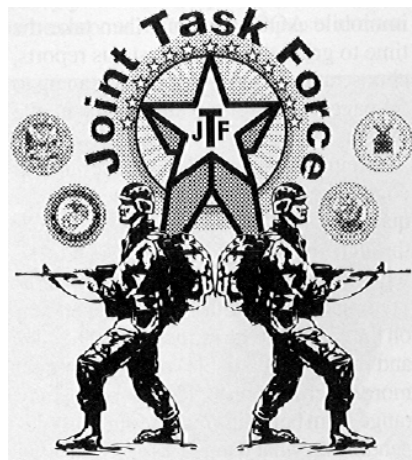


Figure 1 shows some of the crises faced by EUCOM in the last three years. Compare this to the days when EUCOM principally concerned itself with the receipt and onward movement of forces to NATO. Also note the scope of missions: other than our support of the war against Iraq, virtually all the operations are those covered least by traditional doctrine, such as non-combatant evacuation operations (NEO) and humanitarian assistance.

Unfortunately, this expanded scope of new challenges and the frequency of their occurrence has been matched by the drawdown of theater forces and funding. This drawdown has had major impact on the complexion of the command. We think our end strength in 1996 will be about 100,000 troops, but the breakout by detailed category is still being worked.

Under current plans, when the drawdown is finished, we'll have the following by component in Europe: the Army will still have a corps of two divisions; the Air Force will have about three combat wings operating from half the bases we once had; and we'll still have all or part of the aircraft carrier battle group and the Marine amphibious ready group, but we won't have them available 365 days a year. However, the key is that EUCOM forces remain an *ocean closer* to the action and *strategically positioned* to react to future crises.

As an example of the flexibility and short-fused reaction required by the new challenges in our theater, one weekend we had to execute two separate NEOs: one in Dushanbe, Tajikistan, and one in Monrovia, Liberia. There are vast distances involved in controlling these operations. Perhaps the best illustration of the new environment in which we operate—the in-country safe haven for our embassy personnel in Dushanbe was the command post of a Russian motorized rifle division.

Another example is the Friday night call from the Joint Staff directing us to deploy Patriot missile batteries immediately to protect Israel from the Iraqi Scud threat during Operation Desert Storm. With the tremendous support of the Transportation Command (TRANSCOM), only 28 hours after the initial notification, the battery

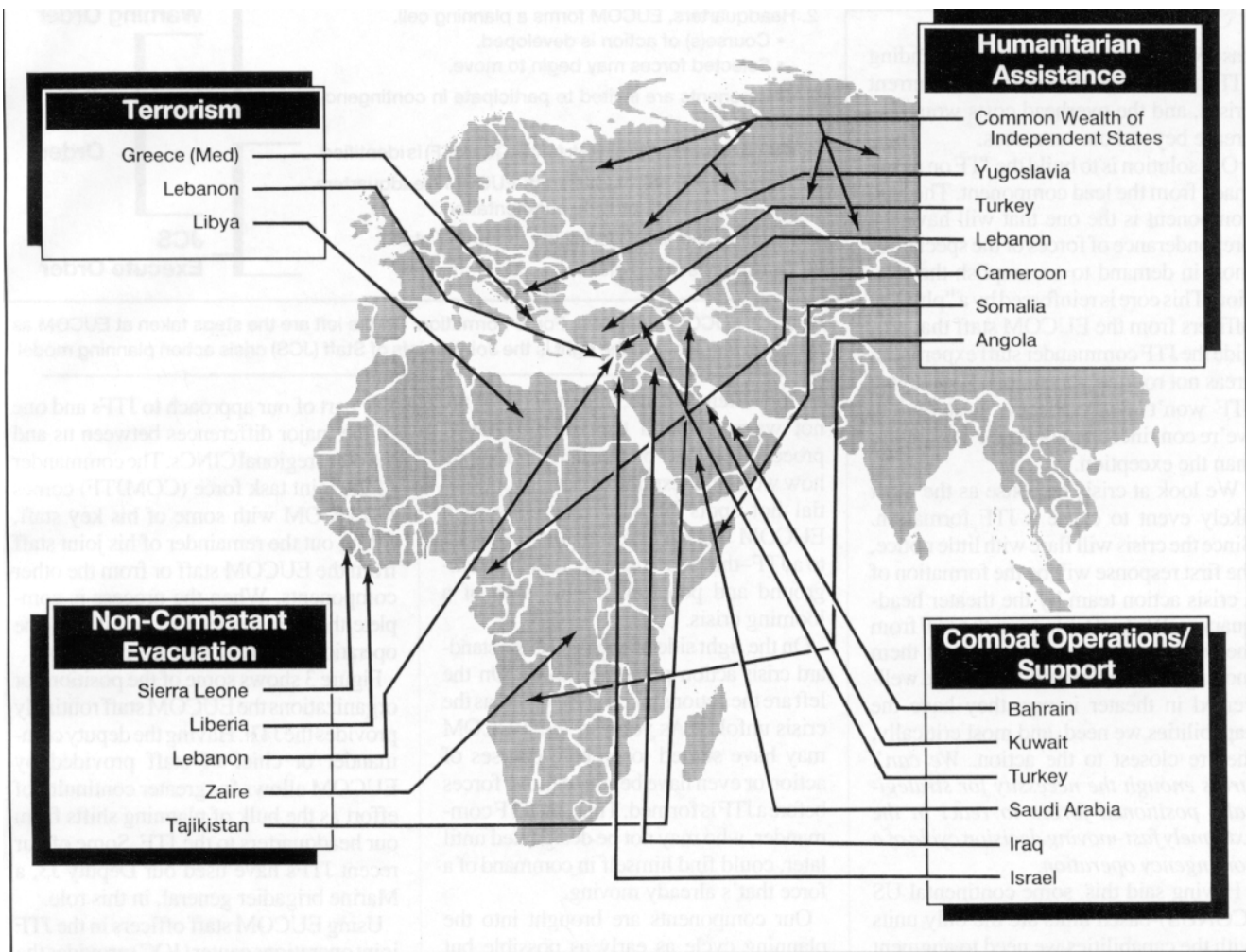


Figure 1. Some of EUCOM's Crisis Responses in the Last Three Years. EUCOM activates a crisis reaction team for planning and initial preparations on the average of one every six weeks.

was on site in Israel and had initial operational capability. This ability to respond to the unexpected and deploy anywhere in or out of EUCOM's advance list of AOR on no notice will be a hallmark of the future.

Despite the drawdown, despite the known changes and those yet to come, we must be able to respond when the whistle blows. Our response to these challenges is our approach to establishing joint task forces (JTFs) and the training program we've crafted to sustain and build on our progress.

During the last few years, we've gained a lot of experience at standing up JTFs. As one measure of the pace at EUCOM, we activate a crisis action team on the average of one every six weeks.

Ad Hoc versus Standing JTFs

There are many approaches to forming JTFs. These range from forming ad hoc

JTFs to establishing standing JTFs. Before we became more experienced with JTF operations, we thought the ad hoc approach was suitable and emphasized increasing the synergy provided by joint forces.

However, the situations we faced and the operations we conducted highlighted scenarios such as NEOs in Liberia, Zaire and Sierra Leone; humanitarian assistance missions in Iraq, the former Soviet Union, Angola and in Bosnia-Herzegovina; and crisis action planning for the former Yugoslavia. These scenarios posed problems that differ from those involved in joint combat operations. The forces committed are smaller, the joint interfaces occur at lower levels and by more junior personnel and the majority of service doctrine is still focused on large force combat operations.

Standing JTFs are another frequently discussed solution because you can build in the joint flavor and you have the time to develop the cohesion that a

high-performing unit with a difficult mission requires. However, we found the manning requirements too demanding in this era of declining personnel strengths. Additionally, the vast scope of the theater, the broad range of potential missions and the temptation for the remainder of the EUCOM staff to "let the JTF handle it" make a standing JTF a poor option.

The closest we come to a standing JTF is our special operations component. It's already a joint organization, its personnel and training are first-class, and it has a great breadth of experience that makes it responsive and operationally agile. But it's just too small to respond to many of our likely contingencies, and it doesn't have enough excess capacity to become a standing JTF able to respond to all missions.

An additional factor that's led us away from standing JTFs is the nature of the region—crises spring up in multiple locations simultaneously, and they tend to drag on much longer than originally forecast.



We'd have to have several standing JTFs to meet the demands of concurrent crises, and the overhead costs would increase beyond our resources.

Our solution is to build the JTF on a core made from the lead component. The lead component is the one that will have the preponderance of forces or the specialties most in demand to accomplish the mission. This core is reinforced by a "plug" of officers from the EUCOM staff that provide the JTF commander staff expertise in areas not routinely available. Although a JTF won't always be the best option, we're convinced it will be the rule, rather than the exception.

We look at crisis response as the most likely event to cause a JTF formation. Since the crisis will flare with little notice, the first response will be the formation of a crisis action team by the theater headquarters. We first try to form the JTF from theater forces because we can get them moving fast, they're well-trained and well-versed in theater issues, they have the capabilities we need, and most critically, they're closest to the action. *We can't stress enough the necessity for strategically positioned forces to react in the extremely fast-moving decision cycle of a contingency operation.*

Having said this, some continental US (CONUS)-based units are the only units with the capabilities we need to augment the JTF. Only in CONUS do we find the civil affairs and psychological operations units required for almost every mission, from peacekeeping to humanitarian relief operations. These capabilities are critical.

As the force structure declines, JTFs become more important to ensure that all the required capabilities for the mission are gathered in one place. With the loss of redundant systems during the drawdown, JTFs are not only force enhancers, but also a necessity for mission accomplishment.

Standing Up a JTF

Figure 2 shows the steps we use in standing up a JTF. On any given day, we monitor about a dozen situations in our AOR, all having the potential of warranting a national decision to respond with military resources or the use of force. In most cases, our monitoring turns into precautionary planning: increased intelligence collection and the formation of options for the Joint Staff. This is common to the point of being routine, even when planning is compartmented or "close hold."

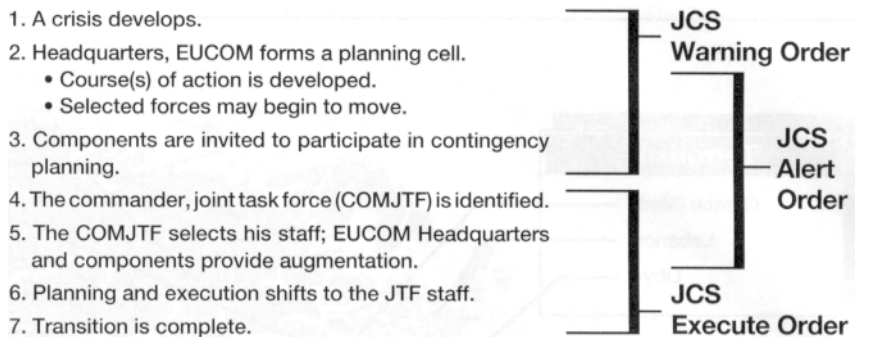


Figure 2: EUCOM Joint Task Force Formation. On the left are the steps taken at EUCOM as the crisis unfolds. On the right is the Joint Chiefs of Staff (JCS) crisis action planning model.

More often than not, military actions are not warranted and the situation never proceeds beyond preparing briefings on how we could respond. Normally, potential hot spots become the focus of a EUCOM working group—the precursor to a JTF—that becomes expert in the background and potential implications of a looming crisis.

On the right side of Figure 2 is the standard crisis action planning model. On the left are the actions taken at EUCOM as the crisis unfolds. As you can see, EUCOM may have started to prepare courses of action or even have begun to move forces before a JTF is formed. Thus, the JTF commander, who may not be designated until later, could find himself in command of a force that's already moving.

Our components are brought into the planning cycle as early as possible but probably not as early as they'd like. Often the requirements for close-hold planning imposed by the Joint Staff restrict any earlier involvement by our components. These restrictions often put them in the unenviable position of jumping on the train after a good head of steam has built up.

The JTF commander is selected as early as possible by the Commander-in-Chief (CINC) with the input of the Deputy CINC and component commanders. Obviously, this is a key decision and is based on the nature of the operation and the special talents of the individual. For example, the JTF commander for our airlift of Belgian and French troops to Zaire for a NEO mission was the commander of the 322d Air Division and was based out of US Air Force Europe (USAFE) Headquarters at Ramstein Air Force Base in Germany. The JTF formed for the airdrops and other planning options in the former Yugoslavia is commanded by our naval component commander, a four-star admiral.

Staffing. The next critical step is the JTF commander selects his staff. This is a

key part of our approach to JTFs and one of the major differences between us and the other regional CINCs. The commander of the joint task force (COMJTF) comes to EUCOM with some of his key staff, filling out the remainder of his joint staff from the EUCOM staff or from the other components. When the process is complete, the JTF assumes responsibility for the operation from EUCOM Headquarters.

Figure 3 shows some of the positions or organizations the EUCOM staff routinely provides the JTF. Having the deputy commander or chief of staff provided by EUCOM allows for greater continuity of effort as the bulk of planning shifts from our headquarters to the JTF. Some of our recent JTFs have used our Deputy J3, a Marine brigadier general, in this role.

Using EUCOM staff officers in the JTF joint operations center (JOC) provides the JTF leadership detailed knowledge of how the EUCOM battle staff works in crisis action operations. This keeps us from reinventing the wheel on procedures such as report formats and the frequency of their submission and smooths the interface between the JTF and the EUCOM staffs. When all is said and done, we have a JTF staff that's a near mirror image of the theater staff, but on a far smaller scale.

A critical slice comes from the joint operations planning and execution systems (JOPES) specialists. These talented experts ensure our planning efforts get translated into viable movement data through their work with TRANSCOM.

We've found it vital that a piece of our J5 Directorate go to the JTF staff to bring experience in long-range planning and political-military affairs to ensure coordination of basing and overflight requests. These skills also are indispensable to any planning for a coalition effort.

All of us know from own hard-earned experience that joint communications planners must be a part of the team early. Without an established communications

- Deputy Commanding General/Chief of Staff
- Joint Operations Center (JOC) Team
- Joint Operations Planning and Execution System (JOPES) Cell
- Planning and Political-Military Cell
- Communications Planning Team
- Joint Universal Lessons Learned System (JULLS) Team
- Public Affairs Team
- Logistics Cell

Figure 3: EUCOM Augmentation of the JTF. These are some of the positions or organizations the EUCOM staff provides the JTF.

architecture to communicate orders and pass reports, there's simply no command or control.

We send some of our joint universal lessons learned (JULLS) specialists to the JTF. Putting them in the game at the outset ensures that future JTFs benefit from past experiences. The pace of JTF operations is usually too fast to allow the staff the luxury of trying to remember all the lessons learned at any "hot wash." Understanding that JTF staffs often have to set up shop in some pretty bare-bones facilities, we've put most of the joint doctrinal manuals on deployable computer diskettes so the staff will always have these references available.

Public Affairs must be integrated from the very beginning; the pressure from the media for information will be unrelenting. If you don't get a good public affairs operation working immediately, dealing with the press will dominate the JTF commander's time. We actively incorporate public affairs issues into our JTF training program, including establishing media pools and providing media training for commanders both on shore and on board the ships of the Sixth Fleet.

In one recent special operations JTF exercise designed to rehearse security procedures for the Barcelona Olympics, we deployed a joint information bureau (JIB) from EUCOM Headquarters to Naval Air Station Sigonella in Sicily to support the JTF commander, who was the three-star admiral commanding the Sixth Fleet. This realistic introduction of active public affairs play and news media simulation allowed the JTF commander an increasing appreciation of how to handle similar situations on actual operations. Our JTF training is not designed just for the majors and lieutenant colonels who serve as action officers, but also for the commands' senior officers.

We're fortunate to have at EUCOM a corps of logisticians able to react quickly to accomplish varied missions. Such missions have included air-dropping food to the Kurds only 24 hours after we got the mission (which began the largest humanitarian effort of its kind) and moving food, medicine—even field hospitals—to remote sites in the former Soviet Union.

Training the JTF. One of our major challenges is to train effective JTFs in this age of austerity. We base our training on the same tenets in Training and Doctrine Command (TRADOC) manuals. Our battle focus is based on assessing those missions we're likely to execute, the missions assigned to us by the Joint Staff. Derived from our deliberate and contingency plans, Figure 4 is EUCOM's joint mission-essential task list (JMETL). These tasks enable us to execute the missions assigned by the Joint Staff. At the unified command level, our prime external directive is the National Security Strategy of the United States. In EUCOM, understanding the intent of the commander two levels up means knowing what the President wants.

To train to the level needed, we've constructed a standard training program for JTFs (Figure 5). The most important feature of this program is not the frequency or range of activities, but the fact that all the training has to be funded out-of-hide—there are no extra monies. Even with the heavy cuts, JTF training is our priority and is protected.

An example of JTF training is Exercise 48 Hours, an exercise intended to replicate those critical early hours in a rapidly boiling crisis during which the JTF is formed and builds its courses of action for

- Provide combat-ready forces to the Allied Command Europe (ACE) and for contingencies.
- Sustain US forces (including reinforcements).
- Deploy and sustain forces within or adjacent to our AOR.
- Conduct military operations across the spectrum.
- Provide intelligence to US and Allied commanders.
- Command and control operations for maximum effect.
- Maintain a presence, demonstrate resolve and improve access.

Figure 4: EUCOM's Joint Mission-Essential Task List (JMETL).

a concept brief to the unified command. This year's scenario was one similar to the humanitarian intervention in Somalia, a very likely type of mission for us. We brought a Marine Corps general from Camp Lejeune, North Carolina, to be the JTF commander and used an Army Reserve general as the deputy commander. We also incorporated some non-standard players, such as the American Red Cross and a French army observer, to replicate the diversity of participants we can expect in these types of missions. Figure 6 shows the final staff structure used by the JTF in this exercise, including the component source providing the structure.

On-Going Learning

So what conclusions have we drawn from our experiences? First, there's no crawl-walk-run progression for a JTF—it's a flat-out sprint from day one. Second, we must continue to refine our staff procedures to match the challenges we face as a true operational command. We've

Training Activity	Purpose	Frequency
Symposiums	General Officer Guidance/Perspective	1 to 2 Years
Seminar Wargames	Crisis Planning Procedures (48 Hours) Special Joint Functions	1 per Year
Converting Existing Exercise Program	Use Existing JCS/Component Exercise Opportunities	2 per Year
Computer-Assisted Exercises	Full Dimension Operations	1 per Year
Staff Officer Training (Joint Warrior)	JTF Headquarters Stand Up Procedures Special Function Orientation	2 per Year

Figure 5: EUCOM's Standard Training Program for JTFs. With the heavy cuts EUCOM has taken in training funds, this program is funded out-of-hide as a priority.



developed a battle-focused training program derived from our analysis of regional flash points, standardized our computer software applications to aid interoperability of our automated systems and constantly emphasize the need to shift our thinking from the defense of ACE, although that still remains a *cornerstone* of our mission.

But we also must adopt an expeditionary mind-set: acknowledge that few operations will occur in mature theaters with developed infrastructures and that EUCOM will be a supporting CINC as often as the one supported. Our forces must remain flexible and be capable of conducting operations across a broader spectrum than ever before. While our requirement to execute traditional tasks won't diminish, we must become equally expert at the challenges posed by peacekeeping, NEO and counterdrug operations. In addition, we will be called upon to share with former foes the American experience of apolitical military service to a democracy.

Our experience with officers detailed by our components to staff our JTFs shows that few will have been trained by joint educational programs, and fewer still will have experience in combined operations. Prospective JTF staff members must know not only the capabilities and limitations of their own service and sister services, but also those of non-Department of Defense agencies and probable coalition partners. Our officers must be subject matter experts in their field *and* politically and culturally astute, fully understanding the broader implications of their actions.

We must become more adroit in our relations with the media and improve our ability to weave together the efforts of all involved in international information. Our skill at reinforcing the efforts of national public diplomacy will be critical to attaining strategic objectives. The information revolution—the global electronic village—has changed our world just as much as the industrial revolution. CNN has changed the way we do our jobs, meaning that the instant transmission of news could allow those at the highest levels to have a better feel for the pulse of events than those in the tactical operations center.

Despite the drawdown of resources—people, equipment, installations and money—we must protect the training that provides a rapidly assembled cadre of experts to make maximum use of our

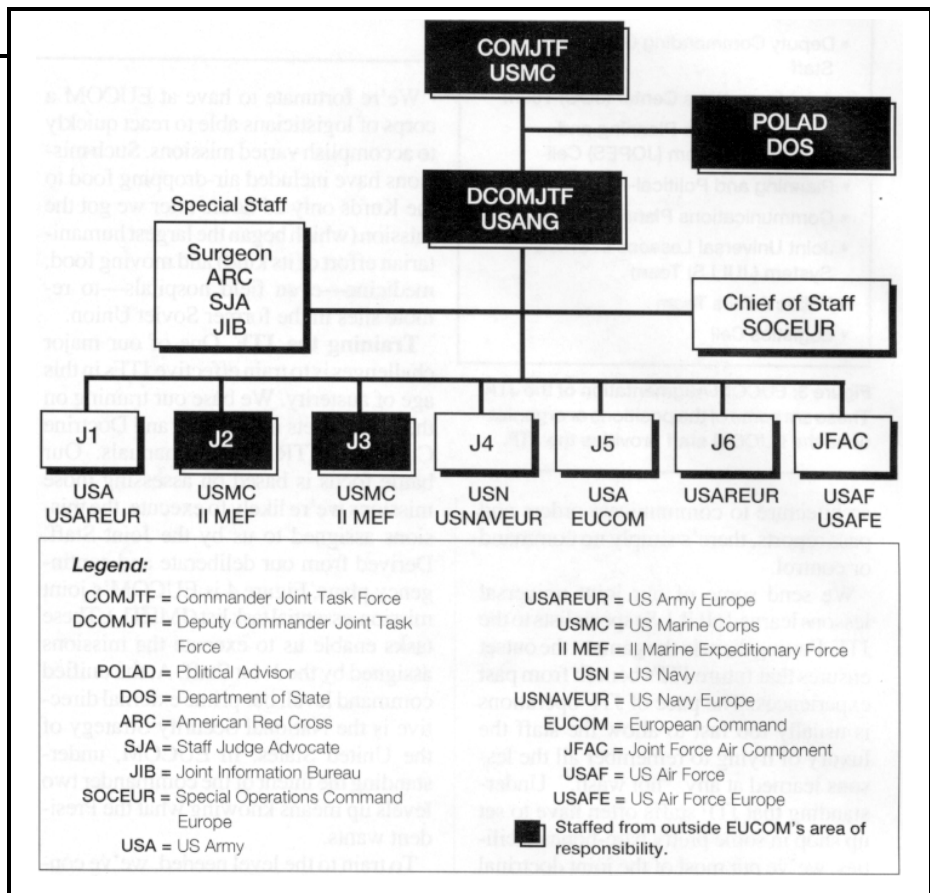


Figure 6: The JTF Headquarters for Exercise 48 Hours II. This exercise replicates the critical early hours in a boiling crisis in which the JTF is formed and builds its courses of action for a concept brief to the unified command.

resources and tackle any mission, any challenge, anyplace, anytime. For us, no training is more crucial and perishable than the training to keep the pool of soldiers, sailors, airmen, Marines and civilians ready to respond across the broadening spectrum of contingency operations.



Lieutenant General Robert D. Chelberg recently retired as Chief of Staff of Headquarters, United States European Command (USEUCOM), Stuttgart, Germany. Among other assignments, he was Special Advisor to the NATO Secretary General on Conventional Forces Europe Treaty arms control verification and implementation, Executive to the Supreme Allied Commander Europe and Chief of the Policy and Programs Branch of Supreme Headquarters Allied Powers Europe. He commanded two batteries, served as S3 of three artillery battalions in Vietnam and commanded the 1st Battalion, 14th Field Artillery and the 528th Artillery Group. Lieutenant General Chelberg received a Master of Business Administration from New Mexico State University and is a graduate of the National War College.

Colonel Jack W. Ellertson, Armor, until recently was the Chief of the Exercise Division in the Operations Directorate of Headquarters, USEUCOM, where he developed the USEUCOM Joint Training Program. Currently, he's the Director of Army Planning in the Department of Military Strategy, Planning and Operations at the Army War College. He also served as troop commander in Vietnam, Korea and the continental United States; S4 and Executive Officer of the 1st Squadron, 10th Cavalry; and commanded the 1st Squadron, 4th Cavalry, Fort Riley. Colonel Ellertson holds a Master of Science from Florida Institute of Technology and a Master of Arts from the US Naval War College.

Major David H. Shelley, Infantry, is attached to EUCOM and serves as Chief of the Psychological Operations Branch. He was a rifle platoon leader in Korea, served as a battalion and brigade staff officer, commanded a company in the 82d Airborne Division and a psychological operations company. In addition, he was the aide-de-camp to the Commanding General of the 1st Special Operations Command. Major Shelley is a graduate of the University of Tennessee and holds a Master of Science in International Relations from Troy State University.



Ocean Venture 93: An Overview

by Major Henry G. Franke III, CM

Ocean Venture 93 was the latest in a series of biennial joint training exercises under the "Ocean Venture" banner directed by the Joint Chiefs of Staff (JCS) and sponsored by the Commander-in-Chief, US Atlantic Command (CINCLANT). Conducted in April and May 1993, Ocean Venture 93 attempted a number of firsts in designing a warfighting joint task force (JTF). This article gives an overview of the organization and role of this JTF and the challenges it faced in operational planning and execution.

Ocean Venture 93 was based on a standard Caribbean island scenario. The fictional island-nation of Saint Alexander (the eastern half of Puerto Rico) was friendly to the US until a military coup ousted the democratically elected government. The response of the military government to increasing civil unrest and United Nations sanctions placed US citizens on the island at risk and prompted the exiled government to request US military assistance.

A US military response in crisis situations is developed through a standardized set of phases with time available for planning and execution the driver. The joint operations planning and execution system (JOPES) describes the crisis action response procedures followed by the National Command Authority (NCA), JCS, warfighting and supporting CINCs and military services. This process ensures the civilian and military chain of command all agree on the ends, means and ways of the US military response.

With the crisis building in his area of responsibility, the CINCLANT assessed the situation and proposed possible military actions through the Chairman of the JCS to the NCA. In turn, the CINCLANT was designated the supported warfighting CINC, responsible for designing and orchestrating the theater campaign.

The approved end state for military operations in Saint Alexander was the ensured safety of US and designated third-nation citizens, the re-establishment of law and order on the island and the return of the legitimate government to power. To carry out his theater military strategy during this crisis, the CINCLANT relied on his component commands: Army Forces Atlantic, or ARLANT (Forces Command fulfills this responsibility); Navy Forces Atlantic, or NAVLANT

(Atlantic Fleet); Air Forces Atlantic, or AFLANT (Air Combat Command); Marine Forces Atlantic, or MARFORLANT; and Special Operations Command Atlantic, or SOCLANT.

For the crisis in Saint Alexander, the CINCLANT received additional support from other CINCs, defense and other federal agencies and the military services, the latter providing forces and logistical support. Because noncombatant evacuation operations (NEO) with military assistance were likely to be necessary, the CINCLANT worked closely with the Department of State and American Embassy in Saint Alexander, the agencies responsible for coordinating NEO in the country.

The CINCLANT defined the joint operations area (JOA) to include the island and surrounding waters of Saint Alexander and the airspace over them. The CINCLANT activated a JTF commander with a supporting headquarters and subordinate component commands to coordinate all military operations in the JOA and serve as his warfighter. In preparation for such crises, the CINCLANT has established standing operating procedures for its JTF headquarters. These include a standardized naming system for the JTF and its organizations. The JTF usually is designated JTF-140; the JTF's Army component, for example, is called Task Force-140 (TF-140).

Following crisis action procedures, the JTF commander and his subordinate commanders were nominated from the CINCLANT's component commands and formally approved. The commander of the Second Fleet was named the commander of JTF-140 (CJTF-140), providing

a naval JTF headquarters in keeping with the naval-oriented scenario. In peacetime, the commander of the Second Fleet reports to the CINC, Atlantic Fleet (CINCLANTFLT). As CJTF-140 during Ocean Venture 93, he reported directly to the CINCLANT. The deputy commander of JTF-140 was the deputy commander of the XVIII Airborne Corps. As the Army Forces (ARFOR) commander during Ocean Venture 93, the commander of the XVIII Airborne Corps was designated the commander of TF-141 (CTF-141) and served under the CJTF-140.

To serve as a JTF headquarters, the Second Fleet was augmented by elements of the CINCLANT's standby deployable JTF headquarters with individuals and activities provided by the component commands. A significant augmentation from the Army was part of the 1st Battlefield

- Joint Interrogation Facility/Joint Confinement Facility (JIF/JCF)
- Joint Counterintelligence Center (JCIC)
- Joint Exploitation Center (JEC)
- Joint Movement Center (JMC)
- Joint Arrival/Departure Airfield Control Group (Joint A/DACG)
- Joint Rescue Coordination Center (JRCC)
- Joint Medical Regulating Office (JMRO)
- Joint Blood Program Office (JBPO)
- Civil-Military Operations Center (CMOC)
- Joint Information Bureau (JIB)
- Joint Visitors Bureau (JVB)

Figure 1: In addition to those organizations that design and oversee a campaign, the JTF headquarters is responsible for others that daily coordinate numerous actions in a complex joint environment.

Coordination Detachment that served as the battlefield coordination element (BCE) at the joint level.

Besides designing and overseeing the conduct of a campaign or major operation, a JTF headquarters coordinates daily the many actions required in a complex joint environment. See Figure 1 on Page 17 for the joint activities for which JTF-140 was responsible.

In some cases, the CJTF-140 delegated the responsibility for a joint activity to a component commander. A significant first for Ocean Venture 93 was designating a naval joint force air component commander (JFACC), who remained afloat throughout the exercise.

Another first for Ocean Venture 93 was using the *USS Mount Whitney* as the JTF command and control platform during the entire exercise. Major communications upgrades to this vessel allowed connectivity through multiple channels and networks with higher and subordinate headquarters. To arrive in theater before the projected start of decisive combat operations, the JTF headquarters deployed early, continuing the planning process and coordinating with components while afloat. The liberal use

of liaison officers and networked communications, such as the worldwide military command and control system (WWMCCS), were keys to success.

Operations

In Ocean Venture 93, the JTF commander functioned both at the operational and tactical levels of war. At the operational level, he designed and conducted a major operation with allocated joint and combined assets. These resources were synchronized to fulfill the needs of operational operating systems similar to the familiar battlefield operating systems (BOSs) at the tactical level. Best described in the "US Army Training and Doctrine Command Pamphlet 11-9 Blueprint of the Battlefield," these operational-level operating systems included movement and maneuver, fires, protection, command and control, intelligence and support.

The CINCLANT and CJTF-140 faced significant limitations in the means and ways available to carry out an operation designed to achieve the end state. Time for planning and execution, of course, was short. A major challenge was the limited strategic airlift available. They

had to rely heavily on sea lift and self-deploying rotary wing aircraft.

The shortage in airlift limited the number of ground forces available for initial combat operations. Forcible entry with a decisive combat force had to be carried out by first shaping the battlefield with air and sea forces and then carefully synchronizing the introduction of ground forces.

Nonlinear operations were a hallmark of Ocean Venture 93. Army, Marine and special operations forces (SOF) units were widely separated in joint tactical ground operations with Army and Marine forces focusing decisive combat power in the later stages of the operation. With limited Air Force assets available, naval, Army and SOF aviation filled the gaps in operational and tactical fires.

The "means" available to the CJTF-140 for military operations included allocated headquarters, forces, logistics and lift. The "ways" he could employ these joint resources to reach the end state included how he organized his forces and how he phased the operation, based on the limitations and planning considerations described.

The CJTF-140 organized his forces into eight components or task forces: Army,

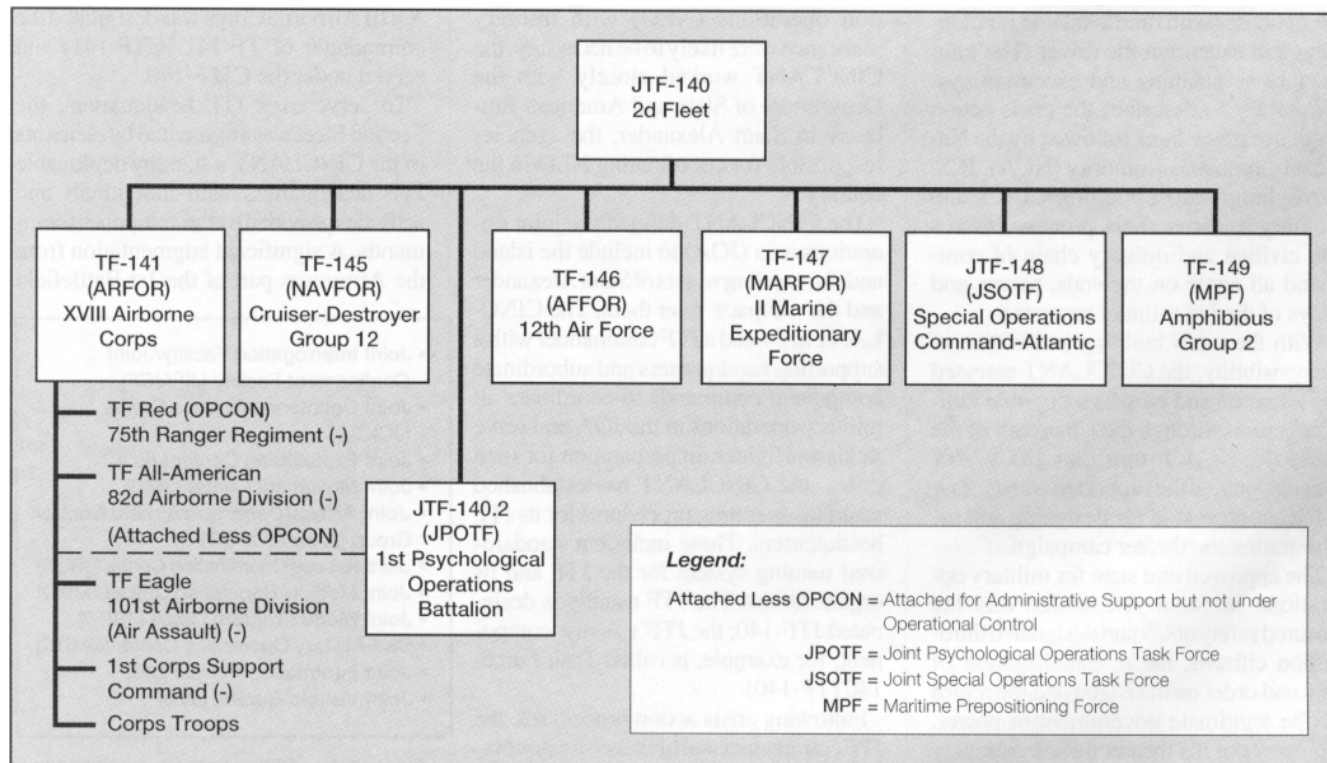


Figure 2: Ocean Venture 93 Command Relationships in Phases I, II and III. Phase I was a focused intelligence effort, initial psychological operations and deployment of special operating forces into the theater and early deception planning. Phase II was pre-forcible entry operations with offensive air, maritime and SOF operations to prepare the theater for forcible entry operations by ground forces. Phase III was forcible entry operations with synchronized airborne assaults at two locations and an amphibious assault at a third.

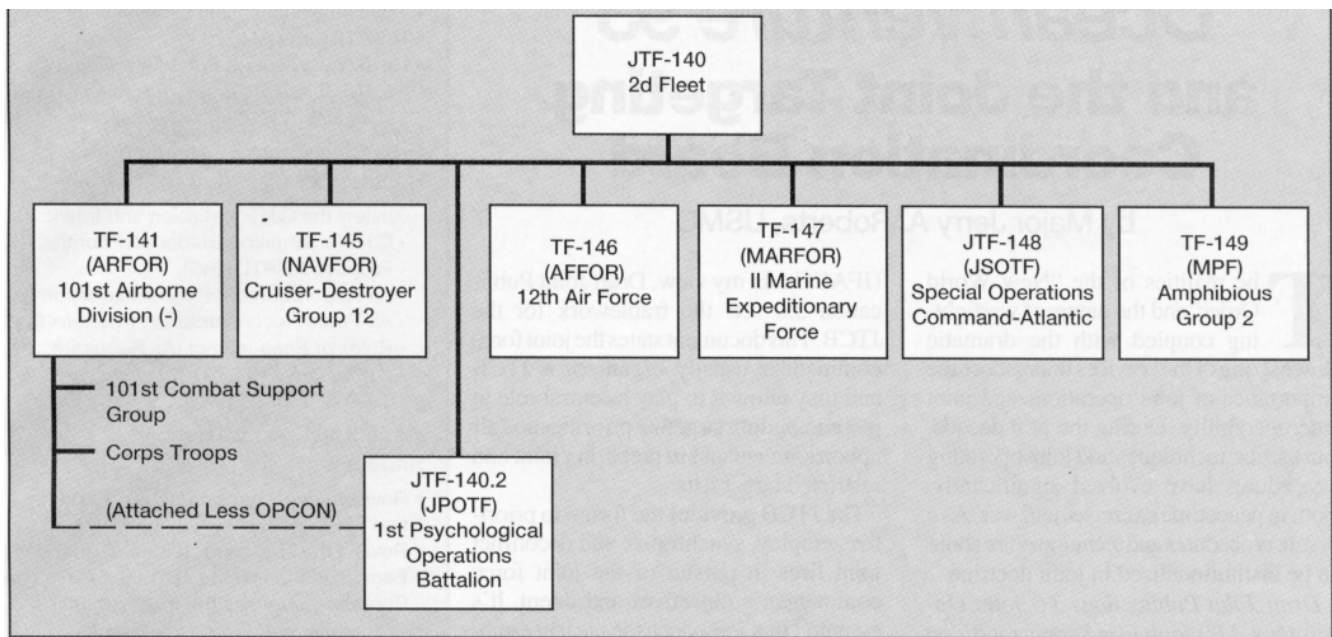


Figure 3: Ocean Venture 93 Command Relationships in Phases IV and V. Phase IV was decisive combat to complete the defeat of the enemy with joint Army air assault and Marine amphibious operations. Phase V was post-hostilities re-deployment of US combat forces with a shift to civil-military operations coordinated by the civil-military operations center (CMOC) at the JTF headquarters.

Navy, Air, Marine, SOF, psychological operations (PSYOP) and maritime prepositioning forces (MPF) (see Figure 2). An additional component, the joint logistics over the shore (JLOTS) task force, was offset in location and time at Camp Lejeune, North Carolina, in July.

At the JTF level, the operation was conducted in five phases within the JOA. The first phase was predeployment and deployment. While the JTF headquarters was being stood up, the CINCLANT opened his campaign and this phase with a focused intelligence effort, initial PSYOP, deployment of SOF into the theater and early deception planning. These efforts were handed over to the JTF once it was ready to command and control operations. Allocated forces were placed on alert and readied at continental US (CONUS) bases and forward operating bases.

The second phase was pre-forcible entry operations. The JTF carried out offensive air, maritime and SOF operations to prepare the theater for forcible entry by ground forces. Air and sea supremacy was achieved, amphibious forces were positioned forward and ground reconnaissance elements were deployed.

The third phase was forcible entry operations to secure multiple lodgements in Saint Alexander by means of synchronized airborne assaults at two locations and an amphibious assault at a third. One airborne operation, followed closely by an air assault using self-deployed Army aviation, placed

forces in the capital region and secured a joint forward operating base to receive follow-on Army and Marine forces arriving by sea lift. A critical task in this phase was the conduct of NEO in a hostile environment by JTF forces.

Decisive combat operations constituted the fourth phase (see Figure 3). Joint Army air assault and Marine amphibious operations completed the defeat of enemy forces. The fifth phase included post-hostilities redeployment of US combat forces still left in the theater. In this phase, the focus shifted to civil-military operations that were handed over to a commander of US Forces-Saint Alexander when the JTF was inactivated.

Conclusion

Although built on a naval scenario, Ocean Venture 93 provided major training opportunities for Army forces. Headquarters were exercised from the corps through division levels and, for two divisions, from the brigade to battalion and below. As the initial ARFOR, the XVIII Airborne Corps operated in an austere environment with minimal corps-level assets, often relying on coordinated joint support, such as joint fires and reconnaissance. The corps headquarters transitioned ARFOR responsibilities to the 101st Airborne Division (Air Assault) Headquarters during combat operations. The 1st Corps Support Command (COSCOM) was the executing headquarters for the JLOTS exercise that

involved Army, Navy and Marine units.

Ocean Venture 93 set several standards for future joint exercises. It demonstrated that, at least for smaller operations, a JTF headquarters can operate while afloat, a naval JFACC can coordinate air operations while remaining on board a ship and a joint special operations task force headquarters can conduct its business afloat.

Ocean Venture 93 proved the growing ability of US military forces to carry out joint operations in any number of crisis situations.



Major (P) Henry G. Franke III, Chemical Corps, until recently, was a War Plans Officer in the XVIII Airborne Corps G3, Fort Bragg, North Carolina, and was the primary Army Forces and XVIII Airborne Corps planner during Ocean Venture 93. He currently is the Executive Officer for the 83d Chemical Battalion, also part of the XVIII Airborne Corps. Among other assignments, he served as Assistant S3/Brigade Chemical Officer in the 101st Airborne Division (Air Assault), Fort Campbell, Kentucky, and commanded the 21st Chemical Company, part of the 82d Airborne Division, Fort Bragg. Major Franke is a graduate of the Command and General Staff College and the School of Advanced Military Studies (SAMS), both at Fort Leavenworth, Kansas. He holds a Master of Science in Physics from Texas A&M University and a Master of Military Art and Science from SAMS.

Ocean Venture 93 and the Joint Targeting Coordination Board

by Major Jerry A. Roberts, USMC

The realities of the "New World Order" and the nature of warfighting coupled with the dramatic downsizing of the services underscore the importance of joint operations and joint interoperability. During the past decade, our tactics, techniques and joint operating procedures have evolved significantly, both in peacetime exercises and war. As a result, procedures and techniques are about to be institutionalized in joint doctrine.

Draft Joint Publications 3.0 Joint Operations, 3.09 Joint Fire Support and Test Publication 3.03 Doctrine for Joint Interdiction Operations are the cornerstones of joint fires doctrine that may very well shape how we, as fire supporters, do business into the next century. Those of us engaged in fire support should understand the joint fires issues as they're being crafted into doctrine.

One of the key doctrinal issues of joint fires debated during the past several years is the role of the joint targeting coordination board (JTCB) and its relationship with the joint force commander, component

commanders and Joint Staff in the conduct of deep operations and interdiction. As described in *FM 100-5 Operations*, deep operations are those directed against enemy forces and functions beyond the close battle. Interdiction, which is closely related, are those operations intended to delay, disrupt, divert or destroy the enemy's military potential before he can employ it against friendly forces (i.e., shaping the battlefield to accomplish the joint force commander's mission objectives and intent as well as setting the battlefield conditions for the success of the component commanders).

Substantial debate has occurred over

how much responsibility and authority should be vested in the JTCB vice the joint force air component commander (JFACC). In my view, Draft Joint Publication 3.0 sets the framework for the JTCB. This document states the joint force commander usually organizes a JTCB and may allow it to play a central role in recommending targeting priorities and air apportionment and in preparing joint and restricted target lists.

The JTCB provides the forum to prioritize, employ, synchronize and deconflict joint fires in pursuit of the joint force commander's objectives and intent. It's essential that joint doctrine clearly establish the JTCB as the principle staff agency for overseeing the conduct and synchronization of the joint force commander's deep operations and interdiction effort.

The JTCB in Ocean Venture. Many exercises, most recently Ocean Venture 93, have demonstrated the validity of the JTCB's function for overseeing deep operations. During Ocean Venture 93, the JTCB provided the components and senior staff the forum to focus the joint task force's (JTF's) targeting and

joint fires efforts.

During Ocean Venture 93, the JTF-140 JTCB was chaired by the deputy commander of the JTF (D/CJTF) and answered to the commander of the JTF (CJTF) on operational fires and targeting issues. The board members consisted of primary staff and component representatives: the JFACC, J2, J3, J5, Army force (ARFOR), joint special operations task force (JSOTF), Air Force force (AFFOR), Marine force (MARFOR) and naval force (NAVFOR). On several occasions, the CJTF attended the board as an observer.

The board's structure provided an even



Current Enemy/Friendly Situation

- BDA/TDA Update
- Review the Protected/No-Fire Target List (D+1)
 - CJTF Target Guidance/Priorities (D+1)
 - Next Day Targeting/ATO (D+1)

Projected Enemy/Friendly Situation (D+2)

- Review the CJTF's Mission and Intent
 - CJTF's Targeting Guidance/Priorities (D+2)
 - Proposed JIPTL (D+2)
 - Air Apportionment Recommendation (D+2)
 - Air Force Reconnaissance Priorities (D+2)
 - Rules of Engagement (As Required)
- Approve the JIPTL (D+2)
- Task the Target Strikes

Projected Enemy/Friendly Situation (D+3)

- Review the Air Apportionment Recommendation (D+3)
- Review the Targeting Guidance/Priorities (D+3)
- Formulate the Proposed Targeting Guidance/Priorities and Apportionment (D+4)
- Propose Agenda for Next Targeting Board

Figure 1: Example of a JTCB Agenda used during Ocean Venture 93.

playing field to exchange ideas and share opinions among the components and between the board and the JTF staff. The result was a well-coordinated JTF deep operations effort, the intent and focus of which all players fully understood.

The JTCB also integrated special operations forces (SOF) into the CJTF targeting plan and became the focal point for battle damage/target damage assessment (BDA/TDA) and reconnaissance and intelligence collection priorities. Additional functions of the JTCB included advising the joint force commander on theater targeting objectives, assisting components in translating CJTF targeting objectives into tactical targets, recommending targeting guidance and priorities and recommending air apportionment guidance.

The JTCB met daily and developed several products for the CJTF's approval. The most important of these were the recommended air apportionment decision, protected/no-fire target list, joint integrated prioritized target list (JIPTL) and recommended air apportionment guidance for future planning. All these products were, of course, forwarded to the CJTF-140 for approval. The result was full participation by all components in the formulation and execution of the commander's deep battle and interdiction.

The successful execution of the JTCB during Ocean Venture 93 was due, in part, to the agenda that efficiently guided the daily business of the board (see Figure 1). This agenda allowed the board to systematically and quickly review and update the targeting focus for each air tasking order (ATO) cycle.

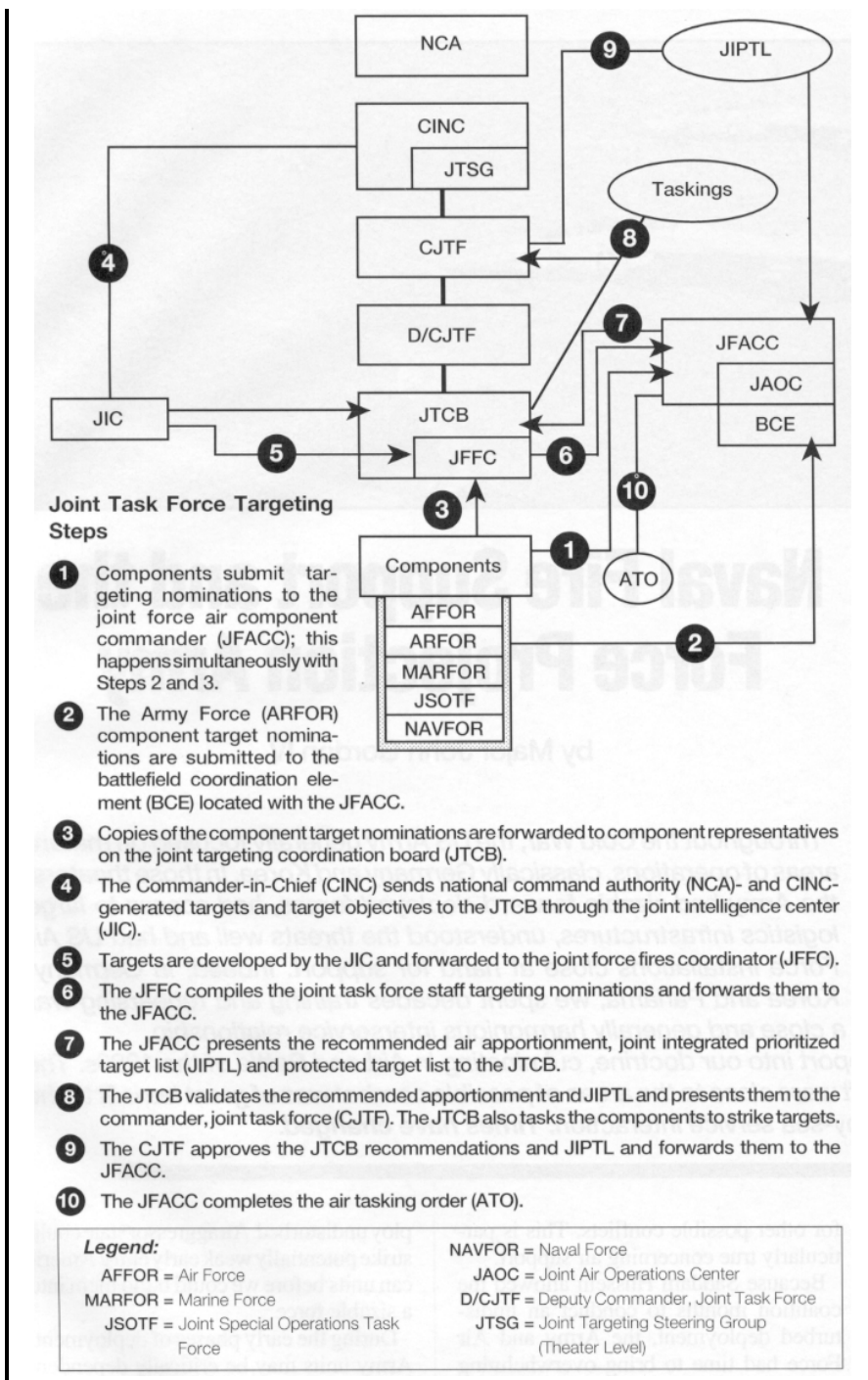


Figure 2: Targeting Steps of the Joint Targeting Coordination Board (JTCB).

The agenda focused the board 72 to 96 hours out and kept primary JTF targeting on the deep fight where it belongs. But it was flexible enough to include special or "as required" events. When necessary, the board received updates or specific mission briefings on such areas as rules of engagement (ROE) and JSOTF and joint psychological operational task force (JPOTF) activities.

JTCB/Component Separation of Responsibilities. Although I've stressed the major accomplishments of the JTCB during Ocean Venture 93, it's equally important to point out what the board did not do. The JTCB was an oversight agency for planning and coordinating deep operations and interdiction. But it did not (and should not) attempt to usurp the prerogatives and functions of the components that

must execute the details of the plan. During Ocean Venture 93, the major player in the execution of deep operations and interdiction was the JFACC. As the major executor of deep fires, the JFACC was responsible for compiling and integrating target nominations from the components and JTF staff (see Figure 2). Based on the joint force commander's guidance, the JFACC allocated assets against the nominated targets and produced air apportionment and JIPTL recommendations. These products were then presented to the JTCB for discussion and review by the components and principle members of the JTF staff. Once validated and (or) modified, these products were forwarded to the joint force commander for approval. The JTCB then became the forum for initiating taskings to the components to strike targets the JFACC was unable to address. The result of the process was well-coordinated joint fires with all components involved in formulating the plan.

The JTCB also must be flexible enough to adjust its focus to whatever is required of the operation. In a small island campaign such as Ocean Venture 93, the JTCB worked to a lower level of detail than one might expect. This was a result of the limited enemy array and the paucity of targets suitable for JTF assets to attack.

In an operation of a much larger scope, the JTCB would take a more macro view of the battlefield and targeting. The board would concentrate more on the joint force commander's priorities and broad target categories vice individual targets.

Conclusion. The JTCB should be institutionalized in joint doctrine as the principle staff agency for overseeing and conducting the joint force commander's deep operations and interdiction effort. Under the D/CJTF, the JTCB is ideally suited to bring all players of the joint force together as a team.



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Naval Fire Support and the Force Projection Army

by Major John Gordon IV



Throughout the Cold War, the US Army generally focused on mature areas of operations, classically Germany and Korea. In those theaters, the Army had sizable forward-deployed forces, had access to large logistics infrastructures, understood the threats well and had US Air Force installations close at hand for support. Indeed, in Germany, Korea and Panama, we spent decades training and rehearsing war plans with the Air Force, leading to a close and generally harmonious interservice relationship.

*We increasingly integrated air support into our doctrine, culminating in AirLand Battle of the 1980s. The fact that numerous Air Force aircraft were close to the areas of possible combat was of great benefit to the Army. There was little need for Army-sea service interaction. **Times have changed.***

Conflicts of the future involving the US military probably will require the rapid projection of military force into a distant region to oppose one or more regional powers threatening our interests. We may or may not have allies or coalition partners in such a conflict. In all likelihood, the US Army will have to assemble a mix of forces quickly for the theater commander-in-chief responsible for dealing with the crisis. Army forces could find themselves arriving in an area where the nearest friendly air base capable of supporting sustained operations is thousands of miles away during the critical initial phases.

While Operation Desert Storm was certainly a resounding success, some lessons we learned will be entirely inappropriate for

other possible conflicts. This is particularly true concerning air support.

Because Saddam Hussein allowed the coalition months to conduct an undisturbed deployment, the Army and Air Force had time to bring overwhelming power into the area of operations. By the time the coalition struck Iraq in January 1991, we had deployed a huge amount of air power into the Arabian Peninsula and Turkey. When ground combat began, we probably had as much (or more) air support available as we would have had if fighting had erupted during the Cold War in Germany or Korea.

In some future conflict, we could be opposed by a well-armed, competent foe who has no intention of repeating Saddam's mistake of allowing us time to deploy undisturbed. An aggressor state

could strike potentially weak early entry American units before we could build them into a sizable force.

During the early phases of deployment, Army units may be critically dependent on air superiority and joint fire support to compensate for lack of ground combat power. Early entry units will require constant air superiority (at least over their lodgement area), timely interdiction missions that can respond to a fast-paced battlefield and short-notice, quick turnaround close air support (CAS) missions.

If the deployment takes place a great distance from friendly bases, Air Force support the Army has grown accustomed to may not be possible. Early deploying Army forces may have to look to carrier-based

air support, at least until adequate land-based air power is able to function near the area of operations.

This article reviews Naval fire support systems we can exploit and highlights issues the Army and the sea services must consider in the years ahead. My purpose is to stimulate the Army fire support community's thinking about the use of Naval fire support now—rather than hastily improvising as we go into combat.

Naval Aviation—Present and Future

The Bush administration's base force envisioned 12 air carriers in the post-1995 Navy. It's very probable this number will be reduced in the future. With less than 12 carriers, the Navy will be hard-pressed to

maintain more than four or five in forward areas at any one time.

A typical carrier air wing is composed of about 90 aircraft (it varies with the class of carrier). Two fighter squadrons are equipped with the famous F-14 Tomcats. These aircraft concentrate on fleet defense and air superiority missions. However, the Navy is planning to refit some Tomcats to conduct ground attack. The two squadrons on a carrier normally operate a total of 20 F-14s.

Of particular importance to the Army are the two light and one medium attack squadrons that usually operate from a carrier. These squadrons have a total of 24 F/A-18 Hornets and 10 A-6 Intruders. The F/A-18 has a ground attack capability similar to the Air Force's F-16, including forward-looking infrared (FLIR) systems.

As a result of Desert Storm lessons, the Hornet force is being upgraded with a laser designation capability.

A major goal of Naval aviation is to procure the F/A-18 E/F variant. Due in 1998-99, the E/F model of the F-18 will have greater range and endurance and a larger ordnance payload than earlier versions of the fighter.

The A-6 Intruder is an old workhorse dating from the 1960s. Its strengths are a very large payload and its excellent all-weather attack capability. Nevertheless, the subsonic A-6s are getting old. When asked to come up with nearly \$3 billion in FY 94 budget reductions, the Navy offered to retire the A-6 fleet by the end of the decade. It's not clear whether or not the Department of Defense will accept this proposal. For now, the A-6 is an aging, yet still powerful aircraft capable of bringing considerable tonnage to a target in either the CAS or interdiction role. Its night and all-weather abilities are noteworthy.

One of the greatest challenges for Naval aviation is to dig out from the rubble of the now-defunct A-12 Stealth program and push through an adequate successor for the A-6. It will probably be the early years of the next century (about 2008) before a replacement aircraft, tentatively designated A/FX, is available.

Unlike the A-6, the A/FX is projected as a self-escorting aircraft armed with air-to-air weapons. Developing this aircraft is essential for carrier air wings to be able to deliver large amounts of ordnance deep inland. In fact, a recent General Accounting Office study concerned about the huge price tag of various Navy and Air Force aircraft under development pointed out that because there's no apparent follow-on to the Soviet SU-27 and MIG-31 air-to-air fighters, buying the A/FX is probably more important than the Air Force's F-22 air superiority fighter.

The remaining aircraft in a carrier air wing complement the attack and fighter squadrons: an airborne early warning squadron of five E2C Hawkeyes—a very useful target location platform (essentially, they are mini-airborne warning and control systems, or AWACS); a squadron of six anti-submarine S-3 Vikings; a small number of electronic warfare A/E-6 Prowler aircraft; and approximately six helicopters for air-sea rescue and antisubmarine operations. Some A-6s can perform air-to-air refueling, but the small number of aircraft dedicated to that mission is a limitation of the carrier air wing.

To supplement its own aircraft, the Navy is bringing Marine Corps F/A-18 squadrons



A Fighter Squadron 41 F-14A Tomcat passes over western Saudi Arabia during a flight off the aircraft carrier *USS Theodore Roosevelt*.



A pair of F/A-18A Hornets from Strike Fighter Squadron 192 fly past Mount Fuji, Japan.

aboard its carriers. Additionally, the Navy and Marines are experimenting with carrier air wings. For example, they're removing a squadron of Navy aircraft to make room for Marine helicopters and ground troops to conduct landing operations from the carrier. From the Army's perspective, carrier aviation has advantages and disadvantages (see Figure 1).

Naval Gunfire Support

No greater change has occurred in navies of the world since World War II than the reduction of guns aboard ships. Figure 2 clearly show how the gunfire support capability of a typical battle group has decreased since World War II. Compared to even the Vietnam-era, the Navy has far fewer guns in the fleet. The recent retirement of the massively armed Iowa-class battleships has left a great void in sea-based artillery support.

The heaviest artillery now available on Navy ships are the 5-inch/54-caliber automatic cannons mounted on most cruisers



A left-side view of three Attack Squadron 34 A-6E Intruders flying in formation over the eastern Mediterranean Sea.

Lt. Cmdr. Leenhouts, USN

Advantages

- Carrier aviation can be a tremendous source of aerial firepower and target acquisition data.
- As long as the carrier is within striking distance of the area of operations, it can simultaneously conduct air superiority, interdiction, CAS and target acquisition missions.
- A carrier battle group is not a "burden" on the Army—unlike the Air Force that needs Army air defense, ground protection and logistical support. This can be a crucial factor for early entry forces that may need to maximize the potential of strategic transport to move combat units.
- The carrier's ability to get close to the area of operations in most areas of potential conflict in the Third World means more daily sorties generated per aircraft as compared to fixed land bases that may be great distances from the scene of action, at least initially.

Disadvantages

- The carrier always will hold back aircraft for fleet defense. Depending on the severity of the air and sub-surface threat, this could be a considerable portion of the carrier air wing.
- If Marine squadrons are part of the carrier air wing, it could be difficult to get them to fly missions in support of the Army. Marine air is essentially "organic" to the Marine air-ground task force (MAGTF). Marine commanders, who may be ashore side-by-side with Army elements, could regard Marine F/A-18 squadrons as their assets exclusively.
- The carrier air wing has a very limited air-to-air refueling capability, an important limitation for the F/A-18 that has a relatively restricted range.

Figure 1: Advantages and Disadvantages of Carrier Aviation from the Army's Perspective.

and destroyers. This weapon, capable of a very high rate of fire, has a range of approximately 12 miles. It can fire a fairly wide variety of shells, but not terminally guided projectiles. It's a small, short-range weapon that can only engage targets relatively close to the beach. Clearly, there's a need to supplement this weapon.

World War II Battle Group

- 3 Aircraft Carriers
- 1 Small Carrier
- 2 Battleships
- 2 Heavy Cruisers
- 2 Light Cruisers
- 12 Destroyers

Total Guns

- 18 16"/50 Calibers
- 18 8"/55 Calibers
- 24 6"/47 Calibers
- 160 5"/38 Calibers

1993 Battle Group

- 1 Aircraft Carrier
- 3 Aegis Cruisers
- 2 Aegis Destroyers
- 4 Anti-Submarine Destroyers
- 3 Guided-Missile Destroyers

Total Guns: 19 5"/54 Calibers

Figure 2: The naval gunfire support capability of a typical battle group has decreased dramatically since World War II.

The Navy is examining a number of alternatives to increase its shipboard cannon and missile firepower. It's identifying, developing and exploiting technologies for a 21st century gun weapon system with an operational capability projected for about 2010. It's also enhancing existing guns using technological advances, projected to be operational before 2010. In the near term, the Navy will improve its anti-air and anti-surface gunnery before 2000.

One option the Navy is examining to improve its fire support capability is increasing the performance and range of its 5-inch/54-caliber weapons. Another option is investigating whether or not Army systems, such as the multiple-launch rocket system (MLRS) and (or) the Army tactical missile system (ATACMS), can be mounted on ships. The Navy thinks the vertical launch pods for its Standard and Tomahawk missiles may be capable of accepting MLRS and ATACMS.

Also, the Navy is considering adding to its gunnery the Army 155-mm guns being developed to use liquid or electrothermal propellants. Although still in prototype, these new systems promise to greatly increase the existing 155-mm gun's range. In addition, the Navy is examining whether or not liquid propellant systems can be retrofitted into its 5-inch gun turrets or 8-inch weapons.

A key feature of these Navy developments is the quest for greater range in its guns and missiles. New Navy-Marine Corps doctrine for amphibious operations stresses "over-the-horizon" tactics. Unlike World War II amphibious assaults where ships moved in very close to the beach, over-the-horizon tactics would keep ships well offshore to fire, minimizing risks from shallow water mines, coast defense guns and missiles. This is one reason for the Navy's interest in hypervelocity liquid propellant guns. The Navy's new emphasis on coastal warfare, as articulated in the major policy paper "From the Sea," shows it's emphasizing supporting operations ashore.

Another ramification of over-the-horizon tactics is the requirement for long-range, real-time target location systems. Remotely piloted vehicles and drones were used by the battleships *Wisconsin* and *Missouri* during Desert Storm. The Navy's use of advanced drones will increase in the future.

For now, Army fire supporters should know that Naval gunfire is limited to the



Aerial port bow view of the Spruance-class destroyer *USS Harry W. Hill* underway.



A BGM-109 Tomahawk cruise missile is launched aboard the destroyer *USS Merrill* in the Pacific Ocean.

5-inch/54-caliber guns on cruisers and destroyers. The Navy is, however, devoting a great deal of effort to introduce new guns and missiles aboard its warships to support forces ashore. It will be the early years of the next century before we see the results of these efforts. But sea-based artillery isn't all the Navy has to offer fire supporters.

The Tomahawk Missile

One of the most successful weapons of the Persian Gulf War was the Navy's Tomahawk missile. With a range of more than 500 miles, Tomahawks can strike stationary, hardened targets with great precision, such as the heavily defended targets they hit in Baghdad. Using detailed

digitized terrain maps, Tomahawks can hit targets in a city while minimizing collateral civilian damage. To strike a heavily defended, precision, high-value target, Tomahawk was the weapon of choice. Because of its compatibility with existing vertical launch missile pods, many ships and submarines in the fleet can carry Tomahawks.

The Navy is improving the Tomahawk. Increased range and even greater accuracy

are goals for a new version of the missile. One of the limitations of the 1991 version was the time required to program a missile with the digitized terrain data required for the missile to steer to its target. The Navy is working several alternatives to significantly reduce the time it takes to launch a missile after the mission is received.

Army doctrine stresses deep, simultaneous attack of the entire enemy array.

Army commanders, particularly at the division level and higher, are seeking to locate and attack enemy facilities and formations throughout the area of operations, possibly hundreds of kilometers forward of friendly troops. The Tomahawk is an ideal system for such long-range strikes against stationary targets. It's an excellent weapon and is getting better.

The ANGLICO and Fire Support Coordination

The Marine Corps' air and naval gunfire liaison companies (ANGLICOs) are destined to be attached to Army or allied organizations to control Naval-Marine air and naval gunfire. The mission of an ANGLICO is "To provide ground control and liaison agencies for the planning and employment of naval gunfire and US Navy and Marine Corps CAS for allied or US Army forces of division size or less operating alongside a Marine air-ground task force [MAGTF] in joint or combined operations, or in other operations where other than fleet marine forces [FMF] are provided US naval gunfire and naval air support."

There are four ANGLICOs in the Marine Corps: two active (one on each coast) and two Reserve. The term ANGLICO "company" is somewhat of a misnomer; it's commanded by a lieutenant colonel and organized as a separate battalion. When attached to an Army division, the ANGLICO provides liaison teams at the division, brigade, battalion and company levels. At the lowest level of support, only two companies in each Army battalion receive ANGLICO firepower control teams. Additionally, since the two active-duty ANGLICOs maintain teams with deployed MAGTFs, each ANGLICO usually only has enough personnel to man the Army's division team and two brigade teams.

The two active duty ANGLICOs exercise fairly frequently with the Army's 82d Airborne and 101st Air Assault Divisions and Rangers, but the rest of the Army rarely works with these valuable organizations. A major Army goal is to be able to quickly deploy armored formations to a crisis location, so there certainly is need for organizations like the 24th Infantry Division (Mechanized) and 1st Cavalry Division to train with ANGLICOs.

Although the ANGLICO brings experts in naval air and gunfire support to an Army division, the ANGLICO isn't designed to function at the operational level.



The Ticonderoga-class Aegis guided-missile cruiser *Vincennes* underway during at-sea testing prior to her commissioning on 6 July 1985.



A port bow view of the guided missile cruiser *Arleigh Burke* underway off the coast of New England prior to her commissioning.

This is an entirely different problem and, given the evolving nature of joint fire support, a key issue for the Army.

Operational-Level Coordination

In a future crisis where sizable US forces quickly deploy to an area far from existing bases, it's likely the joint force air component commander (JFACC) will be a Navy admiral onboard ship. (In the recent training exercise Ocean Venture 93 involving the XVIII Airborne Corps, Marines and the Sixth Fleet, the JFACC came from the Naval component.) Later, if the crisis is protracted, the Air Force may assume the role of the JFACC.

If the Navy controls air support during the potentially dangerous initial phase of the operation, the Army must have the means to interface with the JFACC. We need face-to-face representation with those who hold the "purse strings" on fixed wing air support.

The Army organization best suited to interface with the JFACC is the battlefield coordination element (BCE). The 1st Battlefield Coordination Detachment (BCE) at Fort Bragg, North Carolina, already has standing operating procedures for deploying a reduced staff onto Navy command ships such as the *USS Mount Whitney* and *Blue Ridge*. A more difficult situation will occur if the JFACC is on an aircraft carrier where the Army needs room, communications facilities and mast antenna space. The point is, if the JFACC is afloat, the Army must have direct representation at that location.

As was shown in Desert Storm, the JFACC has great power to allocate air assets. In a confused, fast-moving deployment,

the Army commander ashore must be able to transmit his scheme of maneuver and air support needs to the JFACC who may be inundated with air superiority, interdiction and CAS requests—and, in the case of a Navy task force, anti-submarine and fleet air defense requirements as well. The JFACC will have to have the complete picture to commit his limited assets where they can do the most good.

Army-Sea Service Training

This is an area in which the Army and the sea services need to improve.

Whenever possible, Army fire supporters should train with the Navy and Marine Corps. For example, aircraft carriers come in and out of locations like Norfolk, Virginia, and Mayport, Florida, frequently. With sufficient coordination between the Army's Forces Command (FORSCOM) and the Navy's Atlantic Fleet (LANT-FLEET), some ships could spend a few days off the Carolina coast flying air support for exercises at locations such as Fort Bragg and Fort Stewart. Similarly, carriers may be able to regularly fly for Army units at the National Training Center, Fort Irwin, California.

Another major challenge we could face in combat is multi-service passages of lines. Army airborne units in training could link up with Marine amphibious forces. Later in the exercise, Marines could introduce Army heavy forces into their sectors, simulating the arrival of Army armored and mechanized units on fast sea lift. During the initial phase of the problem, Naval air could support the Marines and Army. It's during exercises like these

that we'll expose potentially serious problems in doctrine, communications and control.

In addition to increased interaction during training exercises, there needs to be a greater exchange of ideas between the Army and the sea services in each other's schools. The Field Artillery School at Fort Sill, Oklahoma, needs full-time Navy instructors on the faculty to teach sea-based fire support systems. Additionally, more Army officers should attend Navy and Marine Corps schools, and personnel from the sea services need to be better represented at the Command and General Staff College at Fort Leavenworth, Kansas, and other Army courses.

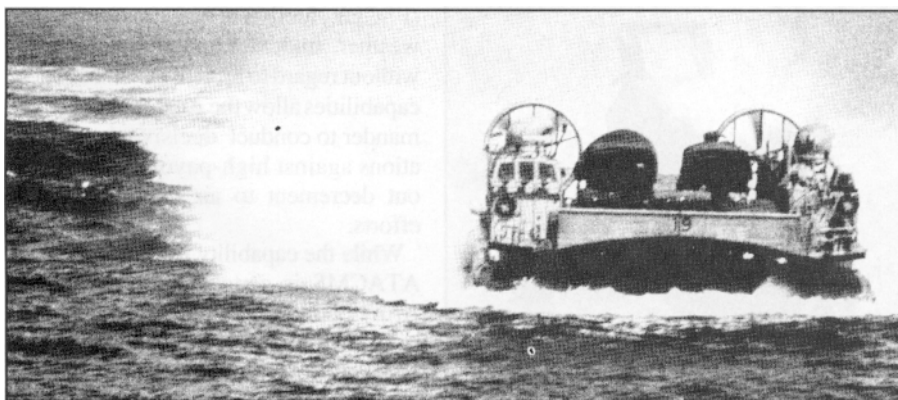
Conclusion

Without sacrificing our long-standing, close relationship with the Air Force, the Army—particularly the Army fire support community—must broaden its scope and interact much more with the Navy and Marine Corps. We need to begin learning more about their weapons systems, doctrine, command and control and the "culture" of the sea services.

Army commanders—aided and encouraged by their fire support coordinators—should actively seek opportunities to work with the sea services. We don't need to wait until a crisis forces us to figure out how the Navy works.



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For multi-service training, Army airborne forces could link up with Marine amphibious forces, such as those carried by this landing craft air cushion (LCAC), part of Assault Craft Unit 5 out of Camp Pendleton, California.



Airspace Coordination in Joint Operations

by Majors Oliver T. Horne, MI, and Harry L. McIntosh, Jr., AD

On the joint and combined battlefield, close coordination between the Army forces (ARFOR) and air component commander (ACC) is required to synchronize the application of joint combat power, optimize support, prevent fratricide and achieve success throughout the joint area of operations. The organization that provides the interface between the ARFOR and the air component command is the battlefield coordination element (BCE). The 1st Battlefield Coordination Detachment at Fort Bragg, North Carolina, has participated in many joint

exercises and contingency operations and seen the command and control process as commanders attempt to synchronize all potential combat power to defeat the enemy.

Feedback from Air Force Blue Flag exercises, corps contingency operations, Battle Command Training Program (BCTP) Warfighters and in articles published by the services indicate that airspace coordination is very difficult to accomplish with timeliness and limits the ground commander's use of combat power against the enemy. In fact, timely airspace coordination is possible and, when properly executed, is a distinct combat multiplier.

This article discusses three major airspace coordination issues critical to the synchronization of joint combat power: coordination for both preplanned and immediate requests for the Army tactical missile system (ATACMS), unmanned aerial vehicles (UAVs) and specially equipped mission aircraft (SEMA). These issues require the further development of doctrine, tactics, techniques and procedures (DTTP). This article describes the airspace coordination procedures the BCE now uses or recommends for use to support the ARFOR commander in respect to these issues.

A review of the BCE's role in the Air Force's theater air control system/Army air-ground system (TACS/AAGS) is necessary to understand joint airspace management. The BCE's mission is to synchronize the air campaign with Army ground operations through the coordination of air support and the exchange of operational and intelligence data. It represents the ARFOR commander in the joint air operations center (JAOC) of the joint

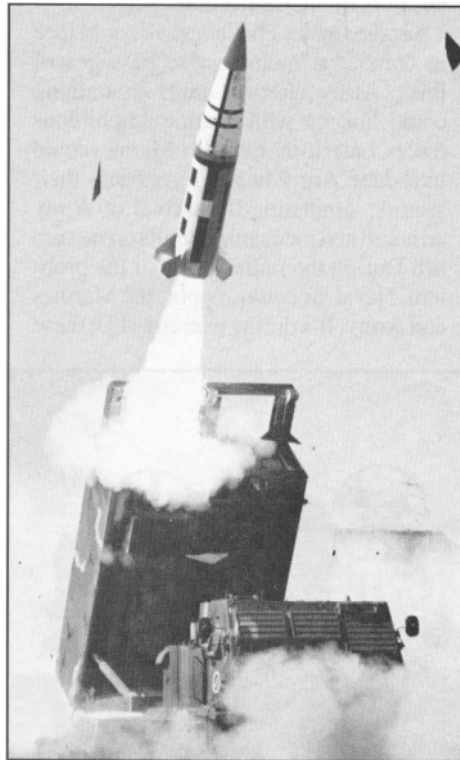
force air component commander (JFACC). The JAOC is organized with four divisions that perform the necessary functions, including airspace management for the centralized control of all theater air operations. The BCE is organized to mirror the JAOC to accomplish its mission, regardless of which service provides the

JFACC and JAOC. (For example, in Ocean Venture 93, the naval component was the JFACC.) The BCE is a critical link in successfully coordinating Army airspace requirements.

ATACMS Airspace Coordination

One of the major challenges facing BCE representatives in the JAOC is airspace coordination for immediate ATACMS missions. The fielding of ATACMS and the capabilities of the joint surveillance and target attack radar system (JSTARS) has given the Army commander the ability to detect deep targets and deliver ordnance within minutes in excess of 100 kilometers beyond the forward line of own troops (FLOT) and, in many cases, beyond the fire support coordination line (FSCL). Delivery can be in limited weather, under adverse conditions and without regard to limited air assets. These capabilities allow the Army or corps commander to conduct decisive deep operations against high-payoff targets without decrement to air interdiction (AI) efforts.

While the capability for deep attack by ATACMS is certainly essential to the Army commander, it isn't without controversy in the area of joint airspace management. Indeed, this capability has prompted further debate concerning redefining the FSCL and airspace ownership in the Army area of operations. It also has raised new issues pertaining to the inclusion



ATACMS. A major challenge for the BCE is airspace coordination for immediate ATACMS missions.

of ATACMS in the air tasking order (ATO) and, ultimately, whether the JFACC should control ATACMS in a joint operational theater. However, the major issue facing the BCE and the JAOC is the timely coordination of ATACMS to meet the requirements of both the Army and joint task force (JTF) commanders in the joint environment.

The ATACMS airspace coordination issue centers around *immediate* ATACMS missions. Preplanned missions are coordinated well in advance and included in the daily ATO with appropriate airspace coordination measures in the daily airspace control order (ACO). Thus, preplanned missions pose little if any problem to airspace management.

On the other hand, immediate missions present several problems to the JAOC planners and BCE airspace managers. These missions require prompt approval and involve clearing airspace of all friendly fixed and rotary wing aircraft. This is a task of significant magnitude requiring coordination involving many players and factors that must not be overlooked—Air Force tankers, combat air patrols (CAPs), airborne battlefield command and control center (ABCCC) aircraft, airborne warning and control system (AWACS) aircraft, JSTARS, UAVs, SEMA and the ingress and egress routes for all aircraft. This problem of clearing airspace was highlighted during Operation Desert Storm when clearance times were excessive for several missions.

In September 1992, the BCE began to study this issue in detail and develop an alternative approach to clearing ATACMS missions. The initial observation was that to clear a corridor for more than 100 kilometers was illogical, given an average flight profile for standard missiles within the ATACMS range band. It also was observed that the ATACMS flight

- (1) Airspace for a cylinder extending 10 kilometers from the ATACMS launch site forward along the missile flight route is coordinated. The altitude achieved at the 10-kilometer range effectively clears ATACMS of all friendly aircraft.
- (2) At the target location, airspace for 10 kilometers is coordinated from the center target grid back along the flight route of the missile. This 10-kilometer coordination ensures friendly aircraft are clear at the point the ATACMS reenters airspace that friendly aircraft normally use.
- (3) Upon notification of an impending ATACMS launch, the BCE operations section immediately passes the launch site grid, target grid and firing time to the combat operations division (COD) and the airspace control center. These agencies clear the airspace by establishing alternate or temporary orbits or diverting aircraft to the outside of each cylinder. Clearance is then passed back to the BCE, and in turn, the mission is cleared through the ARFOR or the joint force fires coordinator (JFFC).
- (4) All missions are treated as "At my command" for the ATACMS firing units. Permission to fire is passed from the corps FSE through the ATACMS battalion to the firing units.

Figure 1: Airspace Clearance Procedures for Immediate ATACMS Missions. Initiated by the BCE, these procedures require a minimum of 15 minutes and a maximum of 30 minutes from the time of notification to clear airspace for ATACMS through the JAOC.

profile was unavailable in the BCE, air operations centers and the various corps fire support elements (FSEs). The flight profile for ATACMS was requested from the ATACMS Program Office, and it validated the initial observations that the ATACMS flight profile achieves a maximum ordinate well above the altitudes normally flown by most friendly aircraft during combat operations.

This initial look was followed by a close study of range

versus altitude and a recommendation as to when ATACMS achieves the altitude at which it would not interfere with other friendly air assets. The final analysis centered on the target area as the ATACMS flight profile reenters airspace where potential interference is possible.

Clearing Procedures. As a result of these analyses, the clearance procedures listed in Figure 1 were examined, coordinated and initiated within the JAOC by the BCE for immediate ATACMS missions. The JAOC and BCE require a minimum of 15 minutes and a maximum of 30 minutes from notification to coordinate and clear airspace for ATACMS.

This clearance process for ATACMS missions has been validated with the XVIII Airborne Corps and III Corps during many joint exercises involving all services. To date, the missions have taken less than 30 minutes to clear and actually averaged five to seven minutes. The BCE ensured the JAOC had a thorough understanding of procedures and the high-priority placed on ATACMS strikes before the exercises and contingency deployments.

Other operational factors are according to current joint doctrine. For instance, if airspace can't be coordinated within a reasonable period (30 minutes), the decision to fire rests with the JTF or corps commander, based on the commander's risk assessment of the situation.

UAVs and SEMA Airspace Coordination

Many Army UAVs and fixed and rotary wing SEMA will fly throughout the ARFOR area of operations at altitudes routinely above the normal coordinating altitudes established in a joint environment. (*Joint Publication 3-52 Doctrine for Joint Combat Airspace Control in the Combat Zone* defines coordinating altitude as "a procedural airspace control method to separate fixed and rotary wing aircraft by determining an altitude below which fixed wing aircraft will normally not fly and above which rotary wing aircraft normally will not fly.")

The Challenge. The challenge of airspace management for UAVs and SEMA is twofold. The first part is actually coordinating the airspace with the air operations center for both preplanned and immediate missions. The second is establishing communications between UAV and SEMA units and the air operations center to pass information and documents critical to performing



Courtesy of LTV

the airspace management functions and executing the UAV and SEMA missions.

Again, there's little problem where preplanned missions are concerned because the time is available to coordinate. However, current Army and joint airspace management doctrine and procedures are inadequate for employing these systems in response to immediate mission requests. Specifically, Army doctrine and procedures focus primarily on helicopter operations below the coordinating altitude. Additionally, Army airspace management organizations and procedures are hierarchical in nature and, consequently, require too much time to plan and execute immediate requests effectively. Furthermore, the communications links to support transmission of these documents to the UAV and SEMA units are simply nonexistent.

Clearing Procedures. The BCE is staffed with a two-person Army airspace command and control (A²C²) section that works with the airspace control center in the air operations center. The A²C² section negotiates and coordinates Army airspace requirements with the airspace control center.

The Army uses a six-step procedure for processing airspace requests for UAVs and SEMA (see Figure 2). This procedure has proven adequate for the preplanned airspace requests that meet the time lines of the ATO/ACO planning cycle.

Responsiveness to UAV and SEMA immediate mission requests is a major problem in joint operations. The concept of designating a UAV and SEMA unit liaison element to work with the BCE A²C² section in the air operations center is imperative to resolving this issue. This liaison element should consist of UAV and SEMA experts and must maintain constant, direct communications with the G2CM&D, ARFOR A²C² and UAV and SEMA units. When immediate requirements develop, the G2CM&D could then contact the liaison element in the air operations center. The liaison element, in consultation with the UAV and SEMA units, could analyze the mission, identify airspace requirements, coordinate the airspace with the airspace control center and prepare and transmit the fragmentary order (FRAGO) to the SEMA and UAV units.

During Exercise Ocean Venture 92, this concept was exercised for SEMA and proved to be very effective. Within 20 minutes after the G2 CM&D passed the tasking to an aerial exploitation battalion

- (1) The ARFOR G2 collection management and dissemination (CM&D) section tasks the UAV and SEMA units.
- (2) The UAV and SEMA units develop mission requirements and forward airspace requests to the ARFOR A²C² section.
- (3) The ARFOR A²C² section coordinates Army airspace with Army aviation and air defense and forwards the request to the BCE.
- (4) The BCE A²C² section coordinates the request with the airspace control center and ensures the request is submitted to the airspace control authority for approval.
- (5) If approved, the airspace control authority forwards the request to the Air Force defensive duty officer (DDO), who updates the ACO by US message text format (USMTF).
- (6) The BCE A²C² section monitors this process and informs the ARFOR A²C² section of approval/disapproval, and they, in turn, inform the UAV and SEMA units.

Figure 2: The Army's Airspace Clearance Procedures for Preplanned UAV and SEMA Missions.

(AEB) liaison element in the air operations center, the AEB was informed of the airspace and had received the FRAGO to execute the mission. This liaison element is absolutely necessary for effective, timely coordination and the execution of UAV and SEMA immediate mission requests and associated airspace requirements.

UAV and SEMA units also must have a means of entering into the air operations center communications system. There are several solutions to this problem. The preferred solution is a compatible remote terminal with access to the airspace control center in the air operations center. Another solution is to down-load the information and documents to a computer disk and transmit them via modem and STU III.

The least preferred solution is to obtain the data from an Air Force wing collocated with the UAV and SEMA units. However, collocation is not always possible. If not collocated, the data would have to be sent by courier, creating further delay in the system.

Current Army plans call for the maneuver control system (MCS) to interface with the Air Force's CTAPS, which stands for contingency TACS (theater air control system) automated

planning system. This is a potential solution if the UAV and SEMA units are included in MCS authorizations.

Conclusion

Timely execution of immediate ATACMS missions can be accomplished with the techniques and procedures articulated here. Immediate UAV and SEMA missions are a more difficult problem that require additional liaison officers and better communications between UAV and SEMA units and the air operations center. Also evident is the need for continued development of techniques and procedures that can be institutionalized in doctrinal literature, disseminated to the field and exercised regularly during Army and joint exercises.



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Operation Hurricane Andrew Relief: Humanitarian Assistance, Redleg Style

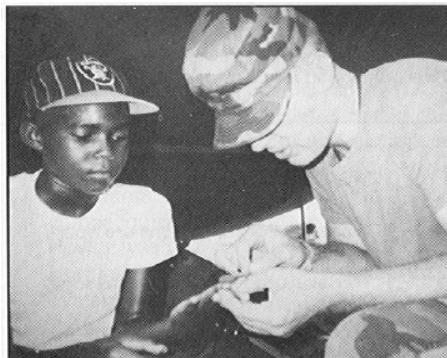
by Lieutenant Colonels James T. Palmer and Charles R. Rash

On 24 August 1992, the most devastating hurricane ever to strike the United States came ashore in Dade County, Florida, leaving behind \$30 billion in damage and a frightened and confused population. In only a few hours, the entire governmental infrastructure had ceased to function, and a population found itself devoid of those public services Americans expect. The citizens of south Florida had to depend on themselves.

On 24 August, both the 1st and 2d Battalions of the 7th Field Artillery Regiment, 10th Mountain Division (Light Infantry) were involved in local field training at Fort Drum, New York, and paid little heed to the events in south Florida. However, on 29 August, the battalions quickly focused on these events, having been notified to prepare to deploy and provide assistance to the victims of Hurricane Andrew.

We had no idea what to expect, so we called in our staffs and commanders to begin the command estimate process. Quickly, we learned there was virtually no communications in or out of the area. This required us to make some hasty assumptions to continue planning. Our first and most critical assumption was that we would have to be totally self-sufficient. This assumption drove the entire load-out process and the sequence in which vehicles flowed during air movement.

As it turned out, this assumption was correct and contributed immeasurably to our early success. As we discovered upon arrival, our ability to self-sustain allowed our forces to quickly begin disaster relief operations.



SPC Troy C. Sweet, a medic assigned to HHS 1-7 FA, assists a civilian youth in Cutler Ridge, Florida.

Situation Assessment

While the two battalions were preparing for an air movement, the battalion and battery commanders with several key staff members deployed to south Florida on 30 August for a firsthand assessment. This proved to be critical to the mission as it allowed us to communicate back to Fort Drum, provide guidance, modify requirements and change the sequence of

equipment in the air movement to get the right items forward.

Key leaders throughout the division were deployed, allowing the division commander quickly to get a clear picture of the task he was facing. Both battalion commanders deployed with cellular telephones that provided their only link to Fort Drum for the first month.

The lead elements of each battalion arrived in the early morning of 31 August. Even in the darkness, it was possible to discern the wreckage of Homestead Air Force Base. As it became light, the full impact of the devastation around us became apparent. It was much worse than we had imagined. Very few structures were standing, and those left standing often were unrecognizable. Street signs and traffic lights had ceased to exist.

We had no military maps of the area, but the division artillery (Div Arty) commander acquired five or six tourist maps from the remnants of Homestead City Hall. From a map lying on the hood of the Div Arty commander's high-mobility multipurpose wheeled vehicle (HMMWV), we were assigned an area of operations, including part of Homestead city and Dade County, a combined area that was to cause some difficulty later when we were ordered to disengage. We used key terrain features to divide the area between the

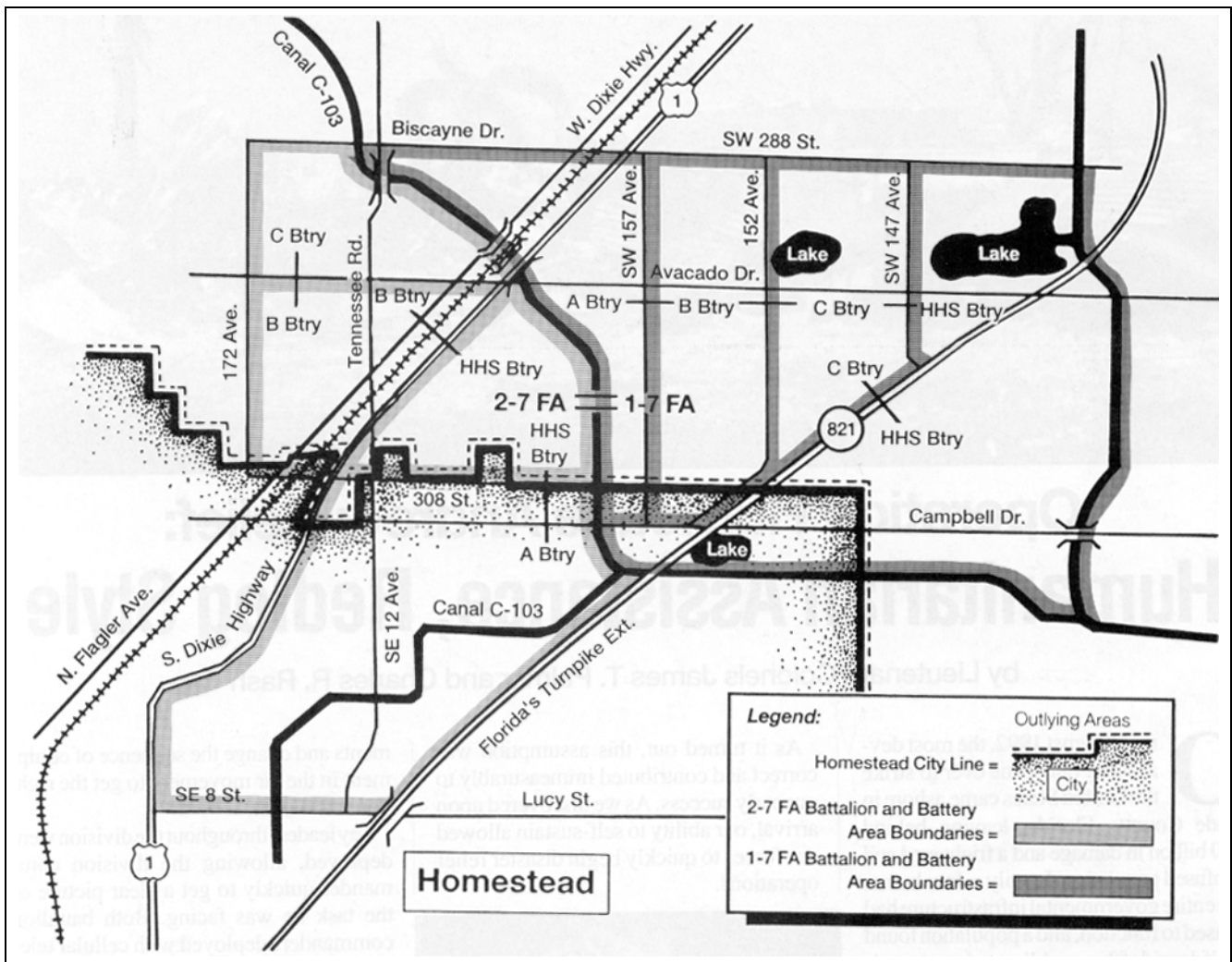


Figure 1: The 10th Division's 2-7 FA and 1-7 FA were assigned areas of operation for hurricane victim relief in Homestead and Dade County. The areas were further sub-divided by batteries.

two battalions. These consisted of major highways, railroads and a canal. (See the map in Figure 1.)

Once each battalion's area of operations was designated, we set about conducting assessments. Each battalion commander quickly briefed his subordinate commanders and staff, issuing guidance on the essential elements of information the division and Div Arty commanders needed (see Figure 2) as well as those items of importance to each battalion. Each battalion area was further sub-divided into battery areas of operations (as indicated in Figure 1), so we could reduce duplication of effort.

Finally, before setting out to collect intelligence, the battery commanders who shared common boundaries agreed on coordination points and times. Prior to departure, we agreed on a bivouac site for that night, established times for backbriefs

- The state of the infrastructure and utilities.
- What relief organizations are operating where.
- The level of destruction and associated risks to soldiers.
- The identification of locations for Class I (water), Class III (petroleum, oil and lubricants), Class IV (construction materials) and Class VIII (medical supplies).
- Potential bivouac sites.

Figure 2: Essential Elements of Information. This information is essential for the success of humanitarian relief efforts.

and made our radio checks with everyone operating on a common frequency.

As each battery commander assessed his area, a few battalion staff officers were dispatched to locate Class I (water),

Class III (petroleum, oil and lubricants) and Class IV (construction materials), all critical to our immediate needs. Within 24 hours of our arrival, we had gathered all the essential elements of information, coordinated individual unit bivouac sites and identified supply points for those critical supply classes. As the firing batteries' equipment began to arrive, the two battalion staffs were busy trying to identify "the threat" to our soldiers.

The Threat

Having deployed on six hour's notice, the advance parties of the cannon battalions had little time to conduct a standard intelligence preparation of the battlefield (IPB). Staff analysis begun at Fort Drum continued at the departure airfield and finally culminated in sector in Florida. Initially, the armed gangs prevalent to the Miami area seemed to be the greatest

threat to our troops, but that assessment soon changed.

As the lead vehicles drove off the ramp of the C-141 Starlifter, soldiers immediately noticed scores of downed power lines lying on the roads and flight aprons of Homestead Air Force Base. Similarly, aerial reconnaissance revealed that power lines and high-tension wires blocked roadways throughout southern Dade County.

Ground reconnaissance teams traveling throughout the battalions' assigned sectors reported the community was concerned about the quality of tap water and sewage was backing up. Pumping stations had no power, and automobile accidents were rampant because traffic lights were inoperative. Senior citizens were asking about medical supplies. Heat casualties were commonplace.

As the commanders and staffs began to analyze the spot reports, it became obvious the greatest "threat" to the force was the possibility that a soldier could be electrocuted or become a casualty due to contaminated drinking water. Commanders issued instructions to protect the force from waterborne diseases, electrocution, the stifling heat and traffic accidents. At that point, every 10th Div Arty Redleg in south Florida knew he would be deployed for some time and the greatest enemy was not armed gangs, but the environment in which he lived.

Task Force Organization

Within five days, the division had closed on the Dade County area and the magnitude of the effort had become readily apparent. Although our Redlegs were performing superbly, they did not, in all cases, have the skills to execute some of the missions. So the division augmented our battalions, making them Task Force (TF) 1-7 FA and TF 2-7 FA (see Figure 3).

Each battalion task force asked for and received one platoon of E/7 FA, our general support battery, to use for its transportation needs. This platoon more than doubled a 105-mm battalion's haul capability. We also received special forces psychological operations teams that gave us a much-needed language capability in both Spanish and Creole. Each task force received a Reserve Component civil affairs team to help gather information as the situation rapidly evolved with both private and government services coming on line daily. Finally, to complete each battalion task force, we received an engineer platoon of sappers with attached dump

Task Force 1-7 FA

- 1st Platoon, E Battery, 7th FA
- 1st Platoon, C Company, 41st Engineers
- Psychological Operations Team
- Civil Affairs Team
- Military Police Liaison Team

Task Force 2-7 FA

- 2d Platoon, E Battery, 7th FA
- 2d Platoon, C Company, 41st Engineers
- Psychological Operations Team
- Civil Affairs Team

Figure 3: Task Force Organization. This figure shows the organization of the 10th Mountain Div Arty's two task forces involved in humanitarian relief efforts for victims of Hurricane Andrew.

trucks. TF 1-7 FA also received a military police (MP) liaison team due to the high gang threat in its area of operations; TF 2-7 FA used MPs on a mission basis.

Sustaining the Force

The task forces searched for encampment areas in their sectors with one purpose in mind—force protection. Preparing for the "long haul," each task force searched for a suitable facility. TF 2-7 FA found an abandoned service station complex, complete with garage, parking area and quick access to US 1, a main north-south thoroughfare that traversed the Div Arty sector. TF 1-7 FA occupied Leisure Lake Park, a county facility in the center of its sector with plenty of parking and a covered pavilion for its tactical operations center (TOC).

The NCOs supervised clearing the two base camps of debris and got power and running water established. Military generators were acquired, and both base camps quickly erected security lights. Power was restored to sewage pumping stations so soldiers could use the latrines. Water trailers and reefer vans were brought to the base camps where cooks soon began to prepare two hot T-ration meals a day. Thanks to donations from local hardware stores, plumbing was eventually restored and shower stalls were constructed. After the water was tested, commanders ordered every soldier to take a daily bath. The chain of command scrutinized field sanitation.

Task force aid stations were set up in the base camps, and medical supplies were obtained from the humanitarian depot east of Homestead. Soldiers were ordered to drink a quart of water every hour, and a cool uniform (T-shirt with soft cap and pistol belt with two canteens) became the

standard. In a matter of days, Redlegs had secure, livable base camps they could retire to after 16-hour days. Rifles weren't necessary to perform the humanitarian assistance mission, and by the end of the second week, all weapons and sensitive items were stored in permanent arms rooms under guard.

And the civilian community was watching. In the Leisure Lake area, some civilians visited the TF commander and complained the Army was taking better care of its soldiers than it was the local population. The commander agreed. Complaints that the soldiers ate better food and had cleaner water (and ice) than their civilian neighbors were entirely true. A commander's first priority in a disaster relief operation *must* be the security and welfare of his force. One sergeant remarked, "We're kinda like missionaries; we have to take care of ourselves if we are to minister to the civilians for a long time."

Soon the complaints ceased, and Homestead and Dade County citizens had nothing but praise for "their" battalions. Weeks later when services were restored, many civilians brought food and sponsored barbecues in appreciation for the work the soldiers had done. As the community rebuilt itself, local citizens began to show great respect for the soldiers who continued to camp out in their neighborhoods.

Amazingly, neither task force lost a soldier to a disease or injury throughout Operation Hurricane Andrew Relief. Redleg NCOs performed the difficult mission of humanitarian assistance, and they took care of their cannoners just like they would in combat. In short, Redlegs did what Redlegs always do—only the cannons were absent.

Execution of the Relief Effort

After our first-day initial assessment, teams of soldiers began to go street-to-street to determine what types of assistance was needed. Some reported medicine was needed, while others reported food, water and ice were in great demand.

The most serious concern was the abundance of rotting garbage. It was literally everywhere, strewn throughout southern Florida. Refrigeration was non-existent, and the lack of garbage disposal posed a severe health hazard.

Unique cases also emerged. A local clinic reported five dog bites, and several elderly people were found in an apartment complex, desperate for their daily

doses of heart medicine that hadn't been delivered in several days.

In the task force operations centers, the staffs began to put the puzzle together. Liaison was made with Dade County, the City of Homestead, the division support command (DISCOM) and the Homestead Humanitarian Depot, which was receiving more food, medicine, hard goods and water than it could handle. Battery commanders were assigned sectors and prioritized missions. The first priority was the removal of all known health hazards in each sector. The second priority was helping local agencies and churches distribute food, water and limited numbers of hot meals. Third was door-to-door clearing of large debris, such as trees, roofs, fencing and storage sheds. By the end of the third week, the soldiers of the 10th Mountain Div Arty had literally sanitized more than 32 square miles of Dade County.

Special missions were then ordered. Redlegs cleared county parks, zoos, housing areas and recreation sites of all visible debris to help the county and city governments restore their "homeland." Garbage and debris were hauled to one of seven different landfills using five-ton prime movers or 20-ton trucks provided by the Army Corps of Engineers. By the end of the fourth week, every civilian organization in the sector had soldiers to provide labor, power generation, medical assistance, liaison or security. The county government soon found the fastest way to get a situation corrected was to "call those artillery guys from Fort Drum."

It was interesting to watch military staff skills transition from a combat focus to one of humanitarian assistance. Task force S2s briefed their commanders on gang activities, reports of gunfire, house fires and sites of decaying garbage rather than known or suspected enemy locations. S3s issued simple mission-oriented orders to assist a school principal, erect temporary road signs, divert transfer trucks from one sector to another or merely to "go find insulin and deliver it to Mrs. Smith at 1324 Meadow Street before 1200 hours."

The process worked because our doctrine has been tested in every situation imaginable during the last 50 years. Task force commanders and staffs used familiar analytical tools to solve complex problems. And battery commanders executed the missions quickly, professionally and courteously.

The task force headquarters and battery "base camp" technique proved to be extremely workable, providing maximum



TF 2-7 FA used an abandoned service station complex as its tactical operations center.

security for the force at night. By day, battery commanders augmented parochial or ethnic organizations in their sectors, "falling in" on civilian-controlled relief efforts already in place. This would become an important lesson learned, especially when the order to disengage and withdraw was issued. Government officials, hurricane victims themselves, had found a quick way to get things done in an orderly fashion without the use of force. Despite the sense of pride and accomplishment that comes from providing assistance, soldiers soon learned how to "help the community help itself," knowing their plane trip home depended on how well the community rebounded.

Disengagement and Battle Handover

By the last week in September, each task force was rapidly completing its mission in the Homestead city and county area immediately adjacent. We were issued a warning order to be prepared to relieve elements of the 82d Airborne Division to our north and began to coordinate the relief. However, we still had to disengage from our initial areas of operation.

We had to resolve issues with four critical elements to conduct "battle handover" to the civilians: utilities (power and water), debris removal, shelter (to include tent cities) and the availability of food (open food stores and relief agencies). Each element was rated red, amber or green, and when a battery sector was rated green in all categories, we were prepared to disengage. This preparation for withdrawal later allowed us to conduct a phased move to the north and kept our civilian friends from feeling as if we were abandoning them.

We ran into one problem that slightly hampered our disengagement. The problem

was caused by the initial assignment of task force areas of operations back on 31 August. At that time, TF 2-7 was given a portion of both Dade County and Homestead city, while TF 1-7 occupied an area only in Dade county. As the time to "disengage and hand off" approached, we learned that we couldn't go to just one government to coordinate our departure and that each government worked at a different pace. Little did we suspect that our boundaries established on 31 August would exacerbate our disengagement.

Finally, a diligent Div Arty staff coordinated our disengagement and helped us to hand over the sustainment mission to the humanitarian agencies in the area. We had learned a valuable lesson, one we put into practice in the north: Establish boundaries not only on clearly identifiable terrain features, but also along governmental boundaries. Counties and cities *do not* operate the same way.

The Move to the North

At the end of week five, the 10th Mountain Division received a familiar mission from the joint task force commander: "Conduct a relief-in-place with the 82d Airborne Division." Subsequent coordinating instructions included the phrase, "Do not allow the civilian population in the vicinity of Perrine or Cutler Ridge to experience any noticeable loss of support."

Methodically, each level of command conducted a mission analysis and soon the task forces of the 10th Div Arty found themselves moving approximately 15 miles north and assuming new sectors twice the size of their sectors near Homestead. Early joint reconnaissance with our counterparts in the 82d Division revealed the civilian population was uneasy about hand off from one unit to another. Like

their friends in Homestead, they had become accustomed to working with a particular group of soldiers, in this case from Fort Bragg, North Carolina. As the 82d prepared for redeployment, many citizens in Cutler Ridge stated they weren't ready for the Army to leave.

The relief-in-place occurred just as it would in combat, including the fragile hand off of command and control. Our task forces occupied what had been the sectors of two "plussed up" airborne infantry battalions and an airborne artillery battalion. Battalion staffs swapped information, maps, overlays and command posts. By the dark of night, a new commander assumed responsibility for the sector, and an outgoing commander deployed his soldiers to holding areas near Homestead Air Force Base.

Because key locations had been jointly manned by soldiers from two different divisions for several days, the community experienced a constant military presence at every food distribution site in the sector. The relief-in-place had been gradual, and except for differences in headgear, the citizens scarcely noticed the exchange of one military unit for another.

In the more affluent communities of Cutler Ridge and Perrine, the 82d Division had chosen to operate from several "company hubs" rather than from consolidated base camps. Hence, each battery commander found himself in charge of a hub, providing hot food, water, dry goods, medicine and sometimes supporting financial counseling centers manned by the Federal Emergency Management Agency (FEMA) or Red Cross volunteers.

During the previous weeks, tons of supplies had accumulated at each hub. Using psychological operations teams to canvass the neighborhoods, it became obvious the time had come to cut down on the supplies and diplomatically disengage. Redlegs now faced the arduous task of "weaning" the community from the support it had come to rely on.

Methodically, military hubs were consolidated and eventually closed. Tents came down, and tons of supplies were redistributed into the more needy areas of the community. Civil leaders were contacted, and many churches volunteered to take over the support provided by the hub commanders. Success was achieved when each mobile kitchen trailer (MKT) feeding site was replaced by a civilian food contractor, who served only one light meal per day. Goods and services were

- Plan for self-sufficiency; bring everything and think austerity.
- Deploy the decision makers early.
- Identify the non-standard threat.
- Protect the force; it must be able to perform regardless of the needs of the populace.
- Use military doctrine and structure; only the mission changes.
- Task organize at the lowest level to get the job done (psychological operations, military police, engineers and civil affairs teams at the battalion level).
- Establish boundaries not only along clearly identifiable terrain features, but along governmental boundaries as well.
- Don't expect local government support early-on; government employees are probably victims themselves.
- Liaison with government, relief agencies, churches, etc. becomes a combat multiplier.

Figure 4: Key Lessons Learned in Operation Hurricane Andrew Relief

delicately tapered until the community became self-sufficient.

The final task was to conduct both aerial and ground reconnaissance of the entire Div Arty sector searching for all government equipment issued through FEMA on a gratis basis before the Army arrived. Hundreds of general purpose (GP) medium tents and scores of 10-kilowatt generators were located, policed up and turned in to the DISCOM collection point. Additionally, hundreds of tons of supplies were turned in to the humanitarian depot in Homestead, at that time, completely managed by the Salvation Army, the American Red Cross and other civilian service providers. After seven weeks, the Redlegs of the 10th Mountain Div Arty rail loaded their equipment and flew back to Fort Drum in time to begin the cyclic cold weather training program the division is famous for.

Conclusion

We learned many lessons in Operation Hurricane Andrew Relief, as shown in Figure 4. One of the most important lessons our experience in south Florida confirmed was we can easily modify the Army's doctrine to meet the contingencies of a humanitarian assistance mission. Our success in the disaster relief arena was directly attributable to the military skills we frequently exercise at the Combat Training Centers (CTCs) and in our local training area at Fort Drum. Combat readiness was our greatest strength.

The cannons of the 1st and 2d Battalions had come to Florida not knowing what their nation required of them. They left knowing they had helped rebuild southern Florida. True to their regiment's motto, they had proven they were "Never Broken by Hardship or Battle."

Fittingly, when the division deployed to Somalia only nine weeks later, a full-page message of appreciation appeared in the post newspaper, *The Sentinel*. The message

thanked the soldiers of the 10th Mountain Division for all they had done previously and wished them safety and luck on their new humanitarian mission in Africa. Our soldiers quickly noticed the message was paid for by the citizens of south Dade County, Florida.



Lieutenant Colonel James T. Palmer has commanded the 1st Battalion, 7th Field Artillery, "The King of the Mountain" battalion, 10th Mountain Division (Light Infantry), Fort Drum, New York, since June of 1993. He served as Commander of Task Force 1-7 FA during Operation Hurricane Andrew Relief in south Florida. At Fort Drum, he served as Deputy Fire Support Coordinator for the division prior to assuming command of his battalion. Lieutenant Colonel Palmer commanded two batteries: one in Germany and one in the 4th Infantry Division (Mechanized) at Fort Carson, Colorado. He also served as Regimental Fire Support Officer for the 11th Armored Cavalry Regiment and as Chief of the Fire Support Element for V Corps Artillery, both positions in Germany.

Lieutenant Colonel Charles R. Rash commanded the 2d Battalion, 7th Field Artillery, 10th Mountain Division until June of 1993, during which time he was Commander of Task Force 2-7 FA in Operation Hurricane Andrew Relief. Lieutenant Colonel Rash currently is assigned to the Fire Support Division of the Office of the Deputy Chief of Staff for Operations and Plans in Washington, DC, as a Staff Officer working on theater missile defense attack operations and joint precision strike. He also commanded a Pershing battery in Germany and a battery in the 82d Airborne Division, Fort Bragg, North Carolina. Among other assignments, he was a battalion S2 and Fire Direction Officer in the 82d Division and a Pershing battalion Executive Officer in Germany. A graduate of the Armed Forces Staff College in Norfolk, Virginia, he holds a Master of Business Administration from Widener University in Pennsylvania.



Myths and Misconceptions about the Paladin

by Colonel John F. Rudman

As the Paladin has been tested and demonstrated and now is being fielded, there has been a lot of uncertainty about what the system will and won't do. The fallout has been too much speculation and too many misconceptions in the Field Artillery community about our premier cannon weapon system: the M109A6 Paladin.

The most frequently asked questions concern fire support procedures for Paladin and how maneuver should expect this new system to function. Along with these questions came some myths and misconceptions about the tactics, techniques and procedures the M109A6 uses. Sample questions: "It's just like MLRS [multiple-launch rocket system], right?" "How do you get accurate fires if you shoot while you're moving?" and "How does the S3 keep track of all 24 guns?"

This article attempts to dispel the myths and clean up the misconceptions about the Paladin that have grown over the past few years and help our branch "grab on to the train." Remember, Paladin is the father of the advanced Field Artillery system (AFAS).

From the Fire Supporter's Perspective

The basic fire support tasks of a Paladin battalion are identical to any M109 series battalion. The commander still adheres to the seven inherent responsibilities associated with his assigned mission. However, what's different in these areas and in the fundamentals of organizing artillery for combat is simply that the Paladin battalion can do it all quicker, more accurately and with a greater volume of fire.

The automated fire control system (AFCS) on board each howitzer allows it to maneuver and provide more accurate fires because it computes for *that* howitzer based on *that* howitzer's location, which is updated by the dynamic reference unit (DRU)/modular azimuth positioning system (MAPS) and vehicular motion sensor (VMS) on board. The improved M284 tube lets us shoot 30 kilometers, and the gun drive servos operated from the AFCS keyboard provides accurate, stable lay of the weapon. These technological improvements allow us to employ tactics that enhance our survivability, maximize available terrain and provide fires when called for—not predicated on lengthy occupation procedures.

We must remember we're in the business of massing fires. The battalion commander positions his platoons to support and fire. The S3 *manages* six platoons, not 24 howitzers. The platoons *manage* four howitzers as they maneuver *within* a controlled area. A howitzer pair maneuvers *within* its area *within* an assigned platoon "goose-egg," based on the factors of mission, enemy, terrain, troops and time available (METT-T).

Basically, there are two differences between a Paladin platoon and a 3x8 M109A3 platoon: extended fronts and enhanced use of terrain. While all this information is available in greater depth in our special text for Paladin—*ST 6-50-60 Tactics, Techniques and Procedures for the M109A6 (Paladin) Howitzer Section, Platoon, Battery and Battalion*, June 93—I'll address Paladin tactics here.

In the "old days," a platoon front could extend 300 to 400 meters but was dependent on line-of-sight to an aiming circle,

wire to the fire direction center (FDC) and camouflage for concealment. Emplacement and ready-to-fire times never reached the elusive six-minute, eight-minute or nine-minute standards desired. March order always required a "Prepare to..." and always took longer than we wanted (45 minutes seemed to be the going rate).

At the National Training Center (NTC), Fort Irwin, California, units became so concerned with the time needed to move and occupy that they took endless counterfire during the battle rather than move. The result: bad press for the artillery. If we sold "Wolf" tickets on how fast we could occupy, we couldn't live up to it. If we moved to support the maneuver forces and avoid counterfire, we missed the war.

Now, here comes Paladin. Take that 300-to-400-meter front and expand it to 1,000 to 2,000 meters. Instead of four guns on line, look at two pairs separated as far as necessary and emplaced where there's room for the howitzer and its Field Artillery ammunition support vehicle (FAASV). There's no wire line because each howitzer has two radios (digital and voice). There's no aiming circle because each uses its automation to lay on the ordered azimuth. Once the established movement criteria is met (based on METT-T) the howitzer pairs shift their positions *within* their sector *within* the platoon goose egg and get ready to fire again.

If the Paladins get a mission during a move, they stop, lay and fire. Instead of six to 20 minutes or (God forbid) one hour for a platoon to occupy, we have procedures for it to be ready to fire safely in 120 seconds or less. Moving missions (read hip shoots) can be done in 75 seconds from the time the Paladins receive the mission. Instead of 20 to 45 minutes to march order to a new position, the guns can start moving in less than one minute from "End of mission." As long as they are within range (based on the munitions available), the pairs can move within their goose egg indefinitely. If a tactical move is required, the battalion is not trapped into "leapfrogging" platoons to maintain support.

A Paladin on the move can stop, shoot and resume its ordered move whenever directed, on the road or off. Of course, there are limits: ammunition, fuel and navigation updates, the latter every 27 kilometers traveled. But as the S3 focuses on six platoons, he uses his combat artillery trains (CAT) and position and azimuth determining system (PADS) sections to keep him ahead of the game.

The commander ensures he can kill people and break things in vast quantities. He doesn't do that with platoons, he does

that with the battalion. He establishes the survivability move criteria and overrides the criteria when he fires schedules, groups and plans. He monitors the platoons' ammunition status via the tactical fire direction system (TACFIRE) and focuses on winning the battle.

Platoon FDCs are no longer mesmerized by the technical solution. The battery computer system (BCS) is now a relay and digital convenience to maintain the howitzer's status. The BCS becomes the backup to the AFCS and only is needed to verify firing data as a result of major database updates (tactical moves and changes in meteorological and muzzle velocity data).

The automated range safety system (ARSS) accurately computes safety in three to four minutes (during peacetime).



Thus, the fire direction officer (FDO) and his crew can focus on the tactical situation. Maybe now they'll even check the mysterious intervening crests and maintain the situation maps instead of spending all their time determining technical data.

Everyone's job is more focused. We have the opportunity to put battery commanders and first sergeants on the gun lines with platoon leaders and platoon sergeants, teaching, coaching and leading.

This howitzer has given us a window on the future and a window of opportunity to influence the battle more than ever before. With the Paladin, we can drop a battalion-five in the enemy's most vulnerable area, move and hit again before he can respond to the first attack.

From the Maneuver Commander's Perspective

Maneuver commanders will have to understand several important facts about Paladin employment. Paladins are most effective when massed, are more survivable and use more ammunition (thus, need more space at the ammunition transfer point). The Paladins' movements are controlled within the space provided, and they do more with the ground given. Using preclusion techniques, we can keep friendly forces safe from counterfire by

identifying any friendlies positioned near the Paladins that could be affected by a counterfire footprint on the howitzers and then adjusting positioning. The Paladins also use more fuel.

But most important, the Paladins accomplish the same missions, fire the same projectile families and adhere to the same set of responsibilities in formulating an organization for combat (although best suited for direct support). We just do it all better, faster, more accurately and with a better chance of surviving the first encounter.

Conclusion

Though brief, I hope this article discourages you from trying to rewrite doctrine to employ the Paladin. The system enhances the doctrine we have. The weapon keeps up in a movement-to-contact, responds to rear area threats, covers the zone and fires special missions for coordinating parties. It'll do whatever you ask.

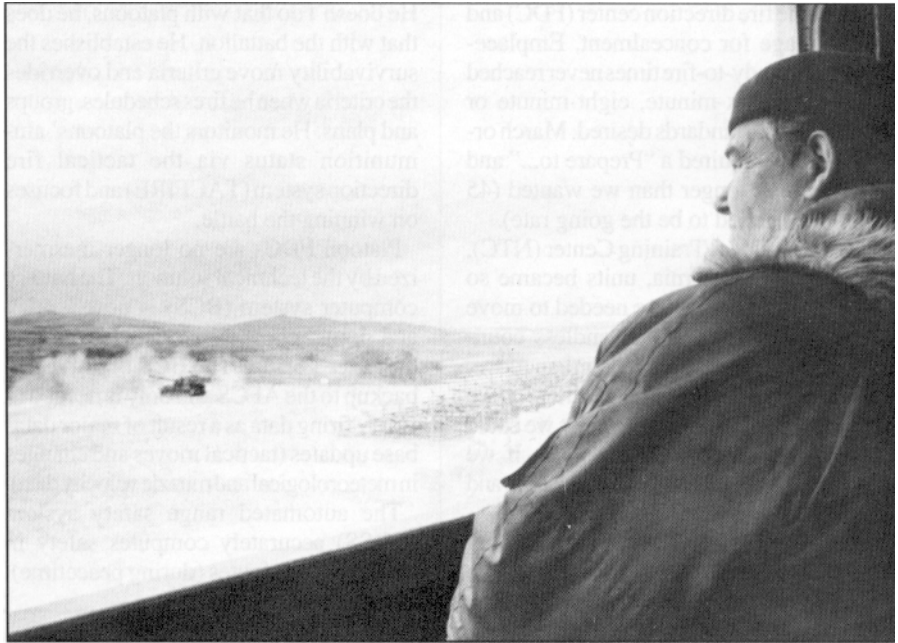
Our soldiers are the finest we've ever had and know how to make the Paladin sing. In fact, the only drawback we have is the "old guys" who don't take the time to stand in the gun or in the middle of a platoon and pay attention. Do it once and you'll understand. Never bother and you're doomed to ask questions you should know the answers to.



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A Russian Analysis of Warfare Leading to the Sixth Generation

by Major General (Retired)
Vladimir I. Slipchenko,
Federation of Russia



Analysis of the history of wars and military conflicts shows alternating between war and peace is a natural and even, to some extent, the usual state. Wars have rarely stopped completely.

Wars and military conflicts have developed from ancient times to the present, evolving through at least five "generations." The divisions between these generations generally coincide with the development of forms and methods of armed force occasioned by the appearance of radically new weapons.

The impending sixth generation of warfare, with its centerpiece of superior data-processing to support precision smart weaponry, will radically change military capabilities and, once again, alter the character of warfare. Future wars will see smart precision conventional weapons destroying precisely located targets, limiting casualties while defeating the enemy militarily and politically with, in most

cases, no need to occupy enemy territory. Military operations will be space-based with greatly expanded command and control, electronic and air defense warfare, automated data communications and reconnaissance capabilities. Though the employment of nuclear weapons is receding as we move toward sixth-generation warfare, their complete elimination is inadvisable at this time.

As Clausewitz remarked, every age has its own wars. And these wars have always been the offspring of politics. History confirms that wars of every generation have been the instruments of politics—used to try to correct the mistakes of politicians.

The First Five Generations of Warfare

Historically speaking, first-generation wars were during the periods of slaveholding and feudal societies, which were based on more primitive technological production. The forces of the warring states fought as infantry and cavalry without firearms.

Second-generation wars were the result of the expansion of technological production and the appearance of gunpowder and smoothbore firearms.

Rifled small arms and tube artillery having longer ranges, faster rates of fire, greater accuracies and more firepower led to third-generation wars.

The introduction of automatic weapons, tanks and military aircraft and the appearance of powerful new transport means and signal equipment brought about fourth-generation wars.

The scientific and technological revolution of the last 40 or 50 years has endowed the military with the nuclear missile, the basis for fifth-generation wars. This generation of war, if ever unleashed, would be the last in the evolution of wars and the last on our planet. It not only would exceed the bounds of the politics that caused it, but also lead to the end of all politics.

All wars of the pre-nuclear generations had the main objective of defeating the armed forces of the opposing side because they didn't have the means to attack the entire territory, both military and civilian targets, at the same time. The nuclear age changed all that. First-priority targets for nuclear missiles are not only armed forces, but simultaneously the territory and population of the warring sides. To be more precise, the combat arena in a nuclear missile war is earth, including her oceans and seas, atmosphere and surrounding space.

It's clear the catastrophic consequences of this kind of war have rendered it impossible—literally a deadend. We are trying to find a way out of this nuclear weapons predicament. Military theory has been

“The impending sixth generation of warfare, with its centerpiece of superior data-processing to support precision smart weaponry, will radically change military capabilities and, once again, alter the character of warfare.”

developing and investigating concepts for sixth-generation wars that replace nuclear weapons with precision conventional weapons or weapons based on new physical principles. Modern science has already achieved precision conventional weapons systems whose destructive capability approaches that of nuclear weapons but without the dangerous ecological consequences.

This, in principle, completely changes the character of possible wars. The barrier that long has stood between nuclear and conventional weapons has been destroyed.

The Sixth Generation of Warfare

In previous generations of warfare, armed force has changed in the direction of increasing casualties. At first, only the armed forces of the warring sides were attacked, but later, targets such as the population, economy and the natural environment were added. Sixth generation warfare will limit casualties and peripheral damage by precisely destroying only those targets calculated to defeat the enemy militarily and politically.

Wars of the future, if they break out, would probably be waged only by the most developed countries according to scenarios already outlined and the subject of military investigation and scientific discussion. It can be predicted with high probability that by the turn of the century and millennium, the most developed countries—first the United States of America—will be able to wage a sixth-generation war. That war would begin and proceed in an entirely new way. A period of reevaluating the current generation has begun, not only in terms of nuclear and conventional weapons, but also in the composition of armed forces.

The next 10 or 12 years are expected to produce significant armament and military equipment developments that will lead to radical changes in the character of war. As the newest precision weapons under development and testing enter the inventory, there also will be changes in the structure of armed forces and the forms and methods of their employment. In addition, the development of other types of armaments will continue, also entering the inventory by the turn of the century: directed-energy weapons, automatic and automated high-precision weapons systems, more powerful explosives, deep-penetration ammunition and, of course, super high-speed data processing and electronic warfare equipment.

“ The Gulf War was probably the first meeting of two generations of war: the Iraqi war of the past (fourth generation) and the coalition forces' new war (sixth generation—though not yet in the fullest sense). ”

Space will become a new theater of military operations, even as we significantly reduce offensive nuclear weapons. These nuclear weapons will be replaced by conventional offensive strategic armament. Gradually, large ground-force operations and nuclear missiles will recede, being replaced by high-precision conventional weapons. Weapons like these already have been developed by the most advanced countries—for example, air- and sea-based cruise missiles. Current plans obviously call for accumulating these weapons in sufficient quantities to achieve operational goals initially and strategic goals subsequently.

The development of microelectronics to its current level also has expanded the possibilities for the further development of new precision weapons. These weapons will be developed using automated design planning systems. Such technology will facilitate solving the many complicated problems associated with selecting a design from a multiplicity of possible versions. For example, designing radar-transparent (invisible) means of armed combat requires designers consider the problems of making those systems "invisible." Their invisibility has to be balanced against other characteristics, such as aerodynamics, maneuverability, reliability and cost.

Foretelling the Future. When the United States and her allies conducted Operation Desert Storm, many of us in Russia saw the television clips taken from the nose-cones of cruise missiles and were convinced of the exceptional accuracy of those missiles. At that time, all television channels repeatedly aired the clip that showed one cruise missile knocking a hole in the wall of an Iraqi power station and a second missile going through the hole into the station and exploding. One does not need to be an expert to realize these missiles are accurate to within several dozen centimeters.

In our opinion, the Persian Gulf War was a unique laboratory for developing the technology of waging the war of the future. The Gulf War was probably the

first meeting of two generations of war: the Iraqi war of the past (fourth generation) and the coalition forces' new war (sixth generation—though not yet in the fullest sense).

Iraq had prepared for the war of the past and was well-armed for waging it. But the forces the Iraqis faced fought a different kind of war, not quite a sixth generation of war, but with features of that future war. And for Iraq, this was catastrophic.

Ascendancy of Aerospace Operations. The development of the war of the future (sixth generation) has changed the laws of armed combat and the principles of military art—changed the very coordinates of war. In wars of past generations, including the fifth, the main efforts of the warring sides were confined to the earth's surface: the width and depth of the offense or defense; the vertical coordinate (primarily air) was auxiliary or only supporting. But in the future wars, the emphasis will be reversed. The main efforts in future armed combat will be concentrated on the vertical or aerospace coordinate, and efforts on the ground will become supporting.

The role of the ground forces will change. Past generation wars relied on ground forces to carry the main combat load and achieve victory by routing the enemy's armed forces and destroying his economic potential and political system. This involved extensive casualties and required occupation. Future wars generally won't require occupation. It will be enough to use non-nuclear strategic offensive weapons to inflict serious losses on the enemy's most important military and economic facilities and counterattack assets; his political system will disintegrate on its own. While the role of ground forces is receding into the background, the spotlight is now on the air force, navy, air defense and electronic warfare.

Air force operations have changed. In past-generation wars, aviation played a large role, which gradually evolved from purely supporting ground forces to acting independently in offensive air operations. But these air operations still were auxiliary

as the main efforts were entrusted to ground forces. Offensive air operations were planned to last three to five days and include six or seven mass strikes, after which it was necessary to switch to a ground offensive.

Future wars will start and, for all practical purposes, conclude with a long aerospace offensive operation in conjunction with operations or smaller scale actions by naval strike assets. An operation like this would last 40 to 60 days or more, meeting existing standards for defining an operation, and truly be an aerospace operation.

The role of space-based personnel and resources will be large and multifaceted. Space will be the base for conducting continuous reconnaissance and the channel for capabilities such as command, control and communications; missile attack warning; weather information; navigation; and electronic warfare.

Electronic warfare is expected to expand its level of contribution. From a support activity, it will change into an independent form of operational-strategic activities. Its goals, missions, personnel and materiel will be very tightly integrated and fully coordinated on all fronts with the actions of attacking and defending personnel and materiel.

Future wars will feature electronic warfare operations. This kind of operation will begin several days or hours before the aerospace operation, continue along with the aerospace operation for its 40- to 60-day duration and conclude only after a cease-fire. Electronic warfare operations will create exceptionally high-powered concentrations of spot and barrage jamming that will all but preclude any enemy from using radar, signal or other radio-electronic means and systems.

Extensive changes will occur in air defense. Air defense was created for waging past-generation wars and was basically oriented toward protecting ground forces and facilities against piloted aircraft. In future wars, the main efforts of air defense will be against unmanned air threats, such as cruise missiles and high-precision weapons aimed at military and industrial targets.

Pilots will become "ammunition deliverymen," supplying the launch line with precision ordnance. They'll fly at extremely low altitudes with a broad range of speed and maneuver capabilities and be almost transparent ("stealth" technology) to the enemy's radio-electronic detection and aiming equipment. Precision

“ The main efforts in future armed combat will be concentrated on the vertical or aerospace coordinate, and efforts on the ground will become supporting. ”

ordnance also will be launched from navy surface ships and submarines and will be able to hit any target precisely with an accurately determined location, day or night in any weather. One can almost say that, in future wars, aerospace operations will be conducted without airplanes.

Obviously, such operations only would be against a modern technologically developed enemy. Wars against weaker enemies still will include piloted aircraft. After the special operation is over and air superiority has been gained in the first hours of the war, piloted airplanes would operate freely over the enemy territory. In this case, precision unmanned means can, depending on the missions, constitute some part of the total materiel in the offensive aerospace operation. However, for the most part, future wars will entrust the main efforts to a massive quantity of short-, medium-, long- and intercontinental-range smart precision weapons.

Clearly, it's necessary in the foreseeable future to create non-nuclear strategic weapons. They'll gradually supplant the modern strategic nuclear triad, which continuously will be curtailed and eliminated in the treaty process.

This article doesn't dwell on the role of nuclear weapons in the future—the subject of a separate article. But I must say the complete elimination of nuclear weapons would be very difficult and even, at this point, inadvisable; a sixth-generation armed force could face a fifth-generation force equipped with and more than willing to employ nuclear weapons. Also, there's still the danger that the new conventional precision weapons could strike existing nuclear forces and assets and detonate a nuclear war.

The Computerization Future. Special attention should be given to the computerization of armed combat in future wars. Smart weapons will replace large groupings



PVT Scott Evers

Major General Slipchenko watching a Paladin live-fire demonstration while at Fort Sill in March.

of personnel and require various data-processing complexes for reconnaissance, command and control, high-precision strike and electronic warfare capabilities.

Reconnaissance will be conducted with the extensive use of space-, air-, sea- and ground-based reconnaissance forces and assets. Among the many reconnaissance missions, the most important will be continuously observing the enemy's radar and signal assets and tracking his movements in the theater of operations. Even back in the 1960s, space had firmly secured its place as a location from which to conduct military reconnaissance.

Command and control of ground troops (insofar as they still exist), naval and air forces and other assets will be performed from airborne or space-based command posts. There will be a sharp increase in the number of command and control and long-range radar-detection airplanes. Data traffic will be controlled and exchanged among all command links at all levels by automatic or automated systems that include satellite equipment.

Space is of great military significance not only for supporting military operations on the earth, but also as a theater of military operations for employing non-nuclear weapons against facilities and targets in terrestrial theaters of operations.

Future armed combat will extensively use reconnaissance-strike complexes based on space data systems; ground or air weapons (missile complexes or precision cruise missiles); and ground-, air- or space-based command and control equipment for these complexes. In addition, this kind of combat requires navigation of

each precision weapon. It's obvious future armed combat will include waging a unique "information war" or "data fight."

Historically, military success always follows superiority in some particular arm or weapon. For example, success in World War I was achieved by superiority in ground-based fire weapons and in World War II, by superiority in air attack weapons. In the future, success will depend on superiority in data-processing equipment and its efficiency in disrupting enemy force and weapon command and control. On the other hand, the jam-proofing level of radio-electronic and air defense equipment will become an important factor, if not a decisive one, in determining armed combat efficiency as a whole.

Tactics and Strategy. Future war will change many ideas about tactics, operational art and strategy. War will be conducted simultaneously over the entire theater of operations. It will be difficult to mark lines and flanks. Terms like "front" and "rear" will be supplanted by concepts like "subject to attack" and "not subject to attack." It will be difficult to draw the line between operational art and strategy.

In past-generation wars, victory required occupation of enemy territory; it was necessary for soldiers' boots to tread on enemy soil. Sometimes occupation lasted many years, and it was enormously expensive to maintain the troops in the occupied territory and keep them in a high state of readiness.

In the war we've been examining, victory can be achieved without occupation—just by conducting offensive aerospace and electronic warfare operations and winning the data fight.

Moving Toward High-Tech Warfare

Today, the main threat to the security of a considerable number of countries is their backwardness in developing and rapidly accepting massive quantities of the latest precision weapons and data processing

“ Terms like "front" and "rear" will be supplanted by concepts like "subject to attack" and "not subject to attack." It will be difficult to draw the line between operational art and strategy. ”

and electronic warfare equipment. If they remain backward, they'll end up behind the world's more developed countries by a whole generation of weapons. They'll have to gamble on personnel and old forms and methods of combat action. Armed combat between enemies of different war generations will undoubtedly be won by the side armed with the latest smart weapons. With sixth-generation warfare, gone will be the need to maintain large troop formations and keep up a correlation of troops and materiel.

The sixth-generation, as presented, is a war of the future. When it will be reality depends on many factors. Every sovereign state will go its own way based on its own capabilities. However, armed combat theory (which still hasn't become a science) must look to the future, for we're laying the foundations of the future today.

Undoubtedly, not every country will be able to develop or implement the new technology. Some will have to hold on to the capability of waging fifth-generation war—gamble on their nuclear weapons. Others more economically backward will bet on chemical weapons. Therefore, in the foreseeable future, nuclear and chemical disarmament will proceed slowly in the face of opposition from a number of countries. Moreover, the "nuclear club" will expand with the entrance of countries that create primitive nuclear weapons in relatively small quantities. For a long time, world conditions will persist whereby the outbreak of war will result in armed combat between different generations of warfare.

Because of their economic potential and capabilities to design and produce the required high-tech systems, a number of

countries could join the United States and Russia in the group able to wage sixth-generation war. The first new members might be Japan, China, South Korea and Israel, to be followed by India, Pakistan, etc.

As sixth-generation warfare emerges, a completely new geopolitical strategy will appear. Internationally, we'll need to find new solutions to unique problems of national sovereignty—new ways to ensure peace.



Major General (Retired) Vladimir I. Slipchenko, Russian Federation, is the Chief of the Research Department of the General Staff Academy of the Russian Armed Forces. In that capacity, he has supervised 21 candidates of military science and three doctors of military science (the equivalent of US master's and doctorate degrees). He holds a Doctorate of Military Science and is a Corresponding Member of the Academy of Natural Sciences in Moscow. Previous assignments include service on the General Staff, teaching in the Military Engineering Academy of Air Defense in Kharkov and command and staff positions with the Troops of Air Defense. Major General Slipchenko was commissioned from the Kiev School of Self-Propelled Artillery and is a graduate of both the Military Engineer Academy of Air Defense and the Military Academy of the General Staff. He, along with General of the Army Makhmut A. Gareev, whose interview "Fighting with Fires—The Russian Way" appeared in the August edition, and Captain Edward G. Shevelev of the Russian Navy visited Fort Sill, Oklahoma, in March of this year. Major General Slipchenko retired from active duty in July.

RIGHT BY PIECE

NOTES FROM UNITS

Airborne Artillery and Operation Leatherneck-Ranger

The US Air Force C-141 Starlifter races across the dark California sky only 800 feet above the rocky desert ground. On board stand Army Rangers and "Warriors" of the 1st Battalion, 39th Field Artillery Regiment (Airborne) from Fort

Bragg, North Carolina. They strain under the weight of their equipment in the blacked out interior of the aircraft as the wind roars in through the open paratrooper doors.

A muffled command sounds and the aircraft empties as soldiers

leap into the night sky. The airborne artillerymen quickly check their canopies and begin to scan the desert below. They spot the dark shadows and tiny blue lights and "pull a slip" toward their targets as they rush toward the ground.

Shaking off the impact, the paratroopers claw free from their parachute harnesses and sprint toward their destination. Under the blue chemlights in the middle of the drop zone are three M198 155-mm towed howitzers stowed in their heavy drop configurations.

The cannoneers scramble to place the the first weapon into operation as the gunnery sergeant quickly sets up an aiming circle. The 18,000-plus pound howitzers are traversed out of their stowed positions and manhandled on to the azimuth of fire. The fire direction center (FDC) section assembles behind the howitzer. The global positioning system (GPS) confirms their location. The firing chart is laid while the radio-telephone operator (RTO) immediately establishes communications with the Rangers. An assortment of ammunition is prepared, and the first howitzer is laid and ready to fire less than 20 minutes after the first paratrooper exited the aircraft.

Operation Leatherneck-Ranger is underway with the 1st Platoon, B Battery, 1st Battalion, 39th Field Artillery Regiment (1/B/1-39 FAR) attached to the 75th Ranger Regiment, which has its headquarters at Fort Benning, Georgia. The attachment added a forced-entry, all-weather fire support capability with a 30-kilometer reach—a true combat multiplier.

The 1/B/1-39 FAR participated in Operation Leatherneck-Ranger from 16 November to 20 November 1992. The joint task force exercise was held at the Marine Corps Air Ground Combat Center (MCAGCC), Twenty-Nine Palms, California. Other units participating in the operation included the 1st and 3d Battalions and Headquarters of the 75th Ranger Regiment; elements of the 1st Marine Expeditionary Force (1 MEF), Camp Pendleton, California; elements of the 7th Infantry Division (Light), Fort Ord, California; 12th Special Forces Group, a US Army Reserve unit with its headquarters in Illinois; 5th Special Operations Support Command and 528th Special Operations



Battery B, 1-39 FAR prepares to fire at Twenty-Nine Palms during Operation Leatherneck-Ranger.

Support Battalion, both from Fort Bragg; and many aircraft of the US Air Force, Navy, Marines and Army.

Operation Leatherneck-Ranger evaluated the readiness, training and ability of units to work together as a joint task force in low-intensity conflict. The operation involved airborne, air-land and ground assaults onto designated objectives and the exfiltration of all units after the attacks. This five-day live-fire exercise provided valuable joint training and lessons for the more than 2,000 soldiers and Marines who participated.

The 1-39 FAR, part of the 18th Field Artillery Brigade (Airborne), XVIII Airborne Corps Artillery, is the Army's only airborne 155-mm howitzer battalion. The battalion has an 18-hour, worldwide, rapid-deployment mission in general support of the XVIII Airborne Corps with a habitual association with the 82d Airborne Division. The battalion's 24 M198 155-mm howitzers are organized in a 3x8 configuration with both headquarters and service batteries. The battalion's most recent combat action was during Operation Desert Storm where it delivered fires in support of the 6th Light Armored Division (French) and the 82d Airborne Division.

For Operation Leatherneck-Ranger, the 1st Platoon of B Battery was comprised of four M198 howitzer sections, the platoon headquarters, a two-man survey section, two-man maintenance section and two-man metro section attached from Headquarters Battery, 18th Field Artillery Brigade (Airborne), for a total of 65 personnel.

Preparations. The coordination for this mission began almost six months in advance. Because Rangers normally don't include a platoon of 155-mm howitzers in an airborne assault package, they required information on airlift and logistical support requirements. The platoon's range of fire support capabilities also had to be identified and then integrated into the operational plan. Much of this predeployment coordination was conducted by the B Battery commander in four planning conferences during September, October and November.

The platoon's training program for this operation was slightly different than normal in that it usually doesn't perform the direct-support mission. However, in the months before Leatherneck-Ranger, the FDC concentrated on direct-support training. B Battery also conducted two drop-zone rehearsals and increased the amount of out-of-traverse training during battery field exercises.

The deployment of the platoon to Twenty-Nine Palms and the MCAGCC occurred in two phases. The first required 22 soldiers to deploy to Fort Benning where they cross-loaded onto five aircraft with Rangers from the 3d Battalion for the airborne assault. The second phase deployed from Pope Air Force Base, North Carolina, and included the M198 howitzers rigged for heavy drop.

The Fight. The night airborne assault occurred on schedule; however, due to a technical problem, one of the platoon's howitzers wasn't dropped, and the personnel on that C-5 Galaxy jumped in during a follow-on mission.

The platoon's first mission was to provide direct support to the 3d Battalion, 75th Rangers. Day One's missions were fired in support of company-sized attacks on two objectives, including 10-minute preparations on both objectives. The Ranger's fire support officers (FSOs) planned both objectives to be fired as a

group. The platoon shifted fires onto other planned targets as the Rangers secured the objectives and then fired while units moved to hide positions. The platoon fired almost 300 rounds in support of this part of the operation.

Once the Rangers were in hide positions, the platoon moved 30 kilometers and dry-fired planned targets in support of two simultaneous company attacks. To support both attacks, the platoon leader had to position at least two howitzers to facilitate rapid out-of-traverse firing.

After the Rangers were again in hide sites, the platoon moved 15 kilometers to its final position where it fired in support of a Marine company from the 3d Light Armored Infantry (LAI) Battalion. The company's mission was to conduct screening operations during exfiltrations of units. The change from Ranger to Marine forward observers went without incident. The platoon fired more than 150 rounds in support of the Marines during this screening operation. The platoon then conducted a 20-kilometer night exfiltration to the Marine expeditionary airfield where the operation ended and the platoon prepared for redeployment to Fort Bragg.

Nonstandard Operations. Several aspects of the mission that were nonstandard included the platoon's having a direct support mission, the lack of a designated impact area, the monitoring and clearance of all fire missions and the requirement for logistical self-sustainment.

The platoon was attached to the 75th Ranger Regiment throughout the operation. Although the platoon's usual mission is general support, it performed the direct-support mission well. However, the firing platoon didn't provide observers or fire support officers to the supported unit; the Rangers or Marines provided them.

Live fire at the MCAGCC is very different from that at Fort Bragg or other posts due to the fact there's no "impact area" specified—the entire training area is an impact area. The platoon maintained a 6400-mil capability throughout the exercise. The platoon FDC had to maintain an up-to-date situation map with all unit locations, proposed locations and movement routes carefully plotted. Firing data computations had to be precise because the gunnery solution couldn't be verified by a safety box.

Additionally, all fire missions had to be cleared by the Ranger battalion's FSO. The platoon had to monitor both the company and battalion observed fire nets along with the 75th Regiment's fire support net during the entire operation.

Logistical support was an important consideration. A Ranger regiment can't sustain itself for long without resupply, so the platoon deployed with five days of supplies. Had the exercise lasted longer, the platoon would have had to make provisions for acquiring parts.

The lessons learned from this exercise have enabled the 1-39 FAR to operate jointly with special operations forces and Marines in low-intensity conflict. It was, hopefully, the first of many joint exercises to practice giving joint forces the unique forced-entry, all-weather airborne fires the 1-39 FAR is known for. *Warriors All the Way—Airborne!*

CPT Christopher M. Ionta, FA

Cdr, B Btry, 1-39 FAR (Abn)

1LT Jay E. Knox, FA

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Fort Bragg, NC

NCOs Lead the Way: M119A1 Fielding in the Air Assault Division

The 3d Battalion, 320th Field Artillery of the 101st Airborne Division (Air Assault) Artillery, Fort Campbell, Kentucky, recently fielded the M119A1 light towed 105-mm howitzer, and NCOs led the way.

From a systems perspective, this howitzer increased our range and accuracy as compared to our M102 howitzers. From a training perspective, the howitzer crew certification process empowered the Red Knight Battalion's NCOs to plan and execute training and assess individual and collective proficiency with this unique weapon system. The M119A1 howitzer fielding occurred in three phases.

Phase I: Deprocessing and Initial Servicing. Although deprocessing the 18 M119A1s was largely accomplished by external agencies, this initial phase was our first opportunity to become familiar with the new equipment, associating procedures and illustrations studied in manuals with the actual equipment. Each howitzer mechanic (13BU6) in direct support maintenance followed his howitzer from receipt through the issue to its assigned section. Meanwhile, leaders began refining unit training plans.

The Red Knight Battalion's readiness to deploy with M102s was ensured through the storage and maintenance of howitzers



A M119A1 occupies a firing position via Blackhawk.

and section equipment in a separate, sterile facility. During the M119A1 fielding, the battalion tested its deployment readiness with the M102 through the alert, out-load and strategic fly-away of one of its firing batteries in accordance with our 18-hour deployment readiness sequence.

Phase II: Five-Week Training Program. Crew training and live-fire certification immediately followed howitzer

deprocessing. New equipment training teams (NETTs) from the Army Materiel Command, Washington, DC, and the US Army Field Artillery School, Fort Sill, Oklahoma, conducted three courses to train the trainers, crews and mechanics in each section.

Howitzer crew certification began with two weeks of intensive training on individual duties and crew drills in accordance with the M119A1 operator's manual (TM 9-1015-252-10). Howitzer section chiefs were accountable for cannoneer and crew proficiency in emplacing and preparing the howitzers to fire. Crews mastered rigging and sling-load operations in preparation for deliberate air assault operations and air assault artillery raids. Firing batteries reviewed tactical occupation and delivery of fires tasks in detail. The battalion also conducted leader training in the five requirements for accurate and predicted fire in its weekly officer professional development program.

The results of these activities were the renewal of leader skills in the basic procedures outlined in doctrine and unit tactical standing operating procedures (TACSOPs). While crews trained in the field, the Red Knight Battle staff revised the battalion's TACSOP. Artillery gunnery safety certification tests also were revised and administered to all members of the artillery firing chain of command.

Formal crew certification came at the end of this two-week training period. The division artillery command sergeant major (CSM) prescribed the training objectives, and under the tutelage of the Red Knight CSM, the battalion's senior NCOs developed the tasks, conditions and standards of the certification plan. The major components included a written test, preparation of the M119A1 for ground movement, deliberate occupation and emplacement of the howitzer, crew drill in the delivery of fires (dry-fire missions with the gun display unit), rigging the M119A1 for air assault operations and a review of howitzer layout and crew survivability. Evaluations were first during daylight hours and then at dark. A modified version of the gunner's test (FM 6-50) was administered to all gunners and was the hands-on safety certification of the firing chain of command.

With dry-fire certification completed, the firing batteries prepared for a week-long live-fire training exercise. In addition to battery tactical operations and delivery of fire tasks, each unit conducted deliberate air assault operations with the CH-47D Chinook helicopter and air assault artillery raids with the UH-60 Blackhawk helicopter. Daily after-action reviews conducted by leaders at all echelons enabled us to share lessons learned at the firing point and enhanced our collective confidence in the howitzer's capabilities.

The fifth week of crew training was the live-fire certification of the 18 howitzer sections. Similar to the dry-fire process, the



Howitzer sections prepare for section certification.

battalion's senior NCOs conducted the evaluations. Major components included preparation for ground movement, occupation and emplacement, execution of selected delivery of fire tasks, rigging the howitzer for air assault operations and direct fire procedures. As with the dry-fire evaluation, NCO evaluators paid particular attention to standardized procedures and established crew drills.

On 8 January 1993, all 18 howitzer sections completed their live-fire training—certifying the Red Knight Battalion with M119A1s is ready to deploy worldwide in response to any contingency operation.

Phase III: M102 Turn-In and M119A1 Sustainment Training Planning. While turning in the M102s, the battalion planned M119A1 sustainment training, identifying critical section tasks to be performed to standard for a crew to maintain certification. These critical collective tasks focused individual, crew and firing battery training events. In preparation for firing battery Eagle Fire IIIs (standard external evaluations), we scheduled and resourced several battery-level field training exercises. Adhering to standards and established procedures allayed the effects of personnel turnovers and enhanced our proficiency in all training. We also refined SOPs with monthly standardization reviews conducted by the division artillery CSM.

Conclusion. Fielding the M119A1 light howitzer presented challenges and opportunities and strengthened the battalion's leaders in many ways. Leaders renewed their skills in the fundamentals of accurate and predicted fire and applied those principles to this new weapon system. NCOs were accountable for establishing and enforcing rigid standards.

The delivery of devastating fires at precisely the right time and place to meet the maneuver commander's intent has been guaranteed with the M119A1 light towed howitzer. The Red Knights continue to live up to their motto: *Time on Target!*

NCOs, 3d Battalion, 320th Field Artillery
101st Airborne Division (Air Assault) Artillery
Fort Campbell, KY

VIEW FROM THE BLOCKHOUSE

FROM THE SCHOOL

Multimedia Technologies to Train the Total FA

By 1995, the Army will be the smallest it has been since 1939 and two out of every three Field Artillerymen will be in the Reserve Component (RC). Add the dramatic drop in training dollars, and we have a mandate to devise new ways to

train *all* Redlegs for any contingency in the 21st century—and train them to standard.

The Field Artillery School, Fort Sill, Oklahoma, is taking the training challenge seriously by piloting the Army's model for

Linda Young



Charlene Tahdoohnippah broadcasts equipment training being conducted in front of her in the TNET bay area. Note the TNET satellite dish in the background.

standardized training for the total Field Artillery using distributed training multimedia technologies. The model literally tears down the schoolhouse walls and delivers training directly to individuals and units throughout the world. The model has three components: occupational training strategy, training on demand and multimedia learning centers.

Occupational Training Strategy. Starting in FY 94, the FA School is developing a single program of instruction (POI) for Active Component (AC) and RC soldiers for each military occupational specialty (MOS) in Career Management Field (CMF) 13. Each MOS POI will map individual training requirements from the soldier's initial entry to departure from service. It will standardize training for AC and RC soldiers, using distributed training products, such as print, video tape, computer-based instruction and video teletraining. The distributed training materials to be developed specifically for RC soldiers will focus on pre-resident, enhancement of resident and sustainment training.

To implement the occupational training strategy, the CMF 13 POIs for AC and RC courses will be reconfigured and consolidated during the next three years. Beginning this month and continuing through FY 94, an AC/RC POI will be developed for each of the following MOSs: 13F Fire Support Specialist, 13M Multiple-Launch Rocket System (MLRS) Crewmember, 13P MLRS Fire Direction Specialist, 13B Cannon Crewmember, 131A FA Targeting Technician Warrant Officer and 13A Field Artillery Officer. The other CMF 13 MOSs' POIs will be reconfigured through FY 96. All the MOS POIs will be developed into modular courses to accommodate RC inactive duty training (IDT) and active duty for training (ADT) requirements.

Training on Demand. Regardless of how effective the MOS courses are, we'll always need training on demand. For such training, the model uses the Army's teletraining network (TNET) system—satellite technology that extends classroom time to seven days per week, 24 hours per day. TNET gives full broadcast quality and allows two-way audio-visual communications with 16 sites simultaneously and any number of sites one way. It can transmit view graphs, VHS tapes,

graphics, digital data, simulations and has a mobile camera to transmit from a bay area or even the field.

In addition to portions of resident training, we'll offer through TNET the Staff Officer Refresher Course (SORC); RC Training Institution (RCTI); technical instructor certification; portions of new equipment training (NET) and training for pre-mobilization, automated administrative systems, environmental awareness and logistical support. Classes also will be taught from remote sites, such as the Health Services Command, San Antonio, Texas; Professional Education Center, Little Rock, Arkansas; and Regional Maintenance Center, Salina, Kansas.

The capabilities of TNET to train hands-on tasks have been proven in several demonstrations. With the FA School connected through TNET to remote sites, students were trained on the single-channel ground and airborne radio system (SINGARS) and the lightweight computer unit (LCU), including sending and receiving LCU screens and digital data. Another demonstration showed the effectiveness of TNET for familiarization training of the forward entry device (FED) before fielding. By using TNET in conjunction with the embedded training in the advanced FA tactical data system (AFATDS), the Army potentially could save 30 to 50 percent on manpower costs during AFATDS' fielding, starting in FY 96.

Broadcasts at the FA School's TNET site began the first of this month. Other sites in the distributed training test region will come on-line at various times throughout FY 94.

Multimedia Learning Centers. The Field Artillery School is designing the Army's pilot regional network of multimedia learning centers to deliver and distribute training materials in a four-state area: Oklahoma, Texas, Kansas and Arkansas. Oklahoma and Texas will have six learning centers each while Kansas and Arkansas will have three each.

Each center will have state-of-the-art hardware and software, electronic media capabilities and a TNET studio. We'll distribute not only multimedia training from the Field Artillery School, but from other branches of the Army as well.

The learning centers will be operational by October 1994. Similar learning centers are projected to be operational Army-wide by FY 98.

In addition, we'll offer college courses for credit. We're working with a local university to offer associate's degrees to NCOs in the four-state region. By 1994, NCOs (who can get up to 48 hours of college credit for their military technical training, including the advanced NCO course, or ANCO) will be able to complete the additional 12 to 15 hours of general college work over TNET for an associate's degree. Thus, by the end of an NCO's 12th year of service, he can complete an associate's degree.

The Field Artillery must have vision to meet the training challenges that lie ahead. By using multimedia technologies in a pilot program for the Army, the Field Artillery School is going beyond having a vision—it's making it a reality.

Johnsie C. Brown
C, Distributed Training Div
Directorate of Training and Evaluation
FA School, Fort Sill, OK

A Few Initial-Entry Soldiers Late Reporting to Units

The Chief of Staff of the Army has directed that every initial-entry training (IET) soldier have a favorable entrance national agency check (ENTNAC) before leaving the training base for his/her first duty assignment. If an ENTNAC has discrepancies or other problems, training bases such as the Field Artillery Training Center (FATC) at Fort Sill, Oklahoma, must hold the soldier until the problems are resolved. Recently, about 10 soldiers (five percent) per class have had to be held over at FATC.

ENTNAC is a background security investigation conducted by the central clearance facility (CCF) to identify soldiers who may have fraudulently enlisted with disqualifying factors. The investigation takes anywhere from 45 days to approximately six months.

New soldiers start the ENTNAC process at the military entrance personnel processing station (MEPPS). If there are no problems with a soldier's paperwork, the soldier departs the

training facility upon graduation. Conversely, if the MEPPS paperwork is lost, incomplete, illegible or gives the impression of a possible fraudulent enlistment or unfavorable findings, the investigative process is slowed dramatically. This, in turn, causes a backlog of cases at the defense investigative services (DIS). The ENTNAC process involves from six to nine agencies, depending on whether or not discrepancies are found.

All Army training centers are aware of the problems holdovers cause units expecting new soldiers on specific dates. We're working the problem from our end and ask all parties to be patient. If you have questions about ENTNAC, call the Field Artillery Training Center S3 shop at DCTN 639-2725 or commercial (405) 351-2725.

CPT Edgar D. Nazario, FA
Assistant S3
FATC, Fort Sill, OK

FA M577s Prepositioned at the NTC

M577s already at the National Training Center, Fort Irwin, California, will be available for FA battalion rotations in the next couple of months. The M577s are being outfitted with battery computer system (BCS) and variable-format message entry device (VFMED) installation kits, so FA battalions will need to bring only their BCSs and VFMEDs for installation in the vehicles prepositioned at the NTC. The prepositioning is estimated to save the Army rail costs of about \$400,000 per year.

FA battalions with upcoming rotations can call LTC Lance Moore, NTC Operations Group, to find out exactly when the M577s will be available at the NTC: DSN 470-5106 or commercial (619) 386-5106.

SFC Robert E. Johnson
Warfighter Div, FSCAOD
FA School, Fort Sill, OK

HMMWV Version of Q-36 Radar *Fielding NOW*

The new configuration of the AN/TPQ-36 Firefinder radar using the M1097 high-mobility multipurpose wheeled vehicle (HMMWV)—called the AN/TPQ-36(V)7—is being fielded to all active division artilleries and the 41st Field Artillery Brigade in Germany now through June 1994. AN/TPQ-36(V)7s already have been fielded to the 82d Airborne Division, Fort Bragg, North Carolina; 10th Mountain Division (Light Infantry), Fort Drum, New York; and to the Field Artillery School here at Fort Sill, Oklahoma.

The HMMWV version of the Q-36 downsizes the radar's configuration. The operations control group is mounted on an M1097 HMMWV, which pulls a M116A2 cargo trailer for storing section equipment. A second M1097 HMMWV carries a MEP 112A generator and tows a modified M116A2 trailer with the antenna transceiver group (ATG) mounted on it. The M998 HMMWV reconnaissance vehicle tows a second MEP 112A generator that's mounted on a third M116A2 cargo trailer. A modular azimuth positioning system (MAPS), eventually, will support survey requirements.

The Firefinder HMMWV version materiel changes improve survivability through increased mobility. It reduces

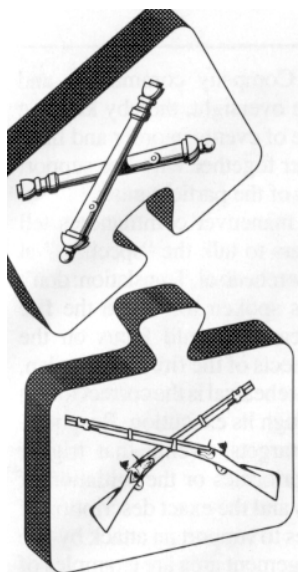
displacement time and crew size, decreasing the number of crewmembers from eight to six. It's transportable by two sorties of C-130 and larger aircraft with a drive on/off capability and can be airlifted by helicopter. When MAPS is added, it'll eliminate external survey requirements.

Though the Q-36 HMMWV version is being fielded now, delay of contract awards for long lead items has caused the system to be fielded initially without MAPS. From July to November 1994, MAPS will be retrofitted on the AN/TPQ-36(V)7s.

If units have questions or problems, call the Target Acquisition and System Support Division of the Directorate of Combat Developments at the Field Artillery School, Fort Sill: DCTN 639-3652 or commercial (405) 351-6501.

Ronald W. Anderson, FA Radar Specialist
Target Acquisition and System Support Div
Directorate of Combat Developments
FA School, Fort Sill, OK





The Infantry Battalion Commander and His FSO— *Tactics and Team Building*

by Lieutenant Colonel Karl W. Eikenberry, IN

This article, the second in a two-part series on the infantry battalion commander and his fire support officer (FSO), discusses developing more effective tactics and improving the cohesiveness of their infantry-artillery team. Part I, "The Infantry Battalion Commander and His FSO—Focusing on Training," appeared in the August edition. Although the discussion focuses on the fire support system in an infantry battalion, most is applicable to mechanized and armored units as well.

Tactics and Techniques

Frederick the Great wrote in his *Instructions to His Generals* that a good commander would above all else "... not despise those sorts of little details which pertain to great projects." On the assumption we all have a general grasp of the tactics of fire support for maneuver units, we'll look instead at some of the "details."

Form versus Substance. Time is frequently our scarcest resource during the planning phase of an operation, and the commander must ensure the battle staff gets to the heart of the matter quickly. He must ensure the FSO knows to prioritize what's important to the success of an infantry battalion.

Well-thought-out mission execution checklists and tactical standing operating procedures (SOPs) developed jointly by the commander and FSO are essential to realizing this goal. Yet some caution is in order. Care must be taken to avoid the *form* overwhelming the *substance*.

Planning efforts must be appropriate to the echelon level and the specific requirements of the unit and its mission. Take, for example, the "commander's attack guidance." Clearly, at levels above battalion in all cases and for extended armor mechanized operations, down to at least the company/team level, this subject warrants careful scrutiny. But does it deserve emphasis by the commander and FSO planning an infiltration attack? Does a matrix indicating the priority attached by a commander to 13 categories of targets really mean anything to a rifle company commander and his FSO who make contact at 0210 hours en route to the objective? Or, to use another example, does the articulation of

"high-payoff targets" really help a rifle platoon leader who runs into an enemy unit during a battalion search and attack mission—or even to the fire support element (FSE) that, on the average, has been receiving no more than three calls for fire per day?

These questions don't argue against the usefulness of such fire support guidance and matrices to assist an infantry battalion commander formulate and execute his plan or to fully integrate the light tactical fire direction system (LTACFIRE). Quite the contrary. The point is, if what the FSO is spending time on during the preparation of the order has no value other than it's on an observer/controller's (O/C's) checklist, he's wasting his time.

Similarly, while briefing his portion of the operations order, if the FSO merely recites a litany of charts and matrices, he's missing the mark. The battalion commander always assesses the FSO's presentation after an operations order to continue to educate him on the art of identifying the essential.

A battalion FSO also should get feedback from the rifle company commanders. A rifle company commander wants to know what targets he's responsible for, how timely and in what quantities he can expect artillery support (bottom lines—not a review of the friendly order of battle), what types of munitions are available, what the restrictions and controls are and the like. The FSO should save the technical details for annexes and separate sessions with the company FSOs or, if the information is relevant to no one (except the O/C), discard it.

A final note on FSO presentations at operations orders. In referring to the written order, the FSO first should

address the orders group attention to the part under discussion and allow them to turn to it before rattling on. Otherwise, he'll be heard, but not comprehended.

Still, the most effective form of communication is graphics, and the FSO should work with the S2 and S3 to prepare complementary fire support overlays. But using a 1:50,000 map to describe in detail how fire support will be used on a light infantry objective has little value—the FSO needs to think in terms of blowups and sketches for the operations order briefing.

The FSO and Scouts. The success or failure of an infantry battalion's fire support plan often will be decided by its scout platoon that frequently serves as the battalion's main effort during the reconnaissance or counter-reconnaissance phases of an operation. Yet the scout platoon leader, as he prepares for his mission, is frequently ignored in a tactical operation center (TOC) as the battle staff concentrates on preparing the order.

Accordingly, a battalion commander only can focus the battle staff's attention by directing separate reconnaissance guidance and scout platoon leader backbrief sessions be held as part of the battalion's tactical planning procedures. These briefing sessions include at least the commander, S2, S3, FSO and signal officer.

During the commander's guidance, the FSO has an opportunity to recommend and influence the scouts' role in the overall plan of fire support. Task organization (e.g., providing a forward observer, or FO, to the platoon), critical tasks (e.g., locating observation posts, or OPs; pinpointing hard targets; adjusting the preparatory fires; etc.) and other items

vital to the fire support plan should be addressed. During the subsequent backbrief (after the scout platoon leader has completed his own planning), the FSO has an opportunity to ensure the scouts' fire support plan and tasks are, indeed, consistent with the commander's intent and overall plan.

Regardless of whether or not the scouts are augmented by fire support team (FIST) members during the scouts' operation, an FSO should look carefully at how much attention a scout platoon leader receives as he prepares his fire support plan. An infantry battalion FSE is austere manned; an FSO might draw from a FIST to provide dedicated help to the scout platoon leader during his frenzied mission planning. Again, looking at the scouts as the battalion's initial main effort, it's a cheap and worthwhile investment.

The FSO must be as interested in the status of the scouts' operation as his maneuver commander. Not only must the FSO remain abreast of their locations for clearing fires, but he also needs to keep the commander, S2 and S3 informed of what the scouts still must accomplish (e.g., objective description) to enhance the prospects for successful fire support.

Commo. Communications, or the lack thereof, are often the bane of the infantry battalion. Although ARTEP 7-20 MTP, the mission training plan for the infantry battalion, lists the FSE's maintenance of communications as a "critical task" to "operate a fire support section," battalion commanders are inclined to devote far more attention to their maneuver nets than to fire support channels. With only limited retransmission capabilities to draw on, command nets receive the commander's priority. Yet, if the fire supporters can't talk, all the battalion's planning efforts may be for naught.

The infantry battalion commander must ensure that the signal officer includes the fire support nets in his communications plan and that the FSO works with the signal officer to guarantee its reliability. First, the FSO and signal officer must consider distance. If additional retransmission assets aren't available beyond those for command nets, what options are available? Hope isn't an option—relying on the command net to relay missions if hope isn't realized isn't an option either. Periodically displacing the TOC (while thinking through FSE operations during jumps) or dropping off FIST elements (drawn from the least engaged company) to act as relay stations at communications vantage points en

route to the objective are possible solutions.

Second, the FSO must ensure commo redundancy is built into the plan. For instance, the battalion FSO should give the FSO of the rifle company he's moving with the on-order mission to provide him a platoon FO's radio should one of his fail. Or, if the FSE experiences radio problems, a company FIST should be on-order to do likewise—give a radio to the FSE.

Third, the battalion FSO must train the fire support section to aggressively move to restore communications when it's severed. If the FSE can't talk with the A Company FSO on the 81-mm mortar platoon frequency, it should quickly drop down to that company's 60-mm mortar net and reestablish communications. Walking over to the S3 and using maneuver channels to solve the problem is also a solution.

Last, the signal officer, while briefing his portion of the operations order, should display "bubble diagrams" that list by net all commo nodes for the orders group to review. This is an excellent way for the infantry battalion commander, FSO and signal officer to double-check the completeness of the fire support communications plan.

Rehearsals. Much has been written in recent years on battalion task force rehearsals. However, while fire supporters are always at the rehearsals, most often they are poorly integrated. The infantry battalion commander should personally direct his unit's rehearsal, and the FSO should be at his side throughout. Company commanders and their FSOs likewise should be paired up.

As the battalion commander (or his S3) describes a maneuver event, the FSO follows up with the corresponding (if any) fire support action. The FSO also prompts the company FSOs and mortar platoon leader to announce their major actions as the rehearsal progresses. To illustrate, in accordance with the battalion operations order, the B Company commander states at the rehearsal that in response to the S2 portraying the enemy main body crossing phase line (PL) Scott, he has opened fire with his attached tube-launched, optically tracked, wire-guided missiles (TOWs) and organic Dragons. However, the B Company FSO had failed to state that, at Trigger Point 3, just prior to the enemy's reaching PL Scott, he had initiated target series "Bill." The battalion FSO should interrupt the B Company commander and point out the oversight, thereby keeping

the sequence of events in order and linking maneuver together with fire support in the minds of the participants.

Too often maneuver commanders tell fire supporters to talk the "specifics" at their *separate* rehearsal. Translation: don't speak unless spoken to. While the fire support rehearsal should focus on the technical aspects of the fire support plan, the battalion rehearsal is the correct forum to work through its execution. Responsibilities for targets, events that trigger changes in priorities or the initiation of indirect fires and the exact description of a target series to support an attack by fire into an engagement area are examples of what an infantry battalion commander must draw out of his battalion and company FSOs at the rehearsal.

Another important consideration for the rehearsal is that the terrain model must depict all friendly units. Frequently, scout OPs are omitted (which is ironic because the S2 usually is responsible for building the model) and "independent" units (e.g., combat service support) are overlooked. Out of sight, out of mind...fratricide.

A final point about rehearsals—the battalion commander or S3 should be present at the fire support rehearsal to clarify questions about the concept of the operation and check to make sure the players have it right.

Preparations. Another consideration for an infantry battalion commander and his FSO prior to crossing the line of departure (LD) is to loan any infantry equipment to fire supporters that fire supporters can use more effectively. For example, light infantry FISTs aren't authorized night-vision goggles (NVGs) while infantrymen are afloat with them. Certainly before a battalion night attack, it's a worthwhile tradeoff to take a pair of NVGs from a grenadier and give them to a key observer. It also might make sense to loan key FIST members global positioning system (GPS) devices—if only the infantry had them to loan. What's important is the infantry and artillery's looking at the enterprise as a joint effort and pooling their resources accordingly.

During the preparation phase of an operation, an FSO will find that by accompanying his maneuver commander on visits to the rifle companies and mortar platoon, he'll gain far more than he loses by absenting himself from the TOC. Face-to-face dialogue with company commanders,



The infantry-artillery team must share expertise and equipment, be flexible and maintain constant commo.

FSOs and the mortar platoon leader quickly will clear up misunderstandings that could have invalidated many hours otherwise spent on preparing target lists and matrices in the state of blissful ignorance that tends to characterize the TOC.

Execution. The following are some techniques to consider during mission execution.

(1) *Location of the FSO.* The best location for the FSO is where he can best ensure the delivery of accurate and timely fires in accordance with the maneuver commander's orders. This may or may not be at the commander's side. Example: for an infantry battalion defensive operation, the FSO almost always collocates with the commander. On the other hand, it doesn't make sense for an FSO to pass a vantage point overlooking an objective and descend into a communications dead space just so he can "hold hands" with the battalion commander as he accompanies the main effort of the attack.

An FSO who can't talk to the FSE or use his fire direction nets and who's continually having to rush forward to keep up with the battalion commander is performing the role of a rifleman, albeit with an extraordinarily heavy soldier's load. In those situations where it makes more sense to detach himself from the battalion commander, the FSO still can provide him an outstanding FIST member (with a radio on the 81-mm mortar platoon net). This guarantees a direct line is kept open between the battalion commander and FSO.

(2) *Proactive Implementation.* Fire supporters must stay proactive in implementing the fire support plan. At the same time, there must be a collective sense of responsibility for executing the fire support plan in the infantry-artillery team and among the members of the fire support section if the plan is to work. During a movement-to-contact, if the FSE notes the Charlie Company FSO hasn't shifted his 105-mm priority target since

crossing the LD and the target is one kilometer to the rear of his unit, a call is in order.

(3) *CAS—A Major Event.* Close air support (CAS) can deliver more firepower in a brief period of time than is available to an entire infantry battalion. Its effects are multiplied when the FSO reinforces the air liaison officer's (ALO's) efforts.

In planning and supervising CAS, the S2, S3, FSO and ALO should be in a huddle. If, during the course of a CAS mission, the ALO takes off to his own vehicle to run the show and the FSO is oblivious to its progress, the fire support system is broken.

(4) *Remember the Next Hill.* We plan for a certain "end state" upon the completion of the mission, but it rarely turns out the way we envisioned it. When we finally occupy the objective, the commander and FSO must immediately adjust the fire support plan to accommodate the newly found realities. This requires considerable discipline on the part of the infantry-artillery team because of the inertia that tends to set in during consolidation and reorganization.

Team Building

For the plan and execution to be successful, the infantry and artillery must work as a team, sharing information, resources—anything to accomplish the mission. Before the battle, there's much they can do to strengthen the bonds of the infantry-artillery team.

First, all must make an effort, especially at the battalion and company levels, to keep communications flowing in both directions. The battalion FSO should have at least a desk, preferably an office, in his maneuver battalion's S3 shop, and all FSOs should have distribution boxes in both the battalion headquarters and their respective rifle company orderly rooms. In addition to attending training strategy sessions and meetings, the maneuver commander must have an open door for his FSO, who should stop by at least every other week.

Second, the infantry battalion must treat the members of the fire support section as important team players. Fire supporters should not be overlooked by infantry commanders when recognizing superior performance and should be included in appropriate award ceremonies. Social events in the infantry battalion generally

should be extended to the appropriate members of the fire support section. While FSOs are rarely overlooked, the NCOs and soldiers of the fire support section frequently are, and this is something the infantry battalion command sergeant major can fix. The FSO, for his part, should strive to develop close relationships with not only the maneuver commander, but also the S2, S3, signal officer, scout platoon leader and mortar platoon leader—all key players in the fire support battlefield operating system.

Third, and last, like any group, the infantry-artillery team becomes stronger by sharing tough training and hardships. Exacting combined exercises conducted to standard become the grist of war stories that make for solidarity. For instance, a company mortar section external evaluation should be run together with an external evaluation of that particular company's FIST. Cohesiveness follows.

Conclusion

If an infantry battalion commander and his FSO concentrate on improving training, tactics and team cohesiveness, they'll create a powerful fire support system. Napoleon once said that a commander "... who is more skillful and a better maneuverer than his adversary, having better infantry, will gain success during a part of the campaign although his artillery park is very inferior; but on a decisive day in a general action, he will feel his inferiority in artillery cruelly."

An effective infantry-artillery team will ensure there's no such day of reckoning.



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