

FOCUS ON FIRE SUPPORT

This month the *Gazette* focuses on fire support with a series of articles covering artillery support provided to Marine forces during Operation IRAQI FREEDOM I, an examination of the expeditionary fire support system, the lightweight 155, and a look at artillery ammunition.

Shielding the Blue Diamond: Counterfire Operations in the 1st Marine Division

by the Staff, 11th Marines

Training pays off as Marine artillery, aviation, and sister Service fire support assets silenced Iraqi indirect fires capability.

For years leading up to the commencement of combat operations in Iraq the Iraqi Army's potent artillery force was consistently identified as the enemy's tactical center of gravity. The Iraqi Army's combination of modern, long-range cannon and rocket systems and the potential for the delivery of chemical munitions posed a direct threat to the achievement of operational and strategic goals. Through countless peacetime training exercises the challenges of countering this threat had remained a constant theme. Maneuver commanders universally agreed that if the threat of Iraq's artillery could be eliminated, they would enjoy an overwhelming

advantage when they closed to direct fire range with the enemy's ground forces. The 11th Marines accepted the challenge of silencing Iraq's artillery and worked diligently with the 3d Marine Aircraft Wing (3d MAW) to create and refine the tactics, techniques, and procedures necessary to shield the Marines, soldiers, and sailors of the Blue Diamond (1st Marine Division (1st MarDiv)) from the effects of enemy indirect fire.

Planning the Counterfire Fight

The successful silencing of Iraq's indirect fire system was predicated on an in-depth understanding of the strengths and weaknesses of both the

enemy's indirect fire system and the capabilities of the friendly forces. Pre-war analysis of the Iraqi indirect fire system concluded that while the enemy possessed an impressive number of modern weapons systems, his ability to employ these systems to their maximum effect and range would be limited by an antiquated and virtually nonexistent target acquisition capability and a highly centralized and inflexible command and control (C²) system. This analysis also concluded that the enemy possessed a low probability of maximizing the full capabilities of his weapons systems. The impressive 9-kilometer range advantage that the Iraqi GHN-45 possessed over the 1st MarDiv's M198 was mitigated by the assessment that the enemy would be unable to consistently deliver accurate long-range fires due to weaknesses in his overall fire support system. These weaknesses were exploited throughout combat operations in the 1st MarDiv zone.

Despite these inherent weaknesses, the threat that Iraq's artillery represented could not be dismissed. The sheer number of enemy indirect fire systems posed a serious threat. A single successful massed strike by the Iraqi's could have disastrous results on the division's ability to maintain the speed of attack deemed necessary to seize the Rumaylah oilfields and reach Baghdad. A key early planning



Photo courtesy of Sgt. Jose Guillen.

11th Marines fires maximum charge to engage enemy indirect fire.

decision was to assign fire support the doctrinal task of *limiting* the Iraqi artillery's ability to mass fires on 1st MarDiv forces. The identified end state was to completely protect the division from *any* indirect fires. This aggressive stance required a much higher level of effort by and planning between intelligence and fire support agencies for the successful prosecution of the counterfire fight.

The division planned to initially attack the enemy artillery through an aggressive, proactive shaping effort that would include aviation, rocket, and artillery fires. The dedication of resources to this effort is highlighted by the fact that 11 of the 15 essential fire support tasks developed and executed by the division during the war were focused on the enemy's indirect fire capabilities. This shaping effort hinged on the ability of intelligence collection sources to locate and identify occupied and potential enemy indirect fire positions. Fixed-wing aviation assets were envisioned to carry the brunt of the delivery of shaping fires. When available, Army long-range rockets were planned to supplement the fixed-wing shaping effort.

While the division's shaping effort focused on the enemy indirect fire system, there were no illusions that shaping would completely eliminate the indirect fire threat. The sheer number of enemy systems, the planned rapid speed of attack of friendly maneuver forces, and the uncertainty of how

long shaping operations would last before crossing the line of departure all led to the conclusion that a robust reactive counterfire effort would be required to complement the ongoing proactive counterfire fight. The success of the reactive counterfire fight relied on the establishment, rehearsal, and execution of the full combined arms team available to the 1st MarDiv.

The 1st MarDiv's Reactive Counterfire Battle Drill

The task of limiting the enemy's indirect fire systems called for an aggressive stance in both the proactive and reactive counterfire fight. In accepting limit, the fire support community was accepting the challenge of denying the enemy the ability to effectively employ his indirect fire system. This daunting challenge required the complete synchronization of fire support, intelligence, and C² assets for success.

The genesis of the tactics, techniques, and procedures that the division would employ in combat came out of the lessons learned during Marine Expeditionary Force Exercise 02 (MEFEx 02) conducted in October 2002 at Camp Pendleton. During this computer simulated command post exercise, the division was successful in focusing fires on the enemy's indirect fire systems. But, while successful, in hard self-analysis the outcome pointed to an unsynchronized effort. Artillery and air conducted stovepiped

fight against the enemy indirect fire system. The complementary capabilities of artillery suppressing enemy artillery and forcing the enemy to displace, therefore becoming more vulnerable to aviation, were achieved more through aggressive game cell execution vice a true top-down centralized plan. The criticality of maneuver forces remaining ever cognizant of their counterfire coverage was also driven home.

The 11th Marines analyzed the lessons learned from MEFEx 02 and sought to codify the successes of MEFEx into a combined arms battle drill to ensure success in the upcoming fight. Critical to this effort was a thorough understanding of the capabilities of each of the systems that would be integrated into this effort. 11th Marines planners recognized that the automated C² system available through the advanced field artillery tactical data systems (AFATDS) presented the opportunity to rapidly implement command decisions in the execution of reactive fires. When all links were in place, targeting information could be shared in a near simultaneous manner at multiple command echelons, and attack orders could be passed instantaneously from the 11th Marines counterfire headquarters to executing artillery and aviation agencies. To supplement the digital transmission of information between ground and aviation, a direct voice link was established between the 11th Marines air support liaison team (ASLT) and the direct air support center (DASC) collocated with the division headquarters. This hot line allowed real-time coordination of both timing and battlespace between ground and aviation fire support assets. Figure 1 depicts the C² architecture that was developed and implemented to support Operation IRAQI FREEDOM.

The division codified these procedures into a combined arms reactive counterfire battle drill that sought to maximize our advantage in C² and synchronize the complementary capabilities of artillery and aviation to bring the enemy artillery under immediate, unrelenting destructive fires. The battle drill recognized the unmatched responsiveness of artillery

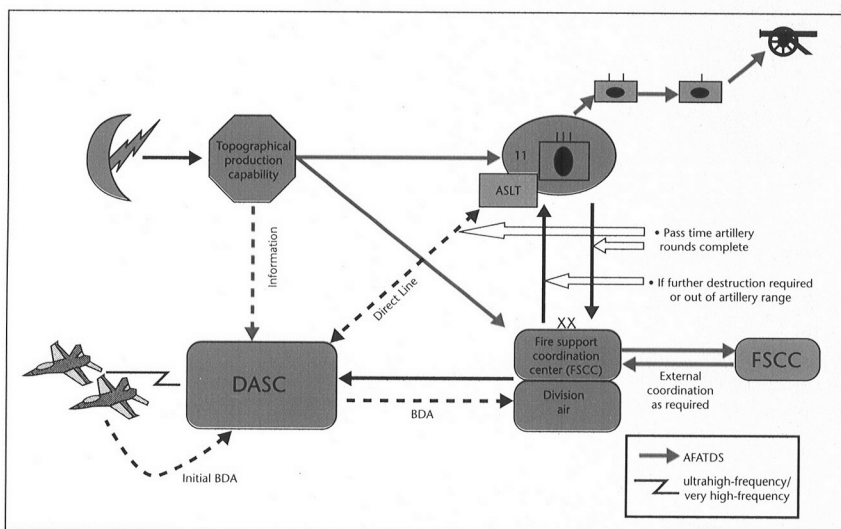


Figure 1. Reactive Counterfire.

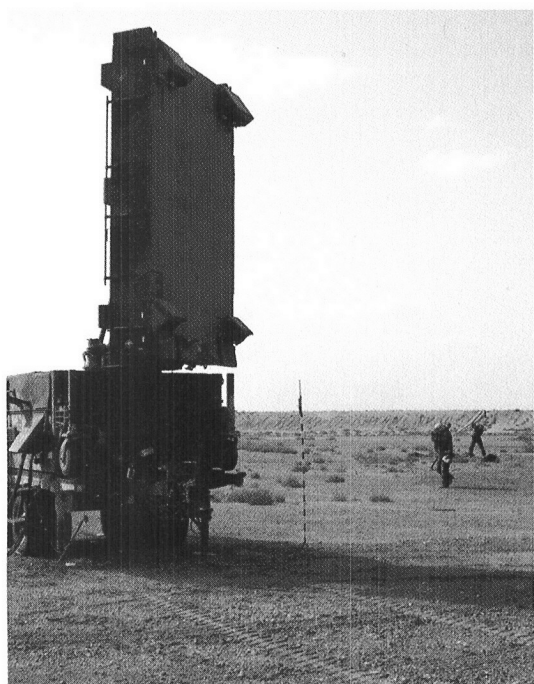


Photo courtesy of Sgt. Jose Guillen.

Q-37 Firefinder radar, from XVIII Airborne Corps, 1st Field Artillery Detachment. The attached asset provided the "long-range" eyes for the division's reactive counterfire effort.

fires and capitalized on 40 years of automated C² developments to quickly bring artillery to bear on any enemy artillery that fired. Simultaneously, on-station aircraft could be vectored on to a target to complete the destruction of the suppressed or neutralized enemy artillery. Additionally, the vectored manned aircraft provided critical realtime assessment of the counterfire effort. During peacetime predeployment live fire exercises at Camp Pendleton, artillery fires were consistently delivered on radar-acquired targets in under 2 minutes, and aviation reaction time was reduced to approximately 5 minutes.

The reactive counterfire effort was predicated on successfully orchestrating the efforts of the division's counterbattery radar assets. These assets included the regiment's four organic Q-46A Firefinder radars, two attached Q-46A radars from the 10th Marines, and two attached, long-range Q-37 radars of the Army's XVIII Airborne Corps. These complementary systems provided overlapping detection capabilities against enemy mortars, artillery, and rocket systems out to 50 kilome-

ters. When in place and actively radiating, these systems were capable of accurately locating hostile weapons to a sufficient accuracy to allow first round fire for effect by artillery and precision attack by air-delivered munitions. To maximize the capabilities of these systems and ensure continuous coverage to the forward elements of the division, the positioning, movement, and security of the radars was delegated to 11th Marines firing batteries. This procedure ensured aggressive forward positioning while simultaneously protecting these high-value assets from ground attack. This nontraditional employment technique was made possible by the assessment that the enemy was unable to conduct electronic or antiradiation munitions attacks against our radars.

Executing the Counterfire Fight

The 1st MarDiv's counterfire effort commenced on 5 March 2003 when the 11th Marines deployed its headquarters, three radars, and the 5th Battalion to positions south of the Kuwait/Iraq border to provide counterfire coverage to Kuwaiti engineers conducting berm reduction operations of border obstacles. The commanding general's (CG's) guidance was clear—an Iraqi violation of Kuwaiti sovereignty by indirect fire weapons was to be considered an act of war and was to be met with an immediate lethal response. Every member of the command understood the seriousness of the situation as howitzers laid on priority targets located in Iraq.

Simultaneously, the division completed its planning for the proactive counterfire fight. A robust plan was developed against all known enemy artillery locations in the Iraqi 51st Division and III Corps sectors. This fire plan synchronized 3d MAW, Army tactical missile system, and 11th Marines cannons to ensure the redundant attack of all known artillery and facilitate the forward reposition-

ing of radars and cannons to facilitate the reactive counterfire fight.

The division planning team recognized that a successful counterfire effort would require the rapid, unfettered, forward displacement of target acquisition assets and artillery batteries. To accommodate this requirement the division accepted risk by assigning the 11th Marines its own breach lanes through the border obstacles on the Kuwait/Iraq border. Advancing between Regimental Combat Team 5 (RCT-5) and RCT-7, the 11th Marines were to be led through its assigned lanes by an attached light armored reconnaissance company to protect the firing batteries from any Iraqi direct fire assets or uncovered maneuver units.

Shaping efforts actually began prior to the onset of declared hostilities. On 19 March an Iraqi GHN-45 battery that threatened planned 1st MarDiv breach sites and initial 11th Marines firing positions was destroyed by aviation flying in support of Operation SOUTHERN WATCH.

There were no expectations that the plan would unfold exactly as rehearsed, and events bore this out. As the division occupied its forward attack positions on 20 March in expectation of a 0300Z H-hour on 21 March, the Iraqi's cast their vote and violated Kuwaiti sovereignty with cross-border mortar fires at 1132Z on 20 March. The 11th Marines instantly executed the CG's intent and answered the Iraqi fire with a two-battalion mass fire mission, silencing the threat.

At 1500Z the division issued a fragmentary order moving the time of attack forward 9½ hours to 1730Z. The requirement to quickly alter the time of attack meant that the division would attack without the planned 8-hour shaping effort against the artillery in the 51st Division zone. Instead, the 11th Marines immediately displaced two battalions forward, and at 1700Z executed a 30-minute counterbattery program against Iraqi artillery that was positioned to interfere with the division's main effort—the 5th Marines. The division capitalized on the inherent redundancy built into the fire support

plan as that attack unfolded. Instead of a tightly timed and orchestrated plan, the division now executed the shaping effort in event driven modules with artillery carrying the brunt of the counterfire fight when weather limited fixed-wing aviation from consistently positively identifying targets. In a little less than 48 hours the division succeeded in securing all of its objectives without the enemy inflicting a single indirect fire casualty.

As the division swung west and started its drive to Baghdad, the power of the Marine air-ground task force was tapped through division target nominations to the MEF targeting board. Through its nominations the division was able to capitalize on the strength of MAW and joint aviation to reach deep and commence the attack of the Baghdad Republican Guard Division's artillery battalions in the vicinity of Al Kut. The doctrinal concept of the single battle came alive over the next week as the MAW delivered unrelenting attacks that effectively destroyed the Baghdad division's artillery while the division defeated enemy indirect fire systems in the close fight along Highways 1 and 7 with artillery and rotary-wing fires. When weather prevented aviation support in the close fight, aviation assets were pushed deep to keep the pressure on enemy formations in the deep fight.

When the division attack rolled past Al Kut and turned north toward Baghdad, the MAW shifted its focus to the Al Nida Republican Guard Division protecting the southeast approaches to the city. Again, the primary focus was on the enemy artillery battalions. In the close fight, detailed coordination between the division main effort, RCT-5, and the 11th Marines ensured the complete integration of 11th Marines assets in the march column. These efforts allowed 11th Marines to maintain continuous support to the rapidly advancing maneuver forces by continually leapfrogging radar, firing units, and C². As RCT-5 closed on Baghdad all four 11th Marines battalions were positioned behind the lead maneuver units.

The transition from a rapid movement to contact to deliberate attack on the Baghdad metropolitan area necessitated a modification to the counterfire operations that had proven so successful in the drive from Kuwait. In order to minimize potential collateral damage in the urban areas, the decision was made to use artillery to only attack radar-located enemy firing units whose fires were threatening friendly forces. Showing the adaptiveness required on a dynamic battlefield, a procedure was rapidly implemented to utilize high-resolution overhead imagery to provide collateral damage estimates against located targets. Precision attack by air became the first response option against enemy units firing from open areas located in Baghdad. Using this methodology, MAW and joint aviation was vectored to numerous targets within the city.

As the counterfire battle raged for 3 days around Baghdad, it became clear that the key to ultimately eliminating the enemy threat lay in maneuver forces occupying terrain to deny the enemy firing positions. As maneuver forces surged across the city, the counterfire fight ended with a whimper as maneuver units encountered destroyed and abandoned artillery, mortars, and rocket launchers. Throughout the campaign the division processed over 1,900 radar-acquired counterfire targets. Yet, in 21 days of fighting, the enemy man-

aged to only fire two rounds that resulted in casualties to the Marines and sailors of the 1st MarDiv. The division's aggressive counterfire effort ensured that the enemy never had a chance to apply corrections and get off a second round.

Lessons Learned

MajGen James N. Mattis, the 1st MarDiv CG, had developed speed as the division's metric for success. In the counterfire fight this speed was generated by a well-developed, rehearsed, and executed counterfire battle drill. The ability of modern information systems to rapidly move data across the battlefield was the key to the division's success in the counterfire fight. Speed was also generated through the close integration of fire support assets into maneuver formations, ensuring that the counterfire shield was continually extended over advancing forces.

The combined arms approach that the division adopted provided a menu of attack options to deal with the enemy under varying weather and terrain. Additionally, the complementary capabilities of artillery, air and, finally, maneuver forces resulted in the enemy facing an unrelenting dilemma. Fixed-wing aviation hunted the enemy deep, artillery and rotary-wing air punished him in the close fight, and maneuver forces closed and overran any surviving firing units. The road from Kuwait to



5th Battalion, 11th Marines engages an enemy target.

Baghdad was littered with the carcasses of enemy indirect fire systems.

Finally, the best plan requires aggressive execution. There was no shortage of this throughout Operation IRAQI FREEDOM. Throughout the campaign, leaders at all levels took the fight to the enemy. Artillery units fought their way forward in the worst possible weather and found fir-

ing positions on the ground that a map or terrain analysis would call untenable. Helicopter pilots pressed the attack at every opportunity, and high overhead manned and unmanned aviation provided eyes on target and rapid bomb damage assessment (BDA).

In the end, the plan for the destruction of the Iraqi tactical center of

gravity should be assessed as an overwhelming success. No 1st MarDiv units came under any sustained enemy indirect fire attack. The division's combined arms approach ensured that the deadliest job on the battlefield was that of Iraqi mortar, artillery, or rocket crewman.



Battle Leadership, 1st Battalion, 11th Marines

by LtCol James B. Seaton III

The following guidance was issued to 1st Battalion, 11th Marines as they deployed to Iraq for Operation IRAQI FREEDOM I.

This article summarizes many key points mentioned over the last several months. It serves as my guidance to all leaders in the battalion and gives us a common leadership reference point as we head overseas via air and sea, arriving at different times and working with different units.

My previously established priorities remain:

- Prepare for combat.
- Train future leaders.
- Build a cohesive team.

Everything we do is about accomplishing our mission as well as taking care of our Marines and sailors *so they can accomplish the mission*; thus, I expect all leaders to set, maintain, and enforce the highest standards within your units and follow the guidance contained within this document.

Commander's Critical Information Requirements

These will be adjusted as required, but as we go into the fight I expect—at a minimum—to be informed of the following in a timely manner:

- Changes in howitzer status.
- Obstacles (friendly and enemy)

that impede our movement or ability to support maneuver.

- Inability to talk with higher or supported units as well as within the battalion.
- Armed contact with Iraqi units/individuals.
- Casualties or missing individuals.
- Any instance where battalion fires may have hit civilians or friendly forces.
- Potential future "showstoppers."

Training Is Continuous

The best units continue training and refining tactics, techniques, and procedures (TTP) while in combat; thus, we will continue to train in theater, to include after we've crossed the line of departure. Last summer our Marines stated that there were five areas where we needed to focus our combat preparations: (1) operating in a nuclear, biological, and chemical (NBC) environment; (2) crew-served weapons; (3) local security and patrolling; (4) convoy operations/security; and (5) passing the word to all Marines. We will continue to emphasize these and other critical, basic skills, such as first aid.

Rapidly "season" our recently joined Marines and attachments. Do not disproportionately assign them to working parties, guard, etc. The priority is assimilating them and training them so they can best contribute to accomplishing our mission. We will try to keep recently joined Marines/sailors with others whom they already know as well as ensure they are comfortable with their gas masks, mission oriented protective posture suits, weapons, etc.

Continuously evaluate and critique, ensuring that we incorporate into our operations—"on the fly"—lessons learned and improved TTP. Seek feedback from your junior Marines and non-commissioned officers (NCOs).

All hands must clearly understand our rules of engagement (ROE). Battery commanders will ensure subordinate leaders continuously reinforce the ROE and exercise this through scenario training.

Discipline and Professionalism

Continually remind our men that discipline and professionalism are hallmarks of U.S. Marines and are directly related to a fighting unit's es-