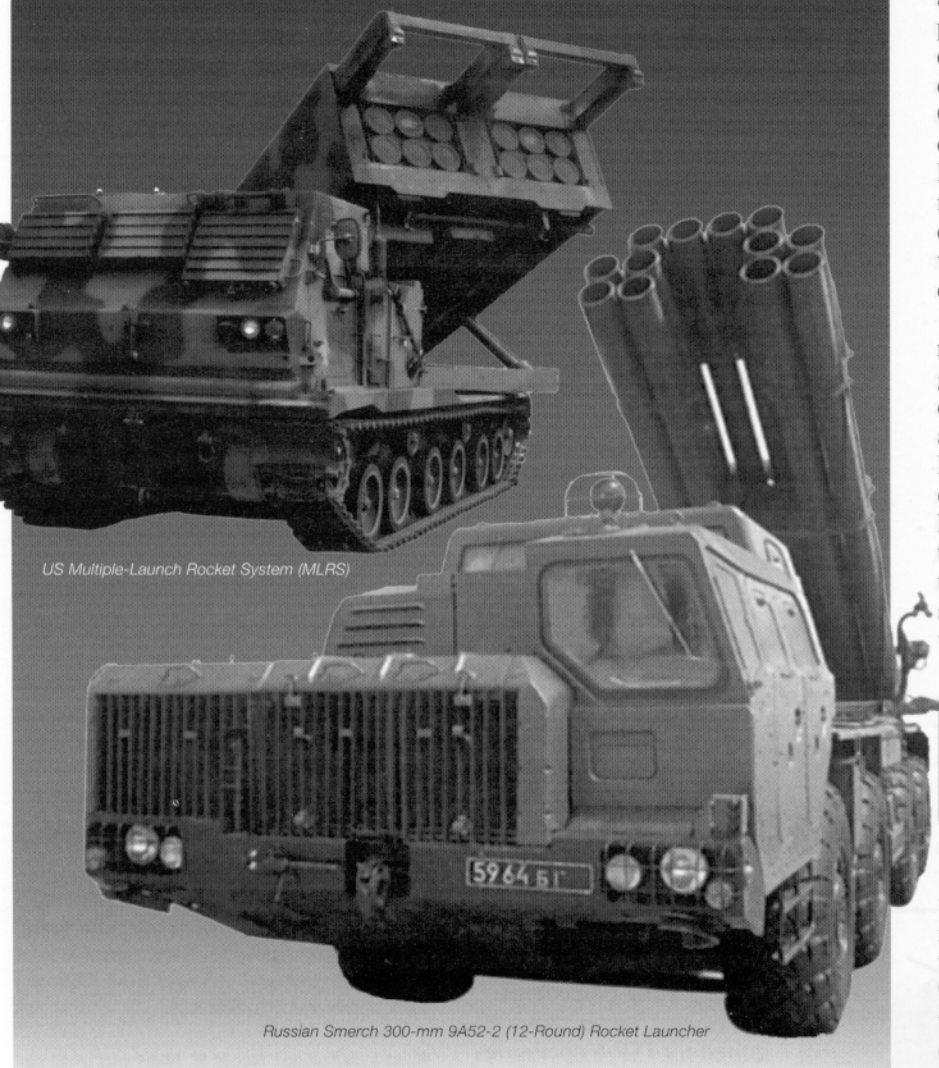


# Competing with Long-Range Enemy Artillery

by Captain Daniel S. Burgess, MI



US Multiple-Launch Rocket System (MLRS)

Russian Smerch 300-mm 9A52-2 (12-Round) Rocket Launcher

bat forces. The OPFOR plans to deliver massive amounts of accurate fires quickly and then exploit the results of these fires using ground forces. This Soviet-based doctrinal philosophy is copied in several foreign armies in the world.

The OPFOR commander organizes his long-range artillery into army artillery groups (AAGs) and army groups of rocket artillery (AGRAs). These groups doctrinally deploy four to eight kilometers from the forward edge of the battle area (FEBA).<sup>1</sup> However, from our experience facing the World-Class OPFOR commander, these published doctrinal distances are rarely followed. The OPFOR realizes that the artillery is his center of gravity. He must be able to leverage his long-shooters at decisive moments to compensate for other inherent weaknesses—less capable armored vehicles, lack of night vision devices, etc.

The preservation of the enemy's long-range artillery is the absolute key to his ground plan. Therefore, the OPFOR commander positions his long-range artillery 20 to 30 kilometers from the FEBA. This is based on the fact that we doctrinally position MLRS five to 15 kilometers from the forward line of own troops (FLOT) and minimum ranges for the enemy's artillery systems. Such positioning allows the enemy to take advantage of his range standoff and fire with little or no counterfire threat.

During the 4th Infantry Division (Mechanized) Warfighter, Fort Hood, Texas, the division artillery (Div Arty) experienced this same problem. We were constantly challenged by the AAG/AGRA or corps artillery groups (CAGs) firing while we were out of range. The enemy's cannon and rocket systems as compared to the 4th Division's during its Warfighter 96 are shown in Figures 1 and 2. Note the number of systems that outrange ours.

## Positioning Forward—Keeping MLRS in the Fight

During war gaming for the last III Corps Warfighter, it became readily apparent that the restrictive, mountainous terrain would create some special challenges for the division. Maneuver space was extremely limited in our area of operations (AO), and the enemy po-

must think of calculated, aggressive and lethal methods of employing artillery to compensate for and compete with long-range enemy artillery systems.

## BCTP's Artillery—Countering the Threat

The BCTP opposing force (OPFOR) planners emphasize fire support as the principal means to destroy enemy com-

In today's world, there are many armies that have bought or built artillery systems that outrange our artillery systems. This threat is continually portrayed in Battle Command Training Program (BCTP) Warfighter seminars and exercises.

Until our army fields new systems—Crusader and the extended-range multiple-launch rocket system (MLRS)—that can fire 40 kilometers and beyond, artillerymen will face this threat. We

sitioned his long-range artillery to take advantage of his superior range.

Our planners decided to push MLRS far forward to mitigate the enemy's tactic. During war gaming, our primary consideration for determining artillery positioning was the difference in planned target sets for both direct support (DS)/reinforcing (R) artillery and general support (GS) artillery.

Experienced enemy artillery commanders displace their long-range artillery rearward to stay out of our MLRS range fan. This move is generally based on their assessment of the expected rate of the forward movement of our MLRS artillery. Most threat armies expect our GS to follow DS artillery. Our doctrine states that MLRS usually is positioned five to 15 kilometers behind the FLOT. Therefore, the key to defeating the enemy's "positioning tactic" is to move our MLRS forward more rapidly than he expects.

During the corps Warfighter, positioning MLRS forward didn't interfere with our DS artillery because the brigade's high-payoff target (HPT) sets were primarily within 10 kilometers of the FLOT. Our DS/R artillery assets can hit those targets from positions as far back as 20 kilometers—10 kilometers preferred, using the 1/3-2/3 rule (one-third of the system's range is behind the FLOT while two-thirds is beyond the FLOT). So moving GS artillery forward didn't inhibit the DS/R mission.

Even if the enemy artillery's range is equal to or slightly shorter than friendly systems, he can keep it out of our range fan if we don't aggressively position our GS assets forward. We either must get Field Artillery within range or use other assets to kill his artillery. The only way to get Field Artillery in range is to position it farther forward than he expects (or he will just reposition his systems farther back).

The corps Warfighter scenario demonstrated the usefulness of positioning GS assets forward. Such positioning is logical in most environments and situations, based on the doctrinal roles and missions of the division and corps in counterfire and deep interdiction. DS/R units are primarily intended for close support and interdiction. According to the "Inherent Responsibilities of FA Missions" found in *FM 6-20 Fire Support in the AirLand Battle*, the DS/R unit's zone of action is the supported unit's zone of action—typically a brigade.<sup>2</sup> The DS/R M109A5 and M109A6 howitzers usually can accomplish their missions from 10 kilometers or more behind the FLOT. Therefore, MLRS forward of the DS/R artillery allows the launchers to attack and destroy enemy long-range artillery while not interfering with the DS/R missions.

## Deep Interdiction Strikes—Taking the Fight to the Enemy

Another method to be considered to counter the long-range artillery threat is a MLRS deep interdiction strike. Much has been written about deep interdiction strikes. Aviators might call this concept a variation of a joint air attack team (JAAT). Although the term "JAAT" is losing popularity as a doctrinal term, the Air Force describes it as a joint air attack team in a coordinated attack on one target array by helicopters and fixed-wing aircraft, normally supported by artillery or naval gunfire.<sup>3</sup> Some artillerymen might call this a "raid."

*FM 6-50 Tactics, Techniques and Procedures for the Field Artillery Cannon Battery* states, "The air assault artillery raid is the rapid movement of artillery assets by air into a position to attack a high-priority target with artillery fires."<sup>4</sup> Although this concept is similar, it doesn't cover the total spectrum of assets we need to accomplish the mission of destroying long-range enemy artillery.

One concept was introduced in the article "Deep Interdiction—The MLRS Deep Strike Option."<sup>5</sup> The article details how the 75th Field Artillery Brigade, III Corps Artillery, conducted deep interdictive strikes. The concept is based historically on artillery raids or preparatory raids conducted by MLRS batteries and cannon artillery before the ground assault during Operation Desert Shield.

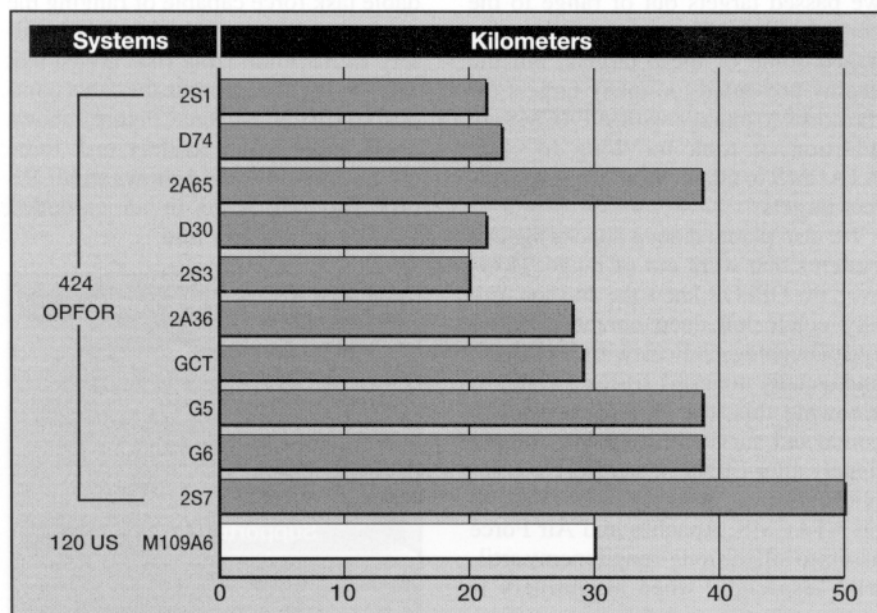


Figure 1: Tube Artillery in Division BCTP Warfighter Exercise. The BCTP opposing force (OPFOR) tube artillery systems outnumbered the division tube artillery systems 3.5 to 1. Note the number of OPFOR systems that outrange the US systems.

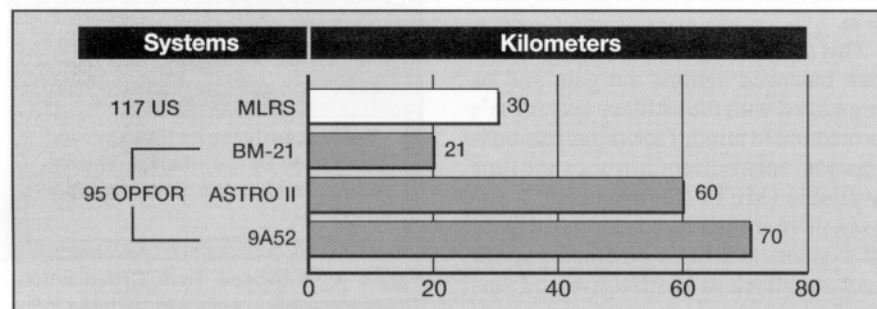


Figure 2: Rocket Launchers in the Division BCTP Warfighter Exercise. The US multiple-launcher rocket systems (MLRS) outnumbered the OPFOR launchers slightly—1.2 to 1. But the OPFOR launchers had a decided range advantage.

The term "deep interdiction strike" is non-doctrinal. But it evolved from necessities driven by many BCTP exercises. Those necessities still exist. Therefore, I propose the following for conducting a deep interdiction strike. First, the primary purpose of the strike should be to kill high-payoff, long-range artillery systems. Second, the unit must conduct a risk assessment to ensure that the gain would equal or exceed the loss.

To explore the concept further, I'll review artillery raids conducted by the 1st Marine Division in Kuwait in January 1991 to kill Iraqi artillery, among other HPTs.<sup>6</sup>

The I Marine Expeditionary Force's (I MEF's) mission was to deceive and disrupt Iraqi forces operating in defensive belts along the southwestern border between Kuwait and Saudi Arabia. After conducting mission analysis, the MEF commander decided to push his artillery forward—to conduct an artillery raid—because of the depth of the targets. The raiding task force was the 5th Battalion, 11th Marines (5/11), consisting of two M198 batteries (155-mm, towed), one M109A3 battery (155-mm, self-propelled) and one M110A1 battery (8-inch). These were all GS assets.

Accomplishing the raid mission and protecting the force were considerations for determining the organization of the task force. The task force had a light armored infantry (LAI) company assigned to reconnoiter the firing position and secure the area. The task force used a forward air controller (FAC) to control EA-6B Prowlers to jam ground surveillance radars (GSRs) when the task force entered the enemy's range fan. Additionally, the FAC had F-18s and A-6Bs on-call to attack certain targets in coordination with the artillery, when appropriate.

Other assets under the operational control of the task force commander were a communications detachment to provide global positioning navigation and satellite communications; a motor transport battalion to provide heavy equipment transport (HET); an amphibian assault battalion; and a surveillance, reconnaissance and intelligence detachment to provide a mobile electronic warfare (EW) capability.

The task force conducted three raids. In the first, an infantry brigade command post was the primary target with secondary ones being targets of opportunity within the AO. In the second raid,

the target was an Iraqi signal intelligence site with GSRs near the Umm Gudair oil fields. And in the last raid, the target was two Iraqi artillery batteries. All the raids were considered successful.<sup>7</sup> The raids provided the commander options to deal with special situations.

Generally, the purpose for adopting a deep interdiction strike strategy should be to kill long-range, high-payoff artillery systems—most frequently the HPTs that are the greatest threat to friendly forces. Positioning MLRS within range of these systems will allow divisions to be proactive in killing them without having to depend on the corps army tactical missile system (ATACMS).

In the last three division/corps BCTP exercises, the enemy's ability to use his standoff range and the division's inability to employ counterfire against those targets greatly reduced our capacity to defend ourselves. During our Warfighter, we passed targets out of range to the corps artillery. The corps artillery engaged some of these targets, but the enemy presented too many targets for the corps to engage with ATACMS. In addition, it took too long to clear ATACMS to attack these fleeting artillery targets.

We also planned deep attacks against systems that were out of range. However, the OPFOR knew the division usually conducted deep operations after end of evening nautical twilight (EENT) and usually attacked artillery systems. Knowing this, the OPFOR habitually conducted survivability moves immediately after EENT in an effort to complicate our targeting. We can't depend on ATACMS, Apaches and Air Force assets to kill the long-range enemy artillery—especially when his artillery is just outside our range fan, massing fires on our division forces. We need a rapid, deadly counterfire response. We must have a tactic that deals with this situation.

This tactic must be based on a prudent risk balanced against the gain and be organized with the artillery task force's protection in mind. Task organization is mission, enemy, terrain, troops and time available (METT-T)-dependent; however, there are certain concepts and types of systems that must be employed for such an attack to be effective and survivable.

During the planning for the USMC raids, a ground maneuver force was attached to ensure the effectiveness of

the mission and the survivability of the task force. Another key to the protection of the force is the Q-37 Firefinder radar. The radar should be linked (sensor-to-shooter) to an MLRS unit. This counterfire unit would be positioned forward with the other task force firing units but would remain silent until the enemy fired. Another option is to have an ATACMS battery prepared to protect the task force in cases where fires come from outside the MLRS range fan.

Other forces supporting the task force should include engineers to dig in survivability positions and reconnoiter the raid routes; on-call medical evacuation assets; on-call attack, fixed-wing air support and preplanned EW, the latter to jam GSRs; dedicated intelligence sensors to refine targets and assess the battle damage; Air Defense Artillery (ADA); and nuclear, biological, chemical (NBC) reconnaissance assets. All the elements combined create a formidable task force capable of ranging the enemy's long-range, high-payoff artillery while minimizing risk. Given that METT-T will determine the exact composition of the task force, Figure 3 shows an example of an artillery task force organization. Figure 4 shows an MLRS task force forward in an extended FLOT—an artillery raid.

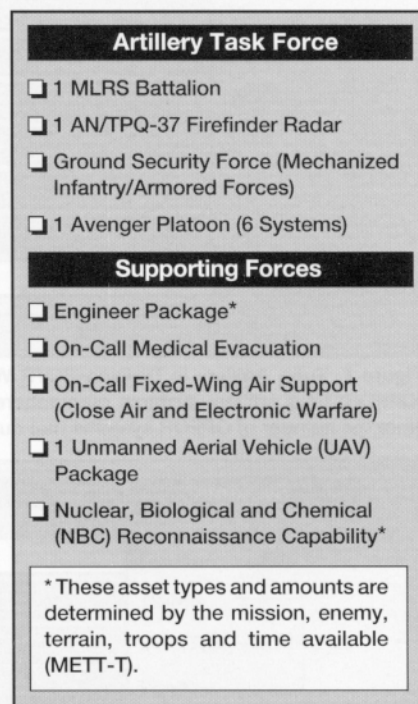


Figure 3: Proposed Task Organization. These elements create a formidable force to range the enemy's long-range high-payoff artillery while minimizing the risk to friendly forces.



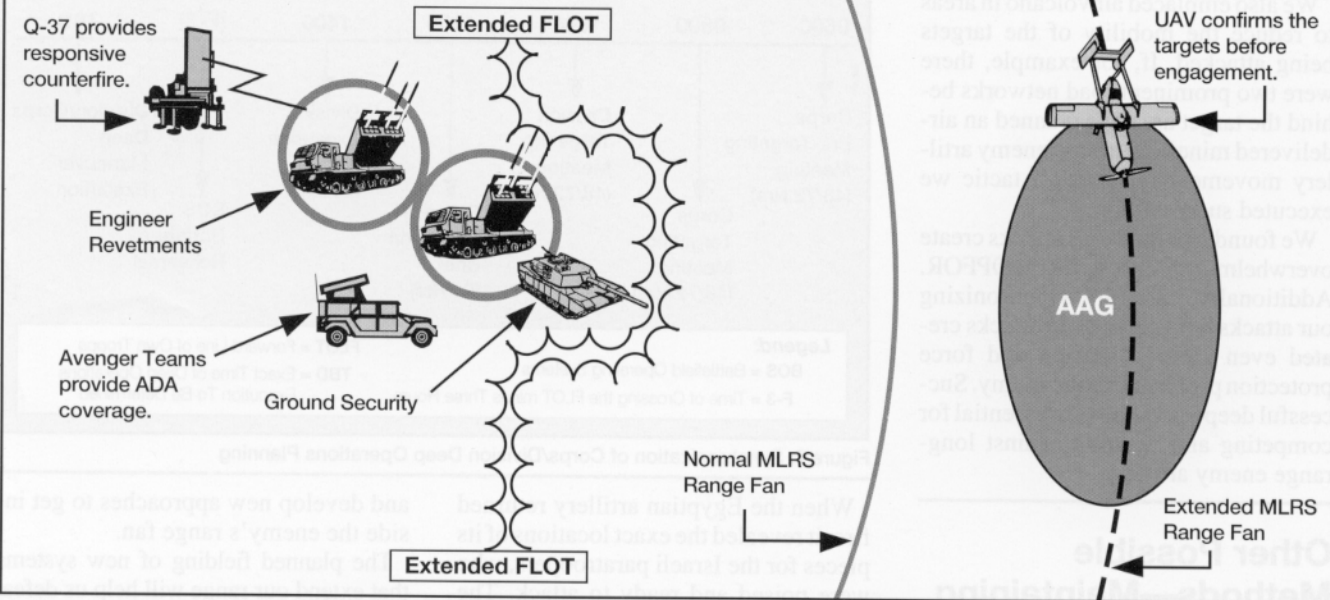


Figure 4: Extended FLOT. In this example, MLRS extends the previously established forward line of own troops (FLOT) to range the enemy's army artillery group (AAG). As the FLOT extends for MLRS, maneuver units secure position areas forward, further increasing the depth of the attack.

## Deep Operations—Leveraging Assets

Another important key in competing with enemy long-range artillery is division and corps deep attacks. In the 4th Division, the commander forms a deep operations coordination cell (DOCC) to help plan, coordinate and execute division deep operations as well as coordinate deep operations with corps or a joint force headquarters. Our philosophy combines deep maneuver, deep fires, command and control warfare (C<sup>2</sup>W) and countermobility operations. The DOCC is comprised of two teams: targeting and execution.

The targeting team (see Figure 5) deconflicts and synchronizes corps and division deep targets. It keeps division lookers and shooters synchronized through the life of the current plan using 24-, 48- and 72-hour time blocks. It also participates in deep operations working groups that war-game each day's operations and develop a detailed F-Hour (cross-FLOT hour) sequence to synchronize each deep attack. The targeting team lays the ground work for the execution team.

The execution team (Figure 6) oversees the execution of the deep operation. It ensures synchronization occurs between all echelons and forces concerned—an ongoing process. (See Figure 7 on Page 24.)

The synchronization sequencing begins at 0600 when the division's corps

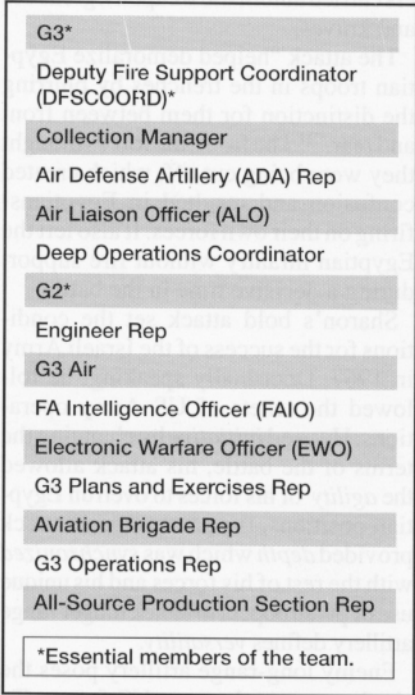


Figure 5: Deep Operations Coordination Cell (DOCC) Targeting Team

liaison officer (LNO) attends the corps targeting meeting. This meeting provides the division the corps deep forecasts for 24, 48 and 72 hours. The corps' forecasts and deep targets are back-briefed to the targeting team.

At 1000, the division targeting meeting convenes. Targets for the 24/48/72 hours are discussed and formalized. At 1200, the corps LNO attends the decision briefing to the corps commander.

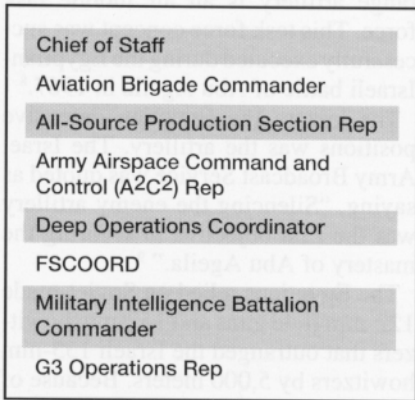


Figure 6: DOCC Execution Cell

At 1400, the division execution briefing covers the deep operations planned for that evening.

The execution team meets at approximately F-3—three hours before cross-FLOT operations. This team conducts final coordination, target refinement and the deep operations rehearsal to ensure the success of the mission.

In planning our deep operations, we integrated the division's close air support (CAS) nominations and short-duration air volcano (scatterable mines emplaced by helicopters) for simultaneous attacks across the battlefield. For example, during the first phase of our deep attack, we had the Air Force strike the AAG while attack helicopters attacked the AGRA. The attacks then shifted—the attack helicopters targeted the AAG while the Air Force fast movers went after the AGRA.

We also emplaced air volcano in areas to reduce the mobility of the targets being attacked. If, for example, there were two prominent road networks behind the target area, we planned an air-delivered minefield to stop enemy artillery movement rearward, a tactic we executed successfully.

We found simultaneous attacks create overwhelming problems for the OPFOR. Additionally, carefully synchronizing our attacks with corps deep attacks created even more confusion and force protection problems for the enemy. Successful deep operations are essential for competing and winning against long-range enemy artillery.

## Other Possible Methods—Maintaining Flexibility

Another asset to attack enemy long-range artillery is an air mobile task force. This task force concept was successfully executed during the Egyptian-Israeli battle of Abu Ageila in 1967.<sup>8</sup>

The key to the Egyptian defensive positions was the artillery. The Israel Army Broadcast Service was quoted as saying, "Silencing the enemy artillery was the first objective in securing the mastery of Abu Ageila."<sup>9</sup>

The Egyptians relied on Soviet-made 122-mm field guns and 152-mm howitzers that outranged the Israeli 155-mm howitzers by 5,000 meters. Because of his range disadvantage, Israeli Brigadier General Sharon decided to use a paratroop brigade with two battalions against the prepared artillery positions.

In drawing up this bold and complicated plan, Sharon used three waves of six CH-34 Choctaw helicopters to transport 200 paratroopers to their landing site. Sharon then unleashed an artillery preparation that lasted for 30 minutes. Sharon's reaction to the preparation—"For half an hour, the fire was tremendous...I have never seen such fire in all my life."<sup>10</sup>

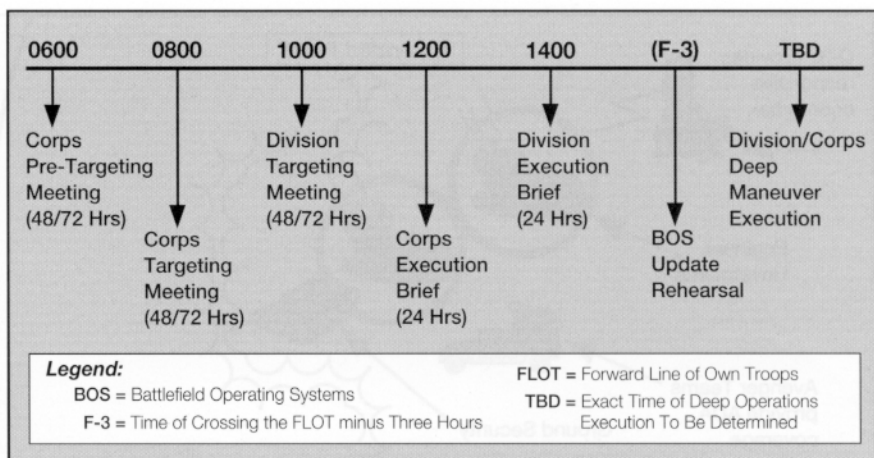


Figure 7: Synchronization of Corps/Division Deep Operations Planning

When the Egyptian artillery returned fire, it revealed the exact locations of its pieces for the Israeli paratroopers, who were poised and ready to attack. The attack was divided into three companies with each platoon targeted on an Egyptian gun emplacement. The paratroopers carried automatic weapons, grenades and knives.

The attack "helped demoralize Egyptian troops in the trenches by blurring the distinction for them between front and rear."<sup>11</sup> The front line forces thought they were being cut off, which created confusion and resulted in Egyptians' firing on their own forces. It also left the Egyptian infantry without fire support during a decisive time in the battle.

Sharon's bold attack set the conditions for the success of the Israeli Army in 1967. Doctrinally speaking, he followed the tenets of US Army operations. He used *initiative* by changing the terms of the battle, his attack allowed the *agility* of his forces to overrun Egyptian positions, the paratroopers' attack provided *depth* which was *synchronized* with the rest of his forces and his unique use of paratroopers to attack longer range artillery defines *versatility*.

Enemy long-range artillery poses the single greatest threat to US forces. To defeat these systems, we need to surprise the enemy—do the unexpected—

and develop new approaches to get inside the enemy's range fan.

The planned fielding of new systems that extend our range will help us defeat the enemy's artillery positioned deep. But until they're fielded, we will continue to be challenged by this threat. The Army must use bold, decisive and lethal means to beat the enemy's long-range artillery.



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### Notes:

1. Training and Doctrine Command (TRADOC) Pamphlet 350-16 Heavy Opposing Force (OPFOR) Tactical Handbook, (Fort Monroe, VA: Headquarters, TRADOC, 1994), 8-8.
2. "Inherent Responsibilities of FA Missions," FM 6-20 Fire Support for AirLand Battle (Fort Monroe, VA: Headquarters, Training and Doctrine Command, 1988), 2-9.
3. Tactical Air Command Pamphlet (TACP) 50-20 Multi-Procedures for Joint Air Attack Team Operations (Washington, DC: Headquarters, Department of the Air Force, October 1991), 1-1.
4. FM-6-50 Tactics, Techniques and Procedures for the Field Artillery Cannon Battery (Fort Monroe, VA: Training and Doctrine Command, 20 November 1990), F-5.
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6. LTC James L. Sachtleben, USMC, "Artillery Raids in Southwestern Kuwait," *Field Artillery*, PB6-91-5 (October 1991), 25.
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8. Dr. George W. Gawrych, "Key to the Sinai: The Battles for Abu Ageila in the 1956 and 1967 Arab-Israeli Wars," Research Survey No. 7, Combat Studies Institute, Command and General Staff College, Fort Leavenworth, KS, 1990.
9. *Ibid.*, 96.
10. *Ibid.*, 107.
11. *Ibid.*, 109.