# The Effectiveness of Artillery and the Maneuver Commander

**by Colonel Bruce B. G. Clarke (Retired)**

The recent controversy about the effectiveness of field artillery at the NTC is gaining extensive coverage and generating debate within the Field Artillery branch. But my experience suggests that the problem, and its solution, does not lie in the field artillery community but with maneuver brigade commanders. They are impatient in their execution and do not ensure that fires are integrated into maneuver plans at every level. I learned these lessons at the NTC school of hard knocks and would like to pass on my maneuver-oriented solution in terms of responsibilities for each echelon of maneuver command.

For artillery to be effective on the battlefield, rounds must arrive on the battlefield where the enemy is — not where he was — at the time that the request for fires was submitted. To do this, critical targets and decision points must be observed and the designated "trigger-pullers" must perform their duties. This creates the following requirements for commanders at every level.

The brigade commander must:

- Position his artillery to support his scheme of maneuver. With the speed of maneuver of modern teams and task forces, there is a possibility of outrunning one's artillery. This means that firing units must be integrated into the maneuver scheme so that the tubes are positioned to fire at the critical places and times.
- Provide a clear explanation of his vision — how he sees the battle unfolding and where the artillery fits into that vision. This is directly tied to the position of the artillery and provides the focus for targeting.
- Designate his critical targets as part of the top-down fire-planning effort. In this process, the use of sequences of fires keyed to options can be very useful. We will use an example to highlight this approach.
- Position the brigade COLT to observe critical targets and assign subordinate units to observe the others.
- Tightly control the number of targets allowed. This is tied to the commander's focus and vision of what he wants his artillery to accomplish.

The maneuver battalion commander must:

- Understand the brigade commander's vision of the battle.
- Refine the brigade target list
- Designate his critical targets and assign primary and secondary responsibilities for executing those targets. Execution is tied to decision points, which are observed by battalion or brigade assets.

At the company level, the company commander must:

- Understand how his mission fits into the higher commander(s') vision of the battle.
- Assign primary and secondary responsibilities for executing targets — observing decision/trigger points.
- Plan the maneuver of his fire support team (FIST) as he does a platoon, so the FIST can provide fire support in a timely and accurate manner.
- Be patient in execution, i.e., wait for the artillery to influence the battle. (When artillery rounds impact, so should long-range direct fires.)

During a 30-minute direct-fire battle, the direct support (DS) battalion can only fire four or five battalion four-round fire missions, for a total of 72 rounds per mission. (The reduction of the size of DS battalion has increased the number of rounds that each tube must shoot to bring effective fires on the target. For example, to get reasonable target effect on a Russian-type force of BMPs and T72s, 48 to 72 rounds are required.) The brigade and battalion commanders thus must ensure that those four or five missions are executed when and where they want them.

In this regard, a sequence of fires that integrates the fires of the DS artillery

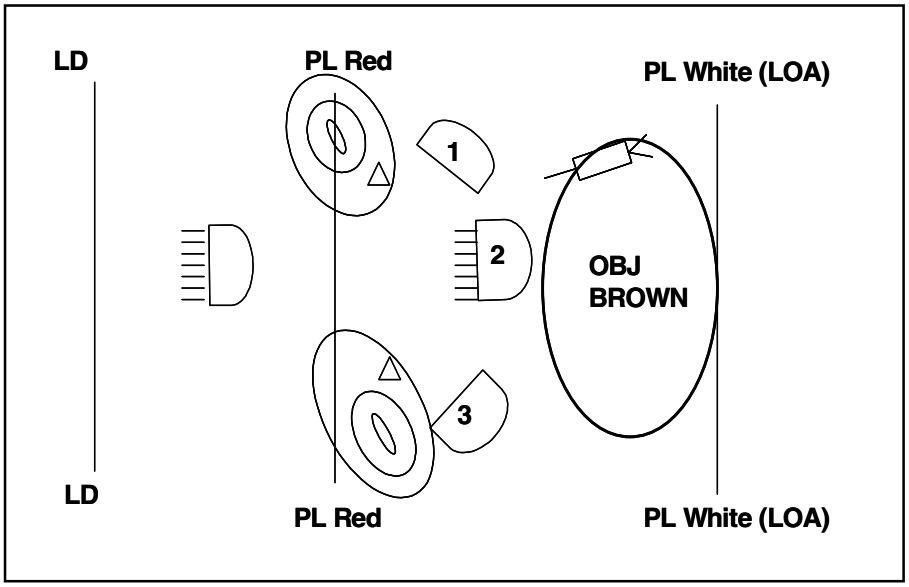


**Figure 1. Typical Motorized Rifle Company Defense. A platoon-sized element in the security zone between the line of departure (LD) and phase line red (PL Red). The main defense has three motorized platoons and an anti-tank (AT) platoon defending the rear slope of a pass between PL Red an PL White with observation posts on the forward slopes of the hills.**

battalion with the maneuver of supported forces is a key ingredient of success. Such a time-phased plan will ensure that the artillery tubes are positioned and available for those four or five missions.

A sequence of fires tied to each of the maneuver options also allows the maneuver commander to position and plan for fires of his mortar platoon to complement and reinforce the other fires. During periods other than the intense 30-minute close-in battle, the indirect fires would be planned on anticipated targets and then shifted based upon the situation. The intelligence preparation of the battlefield (IPB) is critical in the development of such a sequence — trigger points must be determined and included in the plan to ensure the fires arrive on target in a timely manner. Figure 1 illustrates a scenario for such a sequence of fires.

Given the enemy disposition in Figure 1 and the mission to seize an objective in the vicinity of the Limit of Advance (LOA), the brigade commander issues his intent. He wants to rapidly attack and destroy enemy elements in the security zone to protect friendly lines of communication and continue the attack to seize the objective, emphasizing speed and massing combat power on an enemy flank. He wants to avoid being sucked into a kill sack and forced to engage the entire force. This plan would enable the enemy's defeat in detail.

The brigade commander assigns this mission to a task force and builds the sequence of fires to support the scheme of maneuver and his intent.

The task force commander and his fire support officer (FSO) are given a top-down target list and a fire support execution matrix. The fire support execution matrix contains those targets the brigade commander considers crucial to the battle and tells the task force commander to assign observers to execute the targets. As he develops his plan, the task force commander includes the brigade-directed targets, assigns execution responsibilities, and sequences artillery and mortar fires with his mortar fires, direct fire, and maneuver.

In this situation, the task force commander plans an on-call artillery mission on the enemy platoon in the security zone. This mission starts the sequence of fires shown in Figure 2.

If the platoon in the security zone was located on a planned target location, the time from the call for fire to rounds complete can be five minutes for three battalion volleys (72 rounds). If the planned location is inaccurate, the fire mission will take eight to ten minutes to complete. Winning the reconnaissance battle and developing accurate locations for targets in the sequence of fires can save three to five minutes per artillery fire mission. In a 30-minute battle, that can mean the difference between three and five battalion fire missions.

In the planned sequence of fires, the task force commander has decided to penetrate the enemy's defense on its right flank by integrating direct and indirect fire on the right flank platoon. At the same time, his mortars will fire on the other two platoons to fix them and isolate the right platoon.

The task force commander's sequence of fires includes specific targets that the brigade commander considers critical (or refined adjustments of the brigade targets) and targets that he and his company commanders develop to support their scheme of maneuver.

In units where the artillery fire is effective, company commanders position their FISTs on the battlefield to call for the preplanned targets that support their schemes of maneuver — not just have the FISTs follow them around the battlefield. This includes positioning them to execute the battalion or brigade commander's assigned targets. Successful company commanders plan to maneuver their FISTs in the same manner that they plan to maneuver their platoons — they develop a series of positions for the FIST to occupy to facilitate their mission.

## Synchronization of Fire Support and Maneuver

The development of the brigade synchronization matrix and its supporting sequence of fires, maneuver plan, etc., allows for the synchronization to occur down to the platoon level. When such synchronization happens, mass is achieved and victory is assured.

An example of such a brigade-level synchronization plan is shown in Figures 3 and 4. Figure 3 shows the brigade deep attack on a motorized rifle regiment (MRR) on one of two avenues of approach. Deep fires were the responsibility of the brigade COLTs and

**Indirect Fires Sequence of Fires**

| Time | Target | Observer/Executor | Firing System |
|---|---|---|---|
| H + 5 min | Platoon in Security Zone | TM____ | FA |
| H +13 min | OP | TM____ | FA |
| H + 13 min | OP | TM____ | Mortars |
| H + 21 min | | TM____ | Mortars, 50 % HE, 50 % smoke |
| H + 21 min | PLT Psn 1 | TM____ | FA |
| H + 23 min | PLT Psn 1 | TM____ | Mortars, 50% HE, 50 % smoke |
| H + 29 min | PLT Psn 1 | TM____ | FA |
| H +29 min | AT PLT | TM____ | Mortars, 50% HE, 50 % smoke |

**Figure 2: Sequence of Fires. This table shows the on-call artillery mission the TF commander planned on the enemy platoon in the security zone (See Figure 1). In the operation synchronization matrix, the movement of the artillery is keyed to each phase of the battle (Figure 3). To satisfy the commander's intent, sufficient firing batteries/platoons must be in position and ready to fire during the crucial stage(s) of the battle.**

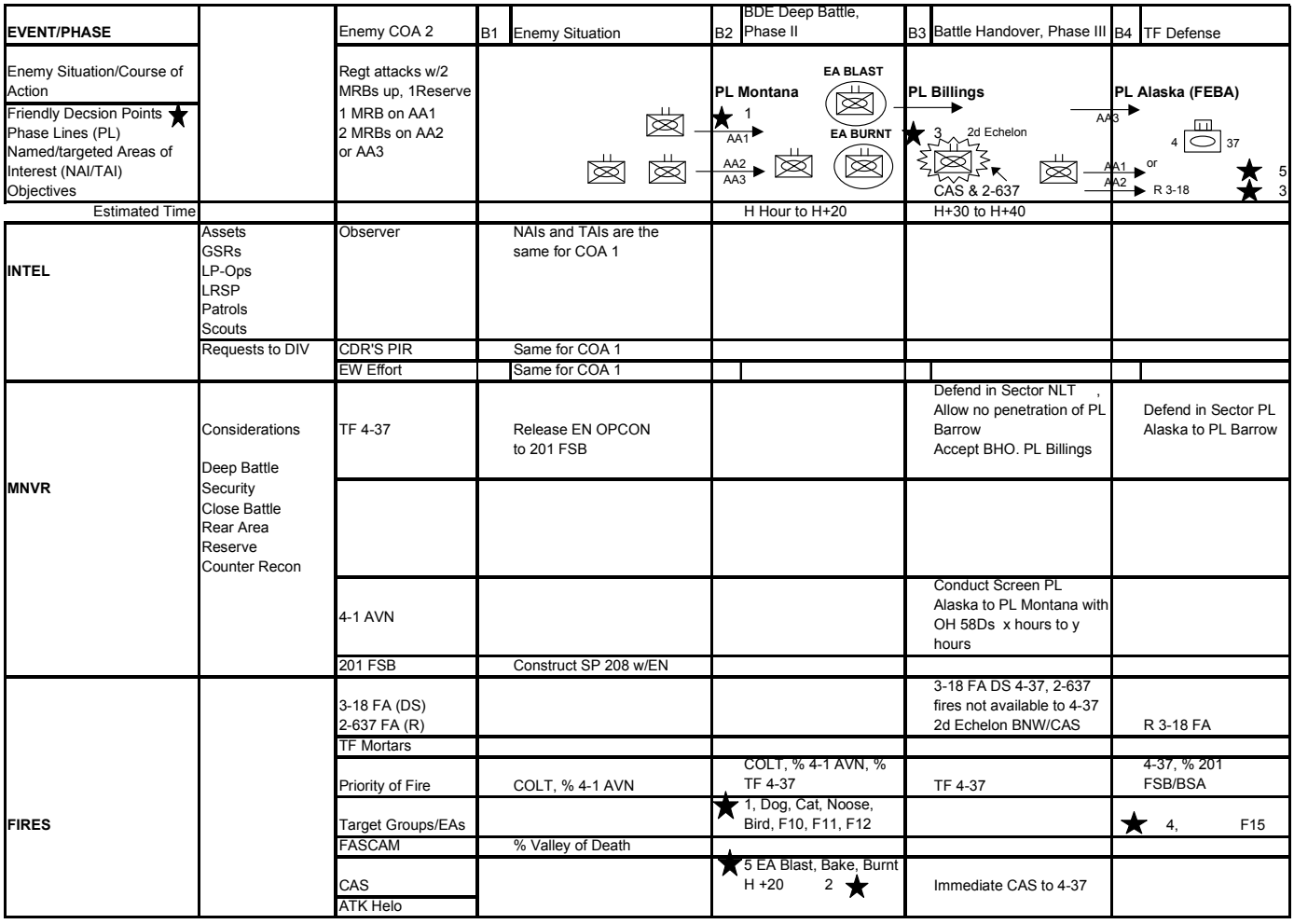


**Figure 3. Part of the brigade synchronization matrix. This matrix integrates fire support with maneuver during a BDE deep attack of a MRR on one or two avenues of approach. The COLTs were responsible for the deep fires and the TF for priority of fires forward of the FEBA. (The decision points are shown in Figure 4.) The matrix shown here and the one in Figure 4 clearly delineate target responsibilities, battle hand-off, and sequencing of fires to achieve the BDE commander's intent. The actual 3½-foot by 4-foot matrix includes sections for air defense, command and control, combat service support, and other BOS. In automated TOCs, much of this can be done using a computer workstation.**

the aviation element. Forward of the forward edge of the battle area (FEBA) there was a battle hand-off line where the forward TF assumed priority of fires with specified targets to execute in its engagement area. This process for the artillery is shown in Figure 4. In this example, there were multiple sequences of fire developed. Each enemy course of action (COA) prompted a complete planning cycle. In this case, the enemy turned and the realization of that action prompted sequence B, Course of Action 2 to go into effect. This planning technique allows for multiple branches and sequels and the corresponding artillery fires to support them. The only limitation is the planning time for each branch and sequel. In some cases, such as the use of FASCAM in the example, you may be seeking to deny the enemy a course of action and force him to follow a course that you prefer.

The reader should note the use of decision/trigger points for the execution of specific targets in specific areas. Each of these trigger/decision points requires a sensor or observer to signal when the clock starts. Once a sequence starts, the enemy can be under continual fire until he changes, in an unforeseen manner, his activity.

With the fires orchestrated and organized in this way, the artillery commander is now free to plan the movement of his batteries and can deconflict firing areas with the brigade staff. Fire and movement are thus carefully linked.

The sequence of fires shown has extended the time of engagement and thus enemy causalities while ensuring accurate fires. Increasing the depth of the battlefield has increased the time to engage. The sequence of fires causes the fires to move with the anticipated movement of the enemy, and the designated trigger pullers/observers means that if the enemy deviates a new course of action is immediately taken and fires are shifted accordingly.

In the rehearsal and brief-back portions of the preparation phase, the brigade commander can ensure that his intent is being followed by tracing the assignment of targets all the way down to the FIST team or platoon that is responsible for pulling the trigger on a specified target. This is easy to do if each level of command is using synchronization matrices for the assignment of responsibilities. In digital units, this may also be tracked through digital methods. AFAATDS, FBCB2 and other software/hardware improvements will facilitate the process discussed in this article.

In many cases, synchronization has been planned and artillery targets de-

**Brigade Fire Support Execution Matrix**

1. Commanders Intent for Fire Support:
   a. Fire FASCAM in Valley of Death (4000) vicinity, and follow that up with a series to stop thrust there.
   b. Plan series in southern corridor both north and south of hill 700 to attrit enemy in deep battle.
   c. BHO to TF 4-37 at PL Billings. Mass both battalions PL Billings to PL Alaska.
   d. COLT, OH58Ds deep to fight deep battle.
2. Fire Support Execution Matrix

| | Decision Points | | | | | |
|---|---|---|---|---|---|---|
| | | PL Montana | | PL Billings | PL Alaska | PL Barrow | |
| TF 4-37 | Phase I Occupation | | Phase II BDE Deep Battle | Phase III Battle Hand Off BB0017, BB0018, BB0016 | TF Defense B18,B28 | | Phase IV Rear Battle |
| 4-1 AVN | OH 58D targets → | | | | | | |
| COLTS | | | Dog, F10, Cat, F11, Mouse F12 | | | | |
| BDE | | | Immediate CAS in EA Blast, Burnt, Bake in (EN) w/COLT | | | | |
| FPF, Priority Targets | COLT 3-Pri Targets | | COLT 3-Pri Targets | TF 4-37, 3 Pri Tgts, 1 FPF | TF 4-37, 2 Pri Tgts, 2 FPF | | BSA 2-Pri Tgts |
| Priority of Fires | COLT % 4-1 AVN | | COLT % 4-1 AVN, % TF 4-37 | TF4-37 | TF 4-37, % BSA | | BSA |
| FSCOOD Measures | | | CFL--PL Billings | CFL--PL Billings, % PL Billings | CFL--PL Alaska, % PL Barrow | | CFL PL Barrow |
| BSA | | | | | | | |

3. Coordinating Instructions:
   a. BDE CFL PL Billings
   b. Target allocations: BDE 35, TF 4-37-15, BSA-10
   c COLT positioned vicinity of 332983 under BDE control to observe Bicycle Lake Pass
   d. Trigger for F10, F11, F12 is vicinity 357011

**Legend:**
FPF--Final Protective Fires
Pri Tgts--Priority Targets
CFL--Coordinated Fire Line

**Figure 4: Fire Support Execution Matrix which provides more detail than the BDE Synchronization matrix shown in Figure 3. This matrix shows the decision points for the TF's priority of fires forward of the FEBA.**

veloped, but mass isn't achieved. This is usually because either discipline has broken down or maneuver commanders lose patience. Discipline breaks down when we let targets be fired upon that are not the ones that are **critical** to the commander's intent. The fire direction officer (FDO) and artillery battalion S3 are key in helping the FSOs and the fire support coordinator (FSCOORD) maintain such discipline.

Patience isn't practiced when the maneuver commander isn't willing to wait the five to seven minutes it takes to get artillery fires on the target and he hasn't built his sequence of fires to support his scheme of maneuver. He goes charging into a kill sack instead of waiting.

In either case, mass isn't achieved and victory escapes our grasp. Synchronization of fires and maneuver in our plans and ensuring that we have the patience and discipline to execute our plans is the key to effective artillery fire at the NTC and, ultimately, in combat. The burden for such an effort rests on the maneuver commander. He sets the intent and battlefield framework and provides the priorities. He is an integral part of the artillery's effectiveness.

Bruce B. G. Clarke is a self-employed consultant and a retired Army colonel with extensive strategic, operational, and tactical experience. Additionally, as a former foreign area officer and Army strategist, he has lived and studied European and Middle Eastern issues. Colonel Clarke has worked with small and large companies — Raytheon, ER Labs and QuVIS, for example. He was the Training Manager at the Royal Saudi Land Forces Armor Institute in Tabuk, Saudi Arabia, supervising the fielding of the M1A2 tank. Before retiring from the U.S. Army, he was the Director of International Security Studies at the Army War College, and before that commanded the 2d Brigade, 1st Infantry Division. He also commanded the 2d Squadron, 11th Armored Cavalry Regiment and A Troop (Airborne/Mechanized), 3d Squadron, 8th Cavalry. He served as: a district advisor in Vietnam; a battalion-, brigade- and division-level staff officer; a political-military analyst at the Arms Control and Disarmament Agency, where he actively negotiated with the Soviets; and a staff officer on the Army Staff. He is a 1965 graduate of West Point and taught in the Department of Social Sciences there. He has a Masters of Arts Degree from UCLA and is a graduate of the Command and General Staff College and The National War College.

**Legend**

% = On Order
AA = Assembly Area
ALO = Air Liaison Officer
BHO = Battle Hand Off
BSA = Brigade Support Area
CAS = Close Air Support
Cdr's PIR = Commander's Priority of Intelligence Requirements
DS = Direct Support
EN = Engineer Unit
EW = Electronic Warfare
FASCAM = Family of Scatterable Mines
FSB = Fire Support Base
GSRs = Ground Surveillance Radars
LP/OPs = Listening/Observations Posts
LRSD = Long-Range Surveillance Detachment
OPCON = Under the Operation Control of
R = Reinforcing
SP=Strongpoint