



# Field Artillery.

*Professional Bulletin*

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### Purpose

Originally founded as the *Field Artillery Journal*, the *Field Artillery Professional Bulletin* serves as a forum for the discussions of all U.S. Army and U.S. Marine Corps Field Artillery professionals, Active, Reserves and National Guard; disseminates professional knowledge about progress, development and best use in campaigns; cultivates a common understanding of the power, limitations and application of Fires, both lethal and nonlethal; fosters Fires interdependency among the armed services, all of which contribute to the good of the Army, joint and combined forces and our nation. The *Field Artillery Professional Bulletin* is pleased to grant permission to reprint; please credit *Field Artillery Professional Bulletin*, the author(s) and photographers.

### Cover

SPC Thomas Caines, the guidon carrier for the Fort Sill Artillery Half Section, pauses in front of weapon systems displayed on the Old Post Quadrangle during the 2021 Marine Detachment change of command ceremony at Fort Sill. (Photo by Monica Wood, Fort Sill Public Affairs Office)



**COL (P) Shane P. Morgan**  
Field Artillery School Commandant

## There's never been a better time to be a Redleg!

By COL (P) Shane P. Morgan

TEAM: Greetings from Blockhouse Signal Mountain and Fort Sill, Oklahoma -- the home of the Field Artillery. COL Shane Morgan here -- incredibly excited to report for duty as the 56<sup>th</sup> Commandant of the United States Army Field Artillery School and the United States Army Chief of Field Artillery.

Our relevance as the *King of Battle* continues to grow while the role of the Field Artillery remains unchanged. Field Manual 3-09 *Fire Support and Field Artillery Operations* published in April 2020 clearly defines our role: to suppress, neutralize or destroy the enemy by cannon, rocket, and missile fire and to integrate and synchronize all fire support assets into operations. This role is just as critically important today as it has ever been -- mastering the fundamentals must remain our priority:

We are all Fire Supporters first. For good reason, accurate target location and size is the first of the Five Requirements for Accurate Predicted Fires. From the platoon-level Forward Observer to the division-level Fire Support Coordinator, our Essential Fire Support Tasks serve as a binding contract to enable the commander's scheme of maneuver. Every call-for-fire or fire mission starts with target location. We can never get this wrong!

We never put Artillery in reserve. In order to get all our guns and sensors into the fight, we must strengthen relationships with the commanders we support. For Redlegs, we earn their trust and confidence through responsive and accurate Fires. Our task and purpose remains fundamentally linked to the Five Requirements for Accurate and Predicted Fire -- nothing more / nothing less.

For the past 111 years, the Field Artillery School remains set ready to teach, train, and develop our people: Redleg Cannoneers of character and competence who deliver the devastating Fires required to win our nation's wars. This is who we are, and this is what we -- and only we -- do.

The Field Artillery is growing and full of incredibly unique opportunities. From the OP, through the Fire Direction Center, to the gun line, and from a firing platoon to the newly organized 56<sup>th</sup> Theater Fires Command, there are exciting developments happening across our branch. As a result, the Field Artillery remains ready to fight -- and win -- Large-Scale Combat Operations with devastating Fires.

The Chief Warrant Officer of the Branch, CW5 Rolando Rios, the Command Sergeant Major of the Branch, CSM Michael McMurdy, and I stand ready to support you in this shared mission.

*There's never been a better time to be a Redleg!*

King of Battle!





**CSM Michael J. McMurdy**

*Command Sergeant Major  
of the Field Artillery*

Redlegs,

Please join me in welcoming our 56<sup>th</sup> Commandant and Chief of the US Army Field Artillery, COL (P) Shane Morgan and his wife Katy! Redleg 6, we are fortunate to have you return to Blockhouse Signal Mountain and look forward to your leadership of the branch.

I would like to remind our Artillerymen and women there are some changes within our Professional Military Education courses that are effective in FY23 (inclusive of all Enlisted, Warrant, and Commissioned Officer courses at Fort Sill and our eight Regional Training Institutes).

-All Courses: In accordance with HQDA EXORD 153-22, classes beginning after October 1, 2022, require passing the Army Combat Fitness Test as a graduation requirement unless qualified to receive an Exception to Policy outlined in Army Directive 2022-06 (Parenthood, Pregnancy, and Postpartum).

-Advanced/Senior Leaders Course: NCOs scheduled for classes beginning after October 1, 2022, will conduct the first three days of the course via distance learning, using Blackboard from home station for Phase I. NCOs are scheduled for subsequent phases in person at the Fort Sill NCOA or designated Regional Training Institute. Scheduling for all phases is sequential, meaning NCOs should receive ATRRS reservations that reflect continuous enrollment through completion allowing for travel days after Phase I. If NCOs have difficulty accessing Blackboard or any concerns during distance learning, please contact the Fort Sill NCOA or Regional Training Institute leadership.

We are humbled to serve you and our Field Artillery community. We look forward to another year of progress, leader development, and driving change. Guns up and King of Battle!

RL7





PFC Kamarean Stratman prepares a round during the live fire exercise for the 2nd battalion, 2nd Field Artillery goodbye to their Commander, LTC James O. Johnson, with a ceremonial firing of his last round. (Photo by Edward Muñiz, Fort Sill Public Affairs Office)

# Field Artillery: Shield of the Continental Army

By Dr. John Grenier, Field Artillery Branch Historian

The Field Artillery's 247th birthday on November 17, 2022, is approaching, and FA units across the Army surely will gather to celebrate the Branch's long and distinguished history. Very often, the emcee at birthday balls and dining-ins will give a short history of the Branch, starting with Henry Knox and the cannons at Dorchester Heights, before he/she quickly jumps to better known, more-recent history, such as the World Wars, the Cold War, or the War on Terror. That said, we encourage Redlegs not to overlook the early history of the Branch in their professional-development study. A close look at the FA's first "battle" at Dorchester Heights in March 1776 can offer both a cautionary lesson about a stronger military force underestimating the will and capabilities of its enemies and the Continental Army's first uses of FA. Coincidentally, it was the FA at Dorchester Heights that was the reason for America's first major military victory.

Today we know FA as the King of Battle. In the Army's early years, however, American commanders used FA primarily as the Shield of the Continental Army, as a strategic deterrent and operationally defensive arm. As we approach the Branch's birthday, we will be well served by digging a little deeper into its history and thinking a bit more deeply about the things that we believe we already know.

King George III sent MG William Howe to America in March of 1775 to command the 4,000 British Redcoats tasked with suppressing the rebellion in the colonies. Howe was not particularly worried when he reached Boston on May 25 to lead his command into the field. During the previous war in North America, the Seven Years' War, Howe served alongside American provincial forces or colonists who served during contractually bound periods of time in battalions that their home colonies raised and led. Howe's

experiences with Americans led him to think very little of their fighting capabilities, explaining why he initially proved reluctant to enlist Americans in either provincial Loyalist battalions or regular British regiments.

When he arrived in the New World, he found that Rebel militia had laid siege to Boston after Lexington and Concord in April, destroying effective British governance and the crown's authority everywhere not directly under Army control. However, Howe believed that when push came to shove, Americans could not—and would not—stand up to British regulars in an open-field fight. After surveying the situation before him, Howe wrote to the War Office in London and requested an additional 12,000 Redcoat infantrymen, several batteries of light and mobile FA (carriage-mounted 4- and 6-pound cannons; he had plenty of heavy, immobile guns he could take from Royal Navy ships), and a couple of regiments of dragoons (infantry that rode into battle on horses but dismounted and fought on foot). With those reinforcements, he suggested, he could smash the Rebel militia to pieces in short order and not bother being distracted with winning hearts and minds, as some political leaders suggested. Schooled in the eighteenth-century art of war, Howe saw the problem before him almost exclusively in military terms, and he harbored little interest in seriously assessing the Rebels' will to fight. Howe thus put his staff to work on building tactical and operational-level plans to break the siege of Boston as the first step toward annihilating the militia in a decisive battle somewhere in the countryside.

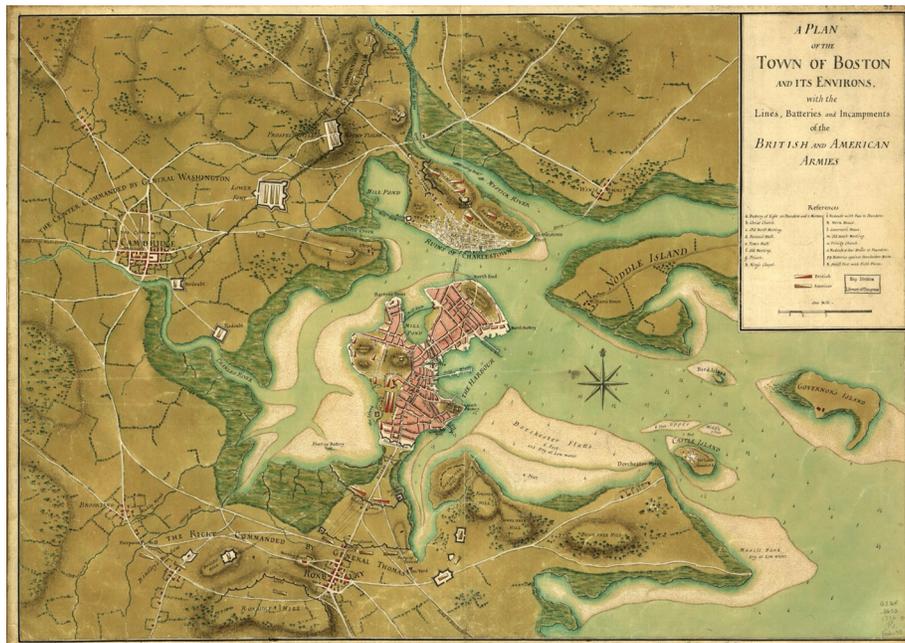
On June 13, 1775, Rebel leaders learned that Howe intended to secure the unoccupied hills that overlooked the Charlestown Neck and the road from Boston to Lexington. They spent two full days weighing their options and planning their response. On the night of June 16, they sent 1,200

militia under co-command of Massachusetts's William Prescott and Connecticut's Israel Putnam to fortify Bunker and Breed's hills. At sunrise on June 17, LTG Thomas Gage, the British commander in chief in America, ordered Howe and MG Henry Clinton (one of Howe's two deputy field commanders) to lead 2,200 Redcoats to drive the Rebels from the heights. Two assaults on the hastily constructed Rebel position on Breed's Hill followed, where either Prescott or Putnam apocryphally uttered the famous order "Don't fire till you see the white of their eyes." The militia repulsed the Redcoat charges at great cost both to the British and to the Rebel supply of powder and ball. A third wave, however, finally overwhelmed the Rebels behind their breastwork, compelling them to retreat over Bunker Hill (which gave the engagement its name, the Battle of Bunker Hill).

Little has been written about the American lessons learned from Bunker Hill. While a Pyrrhic victory for the British—they suffered over 1,000 casualties, including 100 commissioned officers with combat experience—Bunker Hill also cost the Rebels over 400 Killed in Action and Wounded in Action. After confirmation that the Redcoats indeed fought like enraged lions released from a cage, Rebel leaders knew they could not sustain a thirty-three percent casualty rate each time they sent their formations into battle. Avoiding the regulars became a priority, and they conceded that asking militia to stand against them without a preplanned escape route was to potentially offer them up for slaughter. If only they had FA in support, many Rebel regiment commanders said, they might better stand their ground.

On the other hand, tradition has it that Howe learned a painful lesson on June 17, 1775, and he determined never to attack entrenched Rebels again. But MG John Burgoyne, Howe's other deputy, noted something quite different in his after-action report on Bunker Hill: "nothing happened there, or in any of the little affairs since, that raises them, in my opinion, one jot above the level of all men expect in the use of firearms." Neither King George's ministers nor the War Office, Burgoyne noted, should make too much of the Rebels' accomplishment to "defend one of the strongest posts that nature and art combined could make, and then run away." Howe—and Burgoyne and Clinton—in fact, remained more than willing to charge up any hill, anywhere in America, that held Rebels ... as long as only Rebel infantry awaited them.

In that context, Howe was heartened to learn that on June 14, 1775, the Continental Congress in Philadelphia created the Continental Army and gave its command to George Washington



This map of Boston and its environs in 1775 shows the commanding position that "Dorchester Hill" to the southeast offered Washington and his artillery, as well as the relative location of Bunker and Breed's hills to the immediate north of the town. Image from the Library of Congress, in the public domain.

instead of Charles Lee (a brilliant but mercurial British officer who had retired to a plantation in Virginia). Howe knew both of them, and he preferred to face off against the military dilettante Washington, a former colonel of Virginia provincials, who during the Seven Years' War, the War Office several times refused to commission as even a major in the regular British Army. More significantly, Congress made the Continental Army predominately an infantry army—it contained no FA and claimed only a handful of poorly organized troops/squadrons of dragoons or cavalry. Howe and his deputies could barely wait to bring Washington to battle. They hoped the newly-minted general might imprudently consolidate the Rebel army

outside of Boston, rather than forcing them to chase it over hill and dale. As soon as the reinforcements arrived from Europe, they promised to get to work.

Bunker Hill, after all, had cost the British Army nearly a quarter of its effective fighting force in New England. Nonetheless, it took Parliament most of 1775 to authorize funding for additional regiments for America, and recruiters inside the British Isles struggled to find men willing to sail across the Atlantic Ocean to kill other subjects of King George. In the end, Parliament and the War Office resorted to hiring German mercenaries (the infamous Hessians) to fill out the British order of

set out for Boston on December 9; it took them until late January to move the guns, first by water and then by horse-drawn sleds, the 225 miles to Washington's camp at Cambridge. Almost immediately on Knox's return to the Boston area, Loyalist spies told Howe that the Continental Army now had artillery it could use against his forces and positions inside the town and on Charlestown Neck.

Washington waited over a month before he played his artillery card. Over the night of March 4-5, the Continental Army's FA bombarded British positions near Bunker and Breed's hills as a diversion while LTC Rufus Putman—

*Knox told Washington he could transport Ticonderoga's guns to Boston, giving the Continentals what the British respected.*

battle for 1776, but by the time they reached the colonies, the strategic and operational parameters of the war had changed radically.

Over the rest of 1775, the new normal fell over the war in New England, as the Continental Army watched the British Army passively sit in Boston while it waited for reinforcements. As rebels are wont to do, Americans tried to spread their rebellion (it was not a revolution until July 4, 1776) to Canada and thereby suggested they were in the war for the long haul. The Continental Congress also unanimously elected a twenty-five-year-old bookseller, Henry Knox, as "Colonel of a Regiment of Artillery" on November 17. Highly ambitious, intelligent, and wholly uninterested in serving in the infantry, Knox earlier proposed to Washington that he should allow him to travel to Lake Champlain, where in May, COL Ethan Allen and his militia had captured Fort Ticonderoga and its artillery and stores of ammunition.

Knox told Washington he could transport Ticonderoga's guns to Boston, giving the Continentals what the British respected. Knox left for Ticonderoga the day before Congress formally commissioned him, and upon arriving at the fort, he selected 58 pieces (mostly 12- and 18-pounders, but one 24-pounder, nicknamed "Old Sow," that weighed 2.5 tons) for the Continental's new artillery "corps." Knox and his teamsters

Israel's cousin and Washington's de facto chief combat engineer—barricaded with prefabricated *chandeliers* and *fascines* the summit of Dorchester Heights, on the opposite side of Boston Harbor, in essence encircling the town. At daybreak on March 5, upon seeing the Rebels were again hard at work on high ground above the town, Howe ordered his Redcoats to cross the harbor and pry them from their positions. The race was on because he knew that if Washington succeeded in barricading even light cannons on the heights, the Rebel position might become unassailable and the British positions on Boston Neck untenable. Heavy guns on Dorchester Heights also threatened Boston proper, and perhaps British ships moored in the harbor. However, a late-winter storm rolled over Boston, and gale-force winds inside the harbor prevented moving the Redcoats overwater. Officers from the Royal Navy reported they could not safely bring even their small frigates onto Dorchester Flats and put the ships' guns into play without running aground. By the afternoon of March 6, when the weather cleared, it was too late for the British. The ubiquitous Loyalist spies reported that the Rebels had ensconced themselves on Dorchester Heights and had placed Knox's cannons in easily defensible positions.

The guns convinced Howe on March 7 to completely abandon Boston and transport his entire army and any Loyalist civilians that they could

fit on ships to Halifax, Nova Scotia. Washington agreed to permit the British vessels to sail from the harbor unmolested, provided Howe promised not to burn Boston on his way out of the town. Both generals proved true to their word, and on March 17 (Saint Patrick's Day, also known as Evacuation Day in New England), the British Army left Boston, never to return. In the United States' first major battle, the Continental FA had driven the British Army from New England. Thanks to the artillery, what began as a small-armed rebellion, now turned toward becoming a revolution, allowing American colonists to even consider the possibility of being a part of a new nation.

Of course, Howe was not fully deterred from acting elsewhere, as his brilliant offensives in New York six months later and then in Pennsylvania in the summer of 1777 were soon after to show. Nevertheless, after Dorchester Heights, he proved extremely cautious in dealing with the Continental Army whenever his reconnaissance forces and/or spies told him Continental artillery was present. Indeed, the Continentals' cannons and fortifications on Brooklyn Heights forced Howe to take an operational pause, saving the newborn Continental Army in its second battle.

On August 27, 1776, Howe successfully sent his German mercenaries and Redcoats to complete the annihilation of Washington's army on the open ground of Long Island. Today, COL John Glover's Marblehead Mariners receive most of the credit for saving the Continental Army from a total disaster on Long Island by ferrying it on the night of August 29-30 to Manhattan Island. But Glover's men can receive those accolades only because FA on Brooklyn Heights overlooked the evacuation and kept Howe from applying a *coup de grâce* to the vulnerable Continental Army, an act that might have ended the Revolution within a month of the signing of the Declaration of Independence.

In the very first days of what became a long and distinguished history, American artillery not only established itself as the King of Battle, it acted as the Shield of the Continental Army. At Dorchester Heights, the Field Artillery won America's first battle; at Brooklyn Heights, it ensured the birth—and later survival—of our now great nation. So, when morning reveille sounds this coming November 17, American artillerymen across the world get to salute the flag with a little extra pride that day. King of Battle!



In 1806, the City of Boston commissioned portrait painter Gilbert Sullivan to create *George Washington at Dorchester Heights*, which became one of the most famous paintings of Washington as Commander in Chief of the Continental Army. Cannons, however, are notably absent from the painting. Image from Wikicommons and in the public domain.



## 56th Artillery Reactivates as Europe's Theater Fires Command

*“The King has Returned”*

MG Stephen J. Maranian and  
MAJ (P) Matthew K. Kabat

In 2008, three former brigade combat team (BCT) commanders wrote the white paper “The King and I: The Impending Crisis in Field Artillery’s Ability to Provide Fire Support to Maneuver Commanders.” The now famous article spoke of how the *King of Battle* had fallen from its throne. It highlighted how the Field Artillery (FA) branch had declined, not just in Redlegs’ ability to provide support to maneuver elements but also as a branch of choice for Soldiers joining the Army<sup>1</sup>. The paper was addressed to the Chief of Staff of the Army and highlighted the detrimental effect that several years of organizing, training, and equipping our Army for counter-insurgency (COIN) had on the FA branch. Redlegs, once known as detail-oriented leaders, had lost the ability to consistently and effectively plan and execute Fires in support of maneuver. The overarching problems highlighted by (then) COLs MacFarland, Shields, and Snow indicated the branch was also losing experienced gunners, as the limited need for artillery in the COIN fight resulted in the use of Redlegs in several non-traditional roles.

The downsizing of the Army in the 1990s saw the elimination of Corps Artillery formations from the Army. Later in the early 2000s, primarily due to the need to reorganize the Army to fight in a COIN environment, the FA watched the inactivation of Division Artillery (DIVARTY) and other brigade-sized elements. While deemed necessary during that period, these actions were a mistake for Command and Control (C2) across the FA branch. As the wars in Afghanistan and Iraq ended, and with China and Russia developing long-term strategies to challenge America’s global interests, the Army recognized the need to realign once again its efforts to focus on large-scale combat operations (LSCO). It became clear to the Army what the Field Artillery knew all along – that the Army requires Field Artillery headquarters at echelon. These formations were needed both to synchronize Army, Joint, and multi-

<sup>1</sup> Colonels Sean McFarland, Jeff Snow, and Michael Shields, “The King and I: The Impending Crisis in Field Artillery’s Ability to Provide Fire Support to Maneuver Commanders,” white paper, 2008, <https://coinenirak.files.wordpress.com/2008/05/white-paper-field-artillery-mai-2008-sur-la-crise-de-lartillerie-en-coin.pdf>.

national Fires more effectively and to provide C2 and mission command to enable maneuver commanders' mission accomplishment through the effective and optimized employment of lethal Fires. The Fires Center of Excellence took on the mission of designing units to provide C2 for Fires formations at echelon. DIVARTYs have returned to the Army inventory in the past decade, with the 1<sup>st</sup> Armored Division Artillery leading the way in 2014.<sup>2</sup> This was a good first step, but one that still left gaps at the Corps and Theater levels. As the Army continued to focus on LSCO and the concept of Multi-Domain Operations (MDO) emerged, it became even more apparent that headquarters also needed to perform C2 and fire support coordination functions for Fires formations at the Corps and Theater levels. The role of Force Field Artillery Headquarters (FFA HQ) at these echelons was assigned to already overtasked Field Artillery Brigades; formations were inadequately resourced to simultaneously perform the role of FFA HQ and support a Corps with both integrating and delivering Fires. From this requirement were born the concepts of the "Operational Fires Command" to provide Army Corps with a dedicated C2 formation focused on Fires and the "Theater Fires Command" (TFC) to plan, coordinate and employ multi-domain Fires and effects at the theater level.

### **The King is back in Europe**

The Army took a big step to address these gaps in 2021 by activating the 56<sup>th</sup> Artillery Command (AC) and 2nd Multi-Domain Task Force (MDTF) in Europe. The linkage of these two new formations ties the requirement to provide C2 for indirect Fires to the planning and integration of lethal Fires and non-lethal effects in all domains at the theater level. Both units activated in the fall of 2021, with the 56<sup>th</sup> AC assigned as a major subordinate command within U.S. Army Europe and Africa (USAREUR-AF) and the 2nd MDTF assigned to the 56<sup>th</sup> AC.

The 56<sup>th</sup> AC is not new to the European theater, but today's formation has a completely different structure and mission than it did in the past. The 56<sup>th</sup> AC has a rich and proud history of service in Europe, distinguishing itself during World War II as well as during the Cold War. The unit

was first activated in September 1942 as the 56<sup>th</sup> Coastal Artillery Brigade, and shortly thereafter, in May 1943, it rebranded itself as an Anti-aircraft Artillery Brigade. In that capacity, the 56<sup>th</sup> was twice decorated by the Belgian government for action in defense of Antwerp Harbor.

Following World War II, the 56<sup>th</sup> Artillery inactivated but returned to active duty in 1983 as the 56<sup>th</sup> Field Artillery Command. With its new name came a new mission – to provide C2 for Field Artillery battalions equipped with the Pershing missile. They performed their job spectacularly, so well that they worked themselves out of a job. As the Cold War came to a close in the early 1990s, so too did the mission of this unique strategic command. The 56<sup>th</sup> inactivated again in 1991 and remained off the rolls until recently reactivating on October 16, 2021. Just as the 56<sup>th</sup> Field Artillery Command of 1983 was completely different from the 56<sup>th</sup> Coastal Artillery of WWII, today's 56<sup>th</sup> AC is an entirely new unit, and its focus and energy are clearly on the future.

### **What we do**

The 56<sup>th</sup> AC's purpose is to plan, coordinate, integrate, and deliver Fires and effects at the theater level in support of the ground force commander. It serves both as the senior fire support coordinating element and the FFA HQ for USAREUR-AF, or a designated Combined/Joint Force Land Component Command. Although not part of the North Atlantic Treaty Organization's (NATO) command structure, when called upon, the 56<sup>th</sup> could certainly perform the same role for NATO's Land Command (LANDCOM).

As the command activated, the USAREUR-AF Commanding General, GEN Christopher Cavoli, gave the 56<sup>th</sup> AC four key tasks on which to focus. Those tasks were to serve as the senior fire support coordinating element in theater, to perform the role of the FFA HQ for the theater, to grow interoperability and improve synchronization across the theater Fires Enterprise, and to integrate new capabilities and modernize the force.

As the senior fire support element in theater, the 56<sup>th</sup> AC leads the land component's targeting

2 "SGT Alexander Neely, "Division Artillery returns to the Army." July 24, 2014. [https://www.army.mil/article/130514/division\\_artillery\\_returns\\_to\\_the\\_army](https://www.army.mil/article/130514/division_artillery_returns_to_the_army)



Left: The 1-6<sup>th</sup> Fire Direction Center during Dynamic Front '21. (Photo by MAJ Joseph Bush) Center: Dynamic Front '21 – Artillery Systems Cooperation Activities University. (Photo by SPC Zachary Stahlberg) Right: MG Stephen J. Maranian and CSM Darrell Walls in Denmark during a HIMARS Rapid Infiltration operational exercise. (Photo by CPT Angelo Mejia)

process. To succeed, the 56<sup>th</sup> AC will capitalize on and grow the capacity of USARUER–AF’s certified Targeting Work Center, which directly supports the land component in Europe. The team comprises a number of Fire Supporters, ‘Targeteers’ and Intelligence personnel. Their roles include leading the deliberate target development process across multiple domains while retaining the ability to transition from deliberate to dynamic targeting and continuing to advance integration and interoperability within the Joint community and amongst our allies and partners. A special area of emphasis is working in direct coordination with our closest partner in planning and delivering long–range Fires, the U.S. Air Forces in Europe – Air Forces Africa.

In the role of the designated FFA HQs, the 56<sup>th</sup> AC establishes the Field Artillery architecture for the theater and conducts C2 of Field Artillery brigades as well as Fires and effects, enabling formations retained at the theater level. As an FFA HQ at any level would endeavor to do, the 56<sup>th</sup> will maximize the application of all Fires formations in theater through detailed planning and coordination with operational and tactical maneuver formations assigned and allocated to the European theater.

The third key task of building the theater Fires Enterprise requires significant coordination and collaboration. Working with our NATO allies, the 56<sup>th</sup> AC aims to foster interoperability, develop an integrated Fires architecture with existing artillery formations, and shape aspirational growth in multi–domain formations. Simultaneously, the 56<sup>th</sup> AC will encourage the growth of capable artillery formations where gaps exist and are ready to perform a leadership role in support of NATO LANDCOM when called upon to do so.

Finally, as the U.S. Army continues to modernize the force, so too will the 56<sup>th</sup> AC modernize the way it operates in theater. Employing new Fires and effects formations such as a Theater Information Advantage Detachment, Theater Strike Effects

Element, and the MDTF’s Long–Range Fires Battalion will take planning, experimentation, and hard work. It will require real–time feedback not just to the Army writ large but to our allies and partners as well. The 56<sup>th</sup> AC will inform the Army Enterprise of tactics, techniques, and procedures (TTPs), and help the institution develop DOTMLPF implications and, in time, lessons learned for new formations.

### How we do it

From day one, the 56<sup>th</sup> has worked hard to integrate into USAREUR–AF and the theater by tying into existing and emerging operational plans, operations, and exercises throughout Europe and Africa. The timing of the ongoing war in Ukraine and the U.S. and NATO responses to it have certainly accelerated the 56<sup>th</sup> AC’s path towards full operational capability. The 56<sup>th</sup> AC has supported USAREUR–AF’s efforts to plan and execute operations in theater to assure our allies and partners and to deter aggression directed against NATO. We will continue to do so by integrating Joint and multi–national Fires in both operations and exercises in the future.

Integration and collaboration with NATO are vital to supporting USAREUR–AF’s commitment to countering and deterring hostile near–peer aggression and violent extremist organizations that present a trans–national threat. Furthermore, the 56<sup>th</sup> AC and 2nd MDTF are committed to developing multi–domain capabilities in Europe. As the 2nd MDTF grows capacity in the future, they will continue providing direct support to the command. Their capabilities will enable the growth and evolution of the targeting process in theater. Not only will the 2nd MDTF be employed to leverage long–range precision Fires, but they will also support the U.S. Army’s modernization efforts by experimenting and testing new equipment within the current competitive environment. These capabilities will require fluid engagement in all domains, facilitating synchronization between cyber, intelligence, electronic warfare,

communications, and space entities. The 2nd MDTF team also plays an important role in engaging with our NATO allies and partners in theater, optimizing and facilitating an inclusive and iterative discussion on MDO in theater. This is evident by our significant emphasis on building and growing relationships with the Fires and effects enterprise across the Alliance. The 56<sup>th</sup> AC, with our allies and partners, are committed to countering the effects of malign forces in theater. To do so, we are actively working together to develop and refine TTPs and engagement strategies for now and in the future.

The 56<sup>th</sup> has already begun to take a leadership role in theater exercises. One of the most consistent and effective methods used to grow interoperability in theater has been through multi-national exercises with NATO allies and partners. Exercises like the Dynamic Front series, an annual artillery-centric, multi-national exercise, allow nations to develop, refine, and modernize efforts in providing timely and accurate Fires. This growth is also in line with the integration of NATO LANDCOM as well as other elements of the NATO command structure into the Fires Enterprise, specifically targeting to ensure maximum interoperability and synchronization across the whole of the Alliance. Over the last decade, these exercises have brought together units from all over NATO, and its partners for peace, providing a venue for those nations to work together and practice ‘fighting’ together on a multi-national battlefield. Such exercises demonstrate how far the Alliance has come in developing TTPs to overcome communications and logistics issues while highlighting opportunities for improvement.

## Conclusion

As the U.S. Army continues to modernize the force and update how we fight, the TFC and other like-elements in other theaters will continue to grow in capability and capacity. As we grow towards full operational capability, the 56<sup>th</sup> AC will demonstrate proficiency within the Fires

Warfighting Function and continue to evolve with the ever-changing environment. Our planning and C2 capabilities will go a long way toward closing the gap of C2 for Fires formations above the division level. The 56<sup>th</sup> AC will, for the first time, bring together a dedicated FFA HQ and senior fire support controlling element under the command of a single commander for the theater army in Europe. It will bring together the targeting enterprise and provide a focus for improved fire support coordination and Fires interoperability within the NATO Alliance.

The activation of the 56<sup>th</sup> AC as a TFC is a great “next” step for the Artillery enterprise, but in order for our branch to truly say that “the King has returned” and to be able to fully provide necessary C2 of Fires at echelon on the modern battlefield, we must grow a similar capability at the Corps level. With a daily reminder of the relevance of artillery Fires and the non-lethal effects we see in Ukraine, the time to act is now to firmly place the King back on the throne!

*Long live the King and our protector – Saint Barbara!*

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*MAJ (P) Matthew Kabat was born in Grand Rapids, Michigan. He graduated from Butler University in 2006 and commissioned in the Field Artillery in 2007. He has served in every operational role from platoon to brigade, even activating the 41<sup>st</sup> Field Artillery Brigade as the Brigade S3. He has trained, coached, and mentored new Cadets as well as new Soldiers before running one of the observer, coach, trainer teams as a Vampire and Warhog at the Joint Multinational Readiness Center. MAJ Kabat completed a 15-month deployment in support of Operation Iraqi Freedom and has a master's degree in International Relations. MAJ Kabat is currently the Secretary to the General Staff for the 56<sup>th</sup> Artillery Command stationed in Mainz Kastel, Germany.*

Right: MG Roger K. Bean (right) and CSM Ian Tompkins case the 56th Field Artillery Command colors in June 1991. (Photo courtesy of Ralf Stumpf)

Far Right: MG Stephen J. Maranian and CSM Darrell Walls uncased the 56th Artillery Command's colors on November 8, 2021. (Photo by SPC Joshua Cowden)



I am the Fire Support Coordinator (FSCOORD) for the 2<sup>nd</sup> Brigade, 52<sup>nd</sup> Infantry Division. I will describe what the first week of the campaign in Atropia looked like through my eyes.

It is 0600, the 6<sup>th</sup> day of fighting to expel the Donovians from Atropia. The sun is cresting the eastern horizon and painting Tiefert Mountain with a golden glow. The city of Razish, the crown

great city from the BFB and Donovan aggressors. As we scan the city, the same question continues to nag me as it has over the past three days. Now it comes to the forefront of my mind: *Have we done enough to provide Joint Fires in the close fight to allow our brigade to seize Razish while simultaneously providing Joint Fires in the deep area through the integration of Fires in support of combined arms maneuver?*

# The FIGHT for RAZISH:

## Journal Entry and Reflections from the 2-52<sup>nd</sup> ID FSCOORD

By LTC Derek R. Baird

jewel of Atropia, is nestled at the base of Tiefert. Surrounding Razish are large rock formations; to the south is Hill 876 (colloquially named Moose Gardens for some unknown reason), north is Hill 780, and a bit further to the east is Hill 760. Several days earlier, the 802<sup>nd</sup> Brigade Tactical Group (BTG), with help from local radicals called the Bilusivar Fighting Brigade (BFB), seized Razish in the name of the country of Donovan. The 802<sup>nd</sup> and the BFB combined efforts to develop a rat's nest of defensive positions over three days; wire and mine obstacles, ditches, rubble, and strong points in and around Razish. We've seen gray-white smoke drift here and there from former strongpoint positions. Shrapnel-scarred buildings and the burning hulks of destroyed fighting vehicles now line the streets of Razish. A scan from our Shadow Unmanned Aerial System and spot reports from our observers watching over Razish paint the picture of high explosive effects from artillery, mortars, rockets, and close air support throughout the city.

This operation began 36 hours ago and will continue until we wrest control of this

Let me back up a few days to describe how we got here. We deployed to the southeastern border of Atropia to expel an aggressive Donovan force that invaded Atropia several weeks ago. Atropian forces initially put up a good fight, but are quickly culminating, thus our entry into this arena. Over the past several days, we have been fighting elements of the Donovan 80th Division Tactical Group (DTG) to expel them from Atropia. To conduct an attack against the 801st BTG on D-Day, we left our staging area, Santa Fe, where we prepared our Soldiers and equipment for the combat that lay ahead. The fight was tough, to be sure, but we continued to progress north from the Whale Gap (from above, it does look like a giant whale) towards the Snow Cone. These few days of fighting were intense but manageable. We had battalion objectives to seize a few small rural towns and some key terrain to maintain lines of communication and posture for

The city of Razish on Jan. 19, 2018. (U.S. Army photo by SPC Angel Heraldez)

the next phase of our fight. Our plan was simple and somewhat effective, but upon reflection, we didn't combine arms to any real degree. We essentially struck whatever targets appeared in front of us with no focus or priority of effort. There was zero massing with our organic and Joint Fires assets throughout the first few days of fighting. Unfortunately, this lack of integration reared its ugly head in the coming days. On D+3, we seized the Snow Cone (I guess it sort of looks like a snow cone on the map) and began preparations for the next phase of our operations. So now, we aim to continue west towards the Iron Triangle (aptly named) and force the Donovians to leave Atropia. To do this, we must solve the problem of Razish.

By our initial assessment, this now occupied city and its prepared defense would be a tough nut to crack. From the onset, we knew this would be like fighting Mike Tyson in his prime, meaning we had to be agile, adaptive, and provide multiple forms of contact to bring the champ down. However, round one did not go well for our team. Like Mike Tyson said, "everyone has a plan 'till they get punched in the mouth." We got punched in the mouth over the past few days, and now it's our turn to punch back. And we punched back hard at Razish.

On D+4, we attacked to seize Razish after developing an overly complex and inflexible plan with minimal to no rehearsals, which, as you may have guessed, did not go well for our side. The fight was over before it began since it was not well understood, uncoordinated, and did not apply multiple forms of contact to overwhelm our adversaries inside Razish. After several hours of fighting and heavy losses, it became apparent that we could not take the city. So we retrograded back to our original positions to reassess our plan and figure out a way to bring combat power to bear in support of combined arms maneuver so that we could seize Razish.

The brigade immediately began rapid decision and synchronization planning to reassess our plan to provide better Fires in support of combined arms maneuver. Our commander's guidance, great to begin with (and one I did not initially adhere to), was to provide neutralization and

destructive effects on the 802<sup>nd</sup> and BFB in Razish. This action allowed the 1-80<sup>th</sup> Infantry (IN) to breach the defensive belt, then pass the 2-80<sup>th</sup> Infantry to assault through and seize the city. Meanwhile, we would also provide shaping Fires in our deep area to attrite the Donovanian 803<sup>rd</sup> BTG before they can reinforce the 802<sup>nd</sup> and BFB. On this second attack against Razish, my goal was to keep the fire support (FS) plan as straightforward and flexible as possible and to synchronize our organic capability with Joint assets to maximize our desired effects. To do this, we needed to a) combine high explosive rounds coupled with precision strikes in the city of Razish and b) shape deep with Joint assets to mass effects on the reinforcing 803<sup>rd</sup>. I turned to our targeting team led by our targeting officer, brigade S2, and the brigade fire support officer, along with members of each Warfighting Function, our lawyer, and several others, to refine the FS plan. Our lawyer was a huge help in ensuring we met the targeting and execution criteria based on Rules of Engagement (ROE), military necessity, and Law of Armed Conflict during large-scale combat operations. Our restrictions included no cluster munitions in town and zero effects on any No-Strike List entities unless warranted by military necessity, which was then coordinated through our Division or in case of self-defense (ROE). Our restrictions were minimal, and we were fortunate that the vast majority of the population had already fled the city, but a few remained, which added to our risk calculus. Once we re-hashed and published the updated plan, we conducted a series of fire support and combined arms rehearsals to synchronize the fight for Razish. The FS plan was predicated on three essential fire support tasks (EFST), two to support the close fight (one EFST per phase in the close fight), and the third to focus our efforts in the deep area (for all the doctrine experts reading my journal, this is where art meets science).

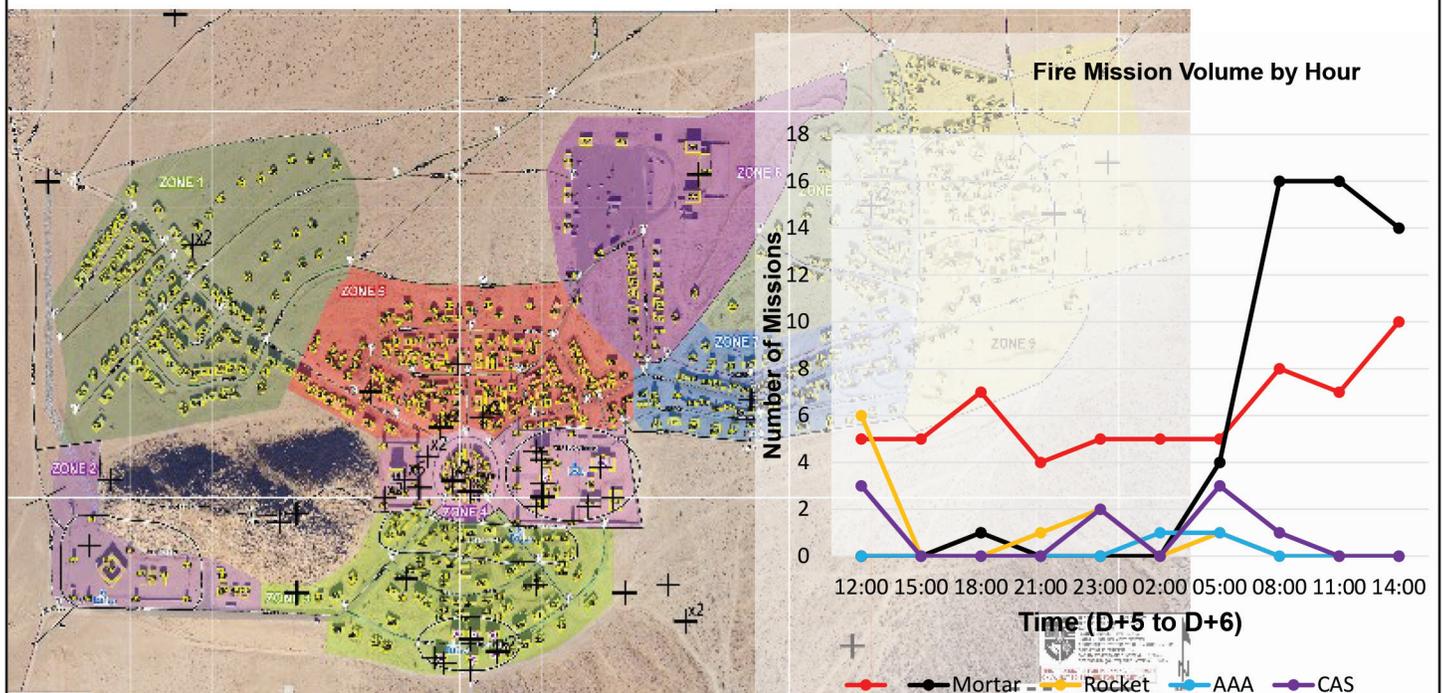
**EFST 1 (supporting the first phase of the close fight): Neutralize the 802<sup>nd</sup> and BFB inside Razish to allow our brigade to seize the city. Joint precision strikes from Multiple Launch Rocket Systems and close air support (CAS), precision, and high explosive rounds from our organic assets were the weapons of choice.**

**EFST 2 (supporting our deep fight):** Destroy 80<sup>th</sup> DTG assets in the deep area to enable our brigade to seize Razish. Our priority of effort for this EFST was using Joint assets to neutralize fire support and air defense artillery (ADA) systems and then destroy the reserve force from the 803<sup>rd</sup>.

**EFST 3 (supporting the second phase of the close fight):** Provide suppression and obscuration (SO) --I like to call these SO drills-- to allow 1-80<sup>th</sup> IN to breach the obstacle belt and allow the assault force to seize Razish.

plan was fairly robust (love this word, hard to definitively define what robust means, but we all like to use it), with layered observation posts, information surveillance reconnaissance (ISR), and other information collection assets. Fire support teams rehearsed triggers with their maneuver counterparts to synchronize the FS plan. We identified friction to better mitigate risk, synchronized fire support with the maneuver plan and provided a much better understanding of the fight ahead than we had a day or so ago. By the end of D+5, we felt better prepared to

**Figure 1: Razish Fire Support Plan (Close Fight)**



**Essential Fire Support Tasks**

- EFST1: Neutralize the 802<sup>nd</sup> and BFB inside Razish to allow our brigade to seize the city
- EFST2: Destroy 80<sup>th</sup> DTG assets in the deep area to enable our brigade to seize Razish
- EFST3: Provide suppression and obscuration to allow 1-80<sup>th</sup> Infantry to breach the obstacle belt and allow the assault force to seize Razish

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Figure one depicts the FS plan with associated EFSTs. Our plan included group targets within Razish. The intent was to execute at any time to disrupt the enemy and neutralize known strong points, command and control (C2) nodes, or anything that presented itself as a valid military target. We delineated our close and deep fight by a set of phase lines that provided a very permissive Joint Fires fight. The observation

seize Razish and were ready to immediately go back on the offensive.

At 1800, D+5, our Cavalry Squadron, 3-13<sup>th</sup> Cavalry (CAV), departed to begin zone reconnaissance west towards the Iron Triangle. Their tasks were to identify and destroy enemy recon in zone and identify points of penetration to allow our brigade to seize Razish. Seconds after

the CAV departed, the sky lit up with cannon and rocket fire as the initial volley of precision strike artillery shells and rockets began to neutralize defensive positions and C2 nodes in Razish, while CAS provided devastating effects by neutralizing air defense threats and 80<sup>th</sup> DTG Field Artillery assets in the deep area. This initial barrage in the city was observed by aerial ISR assets to ensure we were meeting our objectives established in our plan and refined through our targeting process. Fire support teams infiltrated their OPs throughout the night to establish our layered observation plan and provide an additional layer of information collection throughout the seizure of Razish. For the next 12 hours, we provided constant pressure on the 802<sup>nd</sup> and BFB using illum rounds and group targets using HE rounds mixed with precision strikes. Joint assets in the deep area were used to attrite fire support and ADA threats in our deep area. The enemy within the city was forced to cease defensive preparations and constantly reposition forces to survive the night. The strikes must have had a huge psychological effect on the Donovians (my dog shakes and is scared after a firecracker goes off near the house). I can only imagine what the 802<sup>nd</sup> and BFB felt like after 12 hours of constant firing in and around Razish.

Our reconnaissance fight was tough but successful, identifying a point of penetration on the south side of Razish, at the western end of the Hidden Valley. At times throughout the night, echelons above brigade assets were unavailable, meaning we had to rely solely on organic assets to manage the counterfire fight. Nevertheless, our team was up for the challenge. Our mantra is “its professional courtesy for two opposing artillery units to shoot at each other; otherwise, why play the game.” Using this mantra, we went to work targeting and executing a solid counterfire fight. To be fair, the counterfire fight was a little rough at first, but we quickly adapted our fire orders in support of the seizure of Razish to enable better survivability of our guns while maintaining our desired effects and executing counterfire missions when division assets were unavailable.

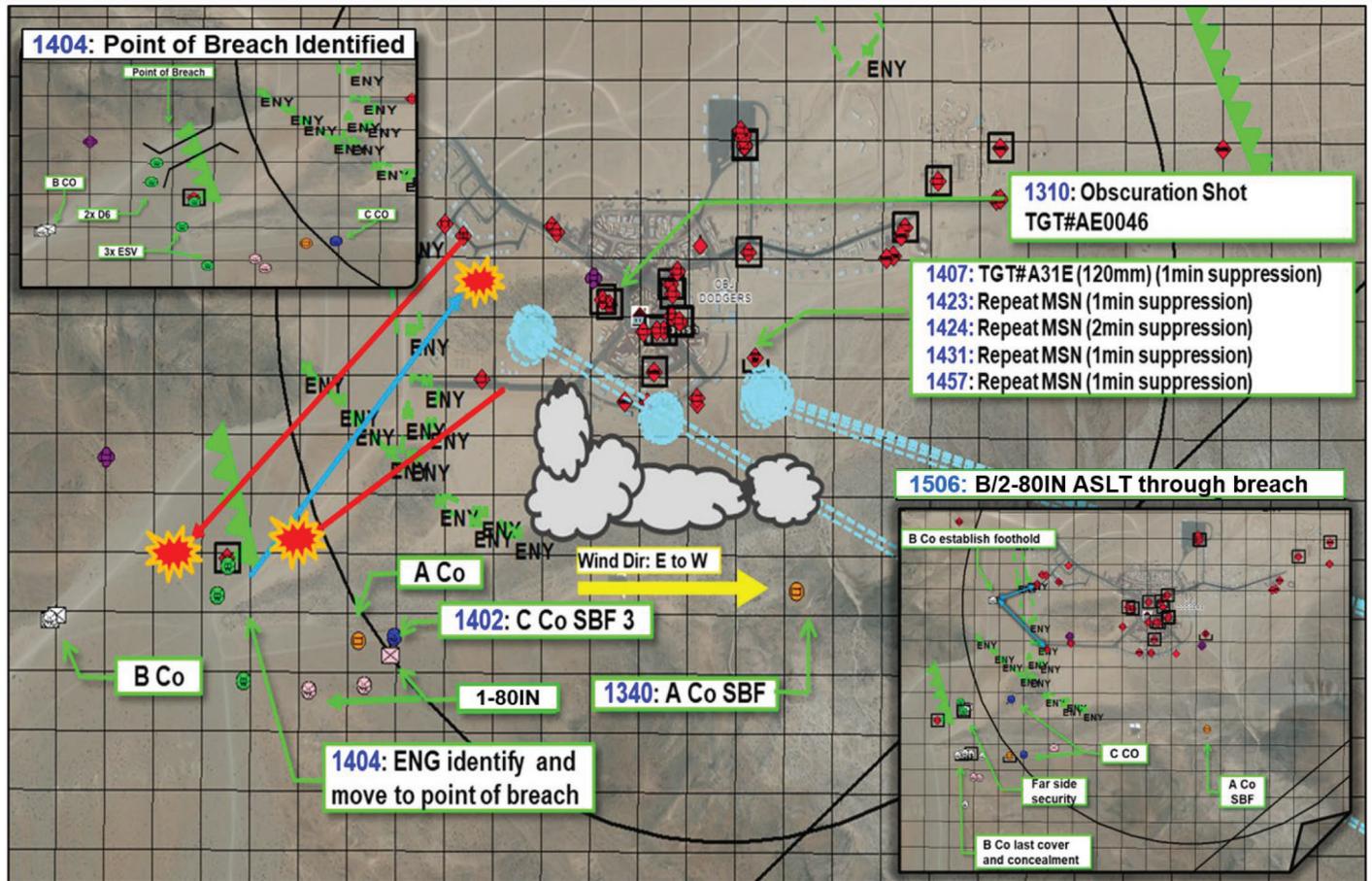
**Present day (D+6):** As the sun came up this morning, and with the golden glow of Tiefert in the distance, the 1-80<sup>th</sup> IN departed to maneuver through the John Wayne Pass (cool name) to the Hidden Valley (also aptly named) to eventually conduct breaching operations on the south side

of Razish. They encountered stiff resistance as they entered the John Wayne Pass (now that I think about it, that’s why it’s probably named JWP, for the pass’ toughness), but the 802<sup>nd</sup> was eventually neutralized through the application of mortars, artillery, and direct fire systems. After several hours of tough fighting, the 1-80<sup>th</sup> IN began their breach with our Field Artillery battalion suppressing targets while smoke obscured the defending forces from our breaching force. Mortars joined the fight providing significant effects on dynamic targets within the city and its surrounding environs. The dull roar of aircraft could be heard in the distance, destroying the 803<sup>rd</sup> reinforcing elements. Once breaching operations were complete, the 2-80<sup>th</sup> assaulted through the breach to seize Razish. The combined efforts of Fires and maneuver over a 36-hour period proved to be too much for the 802<sup>nd</sup> and BFB fighters within Razish. After a successful breach and several hours of tough street-to-street fighting, the woeful defenders capitulated, and we officially seized the city. The captured 802<sup>nd</sup> BTG commander and his BFB counterpart were haggard and distraught. Their nerves were frazzled, and their willpower was broken (their words). The effects of the last 36 hours of shelling and Joint strikes coupled with rapid breaching efforts and the assault to seize Razish the second time proved too much for the beleaguered commanders. The continuous and deleterious effects of Fires on C2 nodes and neutralizing strong points restricted movement within the city, hindering internal reinforcements, especially during intense periods of shaping efforts within Razish. Both commanders were unable to contact their higher headquarters to gain situational understanding and awareness of the 803<sup>rd</sup> reinforcements, which were completely destroyed by Joint assets as the reinforcements attempted to maneuver to Razish from the Granite Pass and the Brown and Debnam Pass complex.

During a period of reflection after the seizure of Razish, I gathered my thoughts to assess what went well and what we could do better during the next assault to seize the upcoming objective. The following are key ingredients to improving Fires in urban terrain, and the close fight for that matter:

1. Have well-developed EFSTs based on the commander’s intent for information collection and Fires

**Figure 2: The Breach – gaining a foothold into Razish**



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2. Develop a simple fire support and observer plan
3. Ensure the brigade combat team has well-developed common operating graphics to rapidly synchronize assets
4. Shape early and often
5. Sustain effects--ensure processes are in place to resupply big bullets and repair broken equipment

First and foremost, commander's guidance and subsequent EFSTs are vitally important to visualize, describe and direct action. Our first swag at the FS plan was atrocious, not because it was overly complex, but because we did not procedurally refine our plan through targeting or rehearsals. The second go around was more refined, more flexible, and better understood across the brigade. Common operating graphics provided shared understanding and synchronization across all echelons. Layered Joint assets in concert with our organic assets in time

and space were especially fruitful, as we provided multiple dilemmas against 80<sup>th</sup> DTG formations (fire support and ADA, 802<sup>nd</sup> BTG, the BFB, the 803<sup>rd</sup> BTG reinforcements). A good FS plan coupled with a well-understood sustainment plan allowed us to maintain firing capability throughout our successful seizure of Razish.

As we continue to press our advantage to expel Donovanian forces from Atropia, we must continue to provide constant pressure early and often for follow on objectives, provide Fires in support of combined arms maneuver in the close fight while simultaneously providing pressure in our deep area, and manage transitions over the coming days.

*LTC Derek R. Baird is Wolf 07, the National Training Center senior Fires trainer. His former assignments include Commander of the 3-16<sup>th</sup> Field Artillery Regiment (FAR), Joint Fire Support Officer for the 1<sup>st</sup> German-Netherlands Corps (a NATO Rapid Deployable Corps), 3<sup>rd</sup> Infantry Division Artillery S3, and the 1-9<sup>th</sup> FAR S3. LTC Baird has three combat tours (two to Iraq and one to Afghanistan), and one Regionally Aligned Force deployment.*

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U.S. Army Soldiers assigned to 12th Combat Aviation Brigade air drop M777A2 155 mm howitzers with their CH-47 Chinook helicopters during sling load operations at a Lithuanian military training area near the town of Rukla, Lithuania, June 13, 2018, during U.S. Army Europe's exercise Saber Strike 18. (U.S. Army photo by SSG Ricardo HernandezArocho)



**The Need for  
Delivery Systems  
Within the  
Division Artillery**

*By 1LT Caitlyn Casten*

In 2017 the U.S. Army announced a return to large-scale combat operations (LSCO) with the revision and republishing of FM 3-0. In the foreword of this publication is the following statement, “The Army and Joint force must adapt and prepare for large-scale combat operations in highly contested, lethal environments where enemies employ long-range Fires and other capabilities that rival or surpass our own.”<sup>1</sup> The re-emergence of LSCO also indicates a return to the division as the main echelon on the battlefield, underscoring the need for a substantial division

Historical evidence supports full-scale DIVARTYs; beginning in World War II, along with the three 105 mm Howitzer battalions supporting their respective maneuver regiments, a 155 mm Howitzer battalion provides general support to the division.<sup>4</sup> This standard continued until the Gulf War when the 155 mm battalion was augmented with a multiple launch rocket system (MLRS) battery.<sup>5</sup> The model throughout this 50-year period was to assign the DIVARTY the larger projectile, thereby giving it additional reach and effects.

## ***“To win in an LSCO environment, the DIVARTY needs its own Field Artillery battalion.”***

artillery (DIVARTY). Since the release of this FM 3-0, little has been accomplished to meet the intent of this outline, as units still lack the means to operate long-range Fires against near-peer threats.

To win in an LSCO environment, the DIVARTY needs its own Field Artillery battalion. The DIVARTY currently possesses command and control capabilities and a target acquisition platoon but lacks the ability to organically deliver Fires.<sup>2</sup>

Outfitted with a robust staff and targeting section, the DIVARTY can operate its indirect assets but currently only receives temporary control over attached forces.<sup>3</sup> The ability of the DIVARTY to deliver Fires organically will allow brigade combat teams (BCTs) to retain control of their own artillery assets while simultaneously allowing the DIVARTY to shape the division fight.

The same 155 mm Howitzer that served the division in World War II and the Gulf War is no longer effective for the division in today’s LSCO environment. The modern division area of operations (AO) averages 18 to 28 kilometers in length, stretching the limits of the Army’s current 155 mm Howitzer.<sup>6</sup> The platform needed in the DIVARTY’s proposed artillery battalion is the extended range cannon artillery (ERCA) system which boasts a 70-kilometer range and can easily cover the entire division AO.<sup>7</sup> The ERCA operates on the same chassis and functions similarly to the M109 Paladin, which is currently in service at the BCT level, allowing for minimal transition for Soldiers who would control the new system.<sup>8</sup> The ERCA is priced at \$6 million, which makes it more economically feasible than the Precision Strike Missile at \$23.9 million or the Long-Range Hypersonic Weapon at \$106 million.<sup>9</sup>

The return to near-peer conflict will require

the ability to outmaneuver and outshoot enemy forces. However, many adversaries already possess indirect fire capabilities in greater quantities than U.S. formations. Chinese doctrine states that artillery brigades contain both MLRS and self-propelled cannon artillery battalions to be utilized at the division level.<sup>10</sup> Placing a battalion of ERCAs at the DIVARTY level evens the playing field. By adding a cannon battalion to the division, the Army will balance the force structure between U.S. formations and its adversaries and gain the ability to mass Fires on the enemy.

The U.S. Army must be ready to fight in a new era of conflict with adversarial assets that contest those currently in the American inventory. The first measure is to strengthen the division's capability and provide the commander with an organic artillery battalion to directly support mission accomplishment. In order to provide the division commander parity with threat abilities, the ERCA should be selected as the platform to serve the division. The ERCA contains the maneuverability, speed, and range to compete with global threats.

*First Lieutenant Caitlyn Casten is a graduate of the Virginia Military Institute and has spent the past four years as a company fire support officer, platoon leader, and assistant operations officer in 1st Brigade, 3rd Infantry Division. Casten is a recent graduate of the Field Artillery Captain's Career Course and is now assigned to the 1st Security Force Assistance Brigade at Fort Benning, Georgia.*

## Endnotes

- 1 U.S. Department of the Army, Operations, Field Manual 3-0 (Washington, DC: U.S. Department of the Army, December 6, 2017), i.
- 2 U.S. Department of the Army, Division Artillery Operations and Fire Support for the Division, Army Techniques Publication 3-09.90

(Washington, DC: U.S. Department of the Army, October 12, 2017), 1-2.

- 3 Ibid., 1-13.
- 4 William G. Dennis, "U.S. and German Field Artillery in World War II: A Comparison," Army Historical Foundation, accessed June 3, 2022, <https://armyhistory.org/u-s-and-german-field-artillery-in-world-war-ii-a-comparison/>.
- 5 MAJ Robert Wright Jr., 1LT Cliff Lippard, Rex Boggs, "Air Assault in the Gulf," U.S. Army Center of Military History, June 5, 1991, <https://history.army.mil/documents/swa/dsit/peay.htm>.
- 6 U.S. Department of the Army, Armies, Corps, and Division Operations, Field Manual 3-94 (Washington, DC: U.S. Department of the Army, July 23, 2021), C-11.
- 7 Hal Foster, "Exercise Illustrates NATO's Long-Range Fires Problem," National Defense, January 4, 2019, <https://www.nationaldefensemagazine.org/articles/2019/1/4/exercise-illustrates-natos-long-range-fires-problem>.
- 8 Timothy Rider, "Extended Range Cannon Artillery system demonstrates rapid-fire precision and lethality during Project Convergence 2021," U.S. Army, March 3, 2022, [https://www.army.mil/article/254439/extended\\_range\\_cannon\\_artillery\\_system\\_demonstrates\\_rapid\\_fire\\_precision\\_and\\_lethality\\_during\\_project\\_convergence\\_2021](https://www.army.mil/article/254439/extended_range_cannon_artillery_system_demonstrates_rapid_fire_precision_and_lethality_during_project_convergence_2021).
- 9 Andrew Feickert, "U.S. Army Long-Range Precision Fires: Background and Issues for Congress," Congressional Research Service, March 16, 2021, <https://crsreports.congress.gov/product/pdf/R/R46721>.
- 10 U.S. Department of the Army, Chinese Tactics, Army Techniques Publication 7-100.3 (Washington, DC: U.S. Department of the Army, August 9, 2021), 2-10.

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Soldiers of 2nd of the 11th FAR, 25th Infantry Division conduct Table XV.  
June 23, 2022 U.S. Army Photo by 1LT David Block





# **The Ambiguity of “Shaping Deep”**

***Rethinking the Concept  
of Echeloned Deep Areas  
in Large-Scale  
Combat Operations***

*By MAJ Benjamin Franzosa*

**The concept of a deep area is not a useful construct for arranging forces in large-scale combat operations. Instead, shaping areas at echelon should be designated based on the relevant activities and forces, mirroring the designation of the strategic support/Joint security areas.**

**A**s the Army moves towards its 2028 concept, with the division as the unit of action, it is time to relook our current battlefield framework.<sup>1</sup> In the context of this force design, the concept of a “deep area” loses some of its utility for arranging forces at echelon for large-scale combat operations. The current battlefield framework laid out in Field Manual 3-0 states that units at any echelon may establish a deep area to facilitate shaping operations for their subordinate units.<sup>2</sup> However, referring to every echelon’s shaping areas as a “deep area” and the operations they conduct in those areas as “shaping” creates the potential for miscommunication and lazy staff work. Planners at echelon fall into the trap

of referring to their contribution to the fight as simply “shaping deep to set conditions,” ignoring the specifics of how their echelon operates in large-scale combat operations. The current doctrinal diagrams do little to clarify this (Figure 1).<sup>3</sup> Because of this ambiguity, the concept of a deep area is not a useful construct for arranging forces in large-scale combat operations, especially in the Army 2028 concept. In large-scale combat operations, the deep area only truly applies to one echelon, the division. Additionally, deep areas above the division do not benefit from a geographic distinction. Instead, shaping areas at echelon should be designated based on the relevant activities and forces, mirroring the

1 Combined Arms Center, US Army Training and Doctrine Command, *Way Point 2028/29: Context Briefing FDUs in Preparation for TAA 25-29 Field Staffing* (Fort Leavenworth, 10 August 2021), 4.

2 US Department of the Army, *FM 3-0, Operations*, (Washington, DC: Government Printing Office, October 2017), 1-26.

3 US Department of the Army, *FM 3-0, Operations*, (Washington, DC: Government Printing Office, October 2017), 1-30.

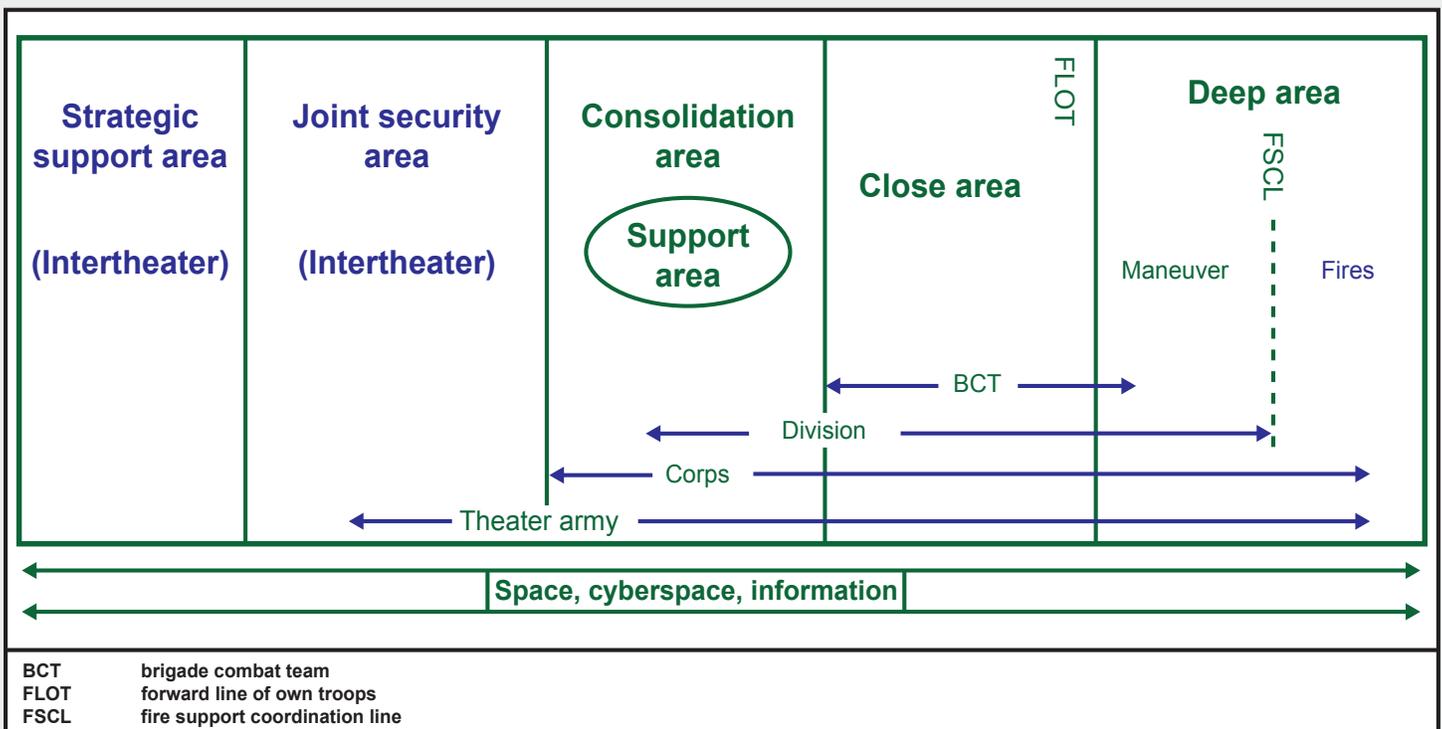


Figure 1: Current Army doctrine does not clearly delineate how units operate in echeloned deep areas in large-scale combat operations.

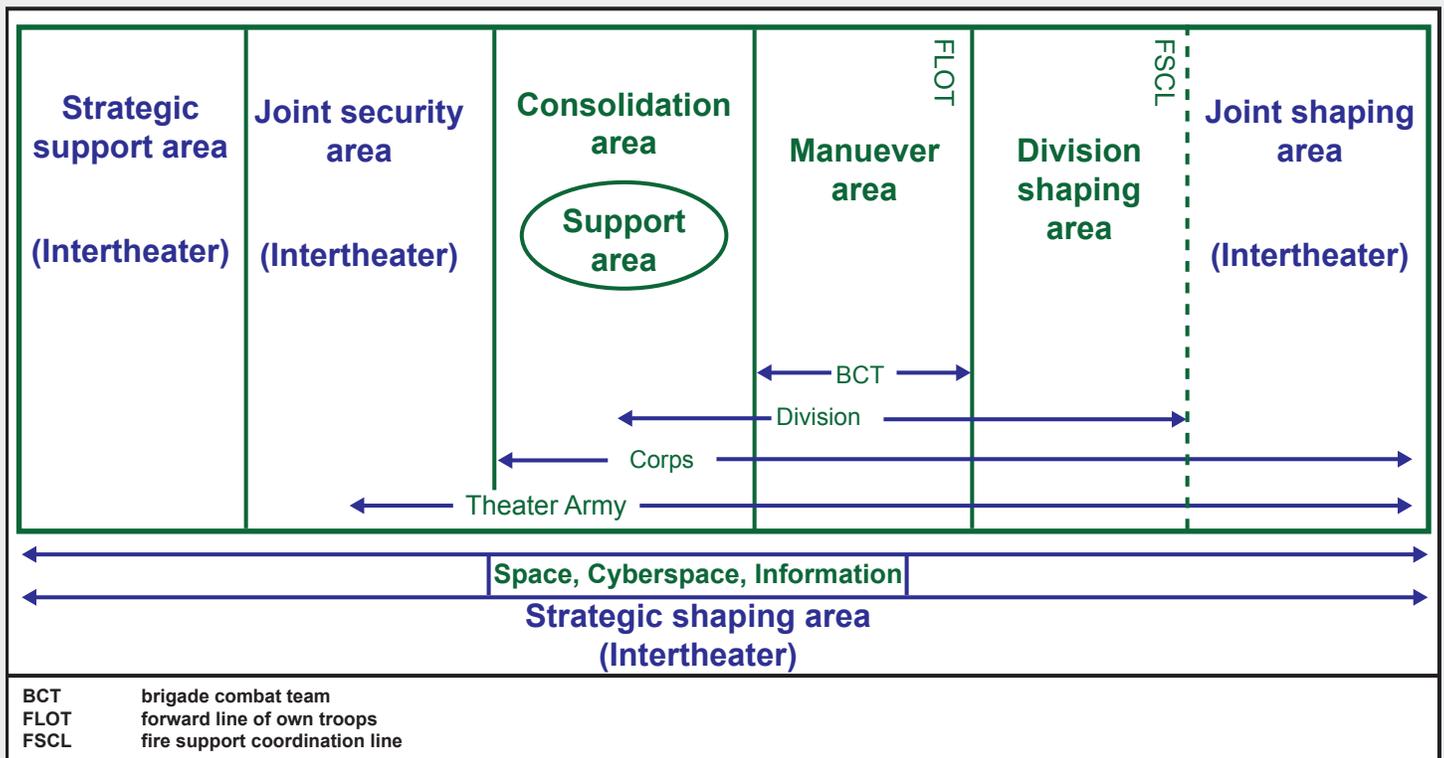


Figure 2: Designating areas for maneuver and shaping at echelon, based on the relevant activities and forces, clarifies the specifics of operations within those areas.

designation of the strategic support/Joint security areas.

The application of deep areas does not communicate a blanket concept to Army forces at echelon. In its truest construction, the deep area only applies to one echelon, the division. Only divisions have a true deep area: an area beyond their subordinates' assigned area of operations where they shape primarily with internal assets.<sup>4</sup> Brigade Combat Teams (BCTs) and below generally do not designate a deep area.<sup>5</sup> While they use internal Fires to shape in front of maneuver forces, these elements do not benefit in the same way as a division from a designated deep area. BCTs and below benefit from maximizing maneuver space and can better

achieve the effects of a deep area at this echelon with other permissive fire control measures.<sup>6</sup> While this applies currently in the Army's BCT-centric configuration, it is undeniable in the context of the Division Artillery as a formation force design update.<sup>7</sup> Removing organic artillery battalions from the BCT means less utility for a deep area at that echelon. Divisional control over Fires assets requires specific permissive fire control measures to support the BCT with Fires, rather than a set BCT deep area. On the other hand, the Corps and above do not have geographically distinct deep areas. All Fires forward of the Forward Support Coordination Line (FSCL) are inherently Joint Fires.<sup>8</sup> The Corps, field army, and theater army are all employing the same type of assets across often overlapping

4 US Department of the Army, ATP 3-91, *Division Operations*, (Washington, DC: Government Printing Office, September 2016), 6-8.

5 US Department of the Army, ATP 3-94.2, *Deep Operations*, (Washington, DC: Government Printing Office, September 2016), 1-4.

6 US Department of the Army, FM 3-96, *Brigade Combat Team*, (Washington, DC: Government Printing Office, January 2021), 2-26. US Department of the Army, ATP 3-94, *Fire Support for the Brigade Combat Team*, (Washington, DC: Government Printing Office, 1 March 2016), 5-27.

7 Fires Center of Excellence, US Army Training and Doctrine Command, TAA 25-29 FDU – *Division Artillery (DIVARTY) as a Formation*, (Fort Sill, 28 June 2021), 6.

8 US Department of the Army, FM 3-0, *Operations*, (Washington, DC: Government Printing Office, October 2017), 1-3; and US Department of the Army, ATP 3-94.2, *Deep Operations*, (Washington, DC: Government Printing Office, September 2016), 2-10.

physical spaces.<sup>9</sup> The differences in deep shaping at the Corps and above level are questions of authorities, not geography.

Referring to the disparate geographic, temporal, and cognitive areas where Corps, field armies, and theater armies shape all as simply “deep” only causes confusion. In terms of Joint Fires, the same assets deliver the same effects regardless of echelon. For lethal shaping above the division level, this primarily means fixed-wing aircraft.<sup>10</sup> The same aircraft prosecute targets throughout the depth of a battlefield. Using aircraft in division and below shaping is a completely different process, using permissive fire control measures (i.e., blue and purple kill boxes) to effect enemy forces.<sup>11</sup> The same concept holds true for non-lethal fixed-wing platforms. In both cases, the only difference is the authorities associated with strikes, not the geography of the battlefield. Additionally, theater army and above shaping activities, including cyberspace, space, information, etc., do not have a clear geographic boundary.<sup>12</sup> The geographic shaping areas labeled as “deep” at echelon as part of the Army’s operational framework does not increase clarity, and is not the most useful construct for arranging forces for large-scale combat operations.

Instead, division should designate maneuver space for BCTs, with permissive fire control measures to echelon Fires. This makes the area directly forwards of the maneuver space the “division shaping area,” where the division does traditional division-shaping activities with its internal assets, primarily long-range Fires and rotary-wing attack aviation. The area forwards of the FSCL then becomes the “Joint Shaping Area.” In the Joint Shaping Area, efforts are echeloned by authorities instead of geography for employing Joint Fires. This leaves inter-theater shaping (cyberspace, space, information, etc.), which in this proposed construct occurs in the “Strategic Shaping Area.” Designating areas for maneuver and shaping in this way clarifies the activities and forces that operate within those areas.

What are the discrete actions that makeup what we describe as shaping? The shaping that happens at the BCT and below, division, corps and above are so fundamentally different that referring to these activities in the same way, creates confusion about the activities and forces that operate in deep areas at echelon. Referring to the areas that the BCT, division, corps, field army, and theater conduct their shaping operations all as “deep” oversimplifies the activities and forces involved in those operations and leads to miscommunication and lazy staff work. Designating shaping areas at echelon based on the relevant activities and forces, and mirroring the designation of the strategic support/Joint security area, clarifies and simplifies how we arrange forces in large-scale combat operations.

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9 US Department of the Army, ATP 3-94, *Armies, Corps, and Division Operations*, (Washington, DC: Government Printing Office, 23 July 2021), 2-29.

10 US Department of the Army, FM 3-94, *Armies, Corps, and Division Operations*, (Washington, DC: Government Printing Office, 23 July 2021), 4-15.

11 US Department of the Army, ATP 3-09.34, *Multi-Service Tactics, Techniques, and Procedures for Kill Box Planning and Employment*, (Washington, DC: Government Printing Office, 18 June 2018), 11.

12 US Department of the Army, FM 3-0, *Operations*, (Washington, DC: Government Printing Office, October 2017), 1-34.



*The Devil is  
in the Details:*  
**Artillery Logistics  
in Sustained  
Large-Scale Combat  
Operations**

*By CPT James Sides*

Paratroopers are known to be highly aggressive, fit, and confident. We live to conduct a night-time parachute assault deep behind enemy lines to seize a key piece of terrain. Because of our confidence in these attributes, we are comfortable with the ambiguity of not knowing exactly what we are facing, executing on the fly, and trusting the lowest-level paratrooper to get the job done on their own initiative. However, we are also notorious for not putting much into planning for anything after our initial Airborne Joint Forcible Entry (AJFE), relying on a quick concept and intent and aggressive execution. While this method has many advantages, it also comes with disadvantages, some potentially resulting in high-level failure. This is particularly the case regarding artillery logistics and our ability to provide the Fires required when needed. Following two significant brigade-level training exercises, we realized not only all of the above but that the lessons learned from these experiences could be of value not just to the Sky Soldiers and All-Americans but to the Field Artillery as a whole.

In May 2019, the *Devil Brigade* (1st Brigade Combat Team, 82nd Airborne Division) conducted Operation Devil Storm II, an annual brigade-level training exercise. The operation began with an alert notification, similar to that received on an Immediate Response Force (IRF) activation. This alert assembled the brigade from around the greater-Fort Bragg area and started our 96-hour sequence. Within two hours, the brigade's leaders were in the division headquarters, receiving the mission to conduct a brigade-level airborne assault on a notional forward landing site. The brigade immediately went into an intense planning and preparation cycle over the next

four days. Each echelon went through a non-stop Military Decision-Making Process (MDMP) iteration, including various orders, briefings, and rehearsals, ultimately culminating with a full brigade Combined Arms Rehearsal. As soon as complete, the *Devils in Baggy Pants* donned parachutes and equipment, boarded awaiting C-130 and C-17 aircraft, then conducted a brigade-level mass-tactical drop in the middle of the night. While it seemed hectic throughout the process, looking back at all we accomplished in such a short time, it was impressive.

The AJFE went smoothly, with the majority of objectives seized by “Little Groups of Paratroopers” from the various battalions in rapid fashion. The *Gun Devils* of 3rd Battalion, 319th Airborne Field Artillery Regiment (AFAR) dropped two M119A3 Howitzers and one Q-50 radar assembled gun crews by whoever got to either gun first, de-rigged the Howitzer platforms, and fired an immediate live mission within about 30 minutes of the first paratrooper exiting the aircraft. With initial objectives secured, the brigade transitioned to defense, building its combat power over the next 24 hours via Air Lands and ground convoys. Everything was going smooth but generally in line with the norm for this exciting type of training. At some point, we knew we would eventually get a follow-on mission. Still, unexpectedly, the division headquarters gave the brigade an order to conduct a contested wet-gap crossing several kilometers away within about 24 hours. A day later, they gave us another brigade-level mission, to seize a key piece of terrain via air assault. By the end of the roughly four-day exercise, the *Devil Brigade* had crossed the entire length of the Fort Bragg training area, mostly on foot.



Devil Storm II Wet-Gap Crossing.



DZ live-fire exercise.

As a new Battalion S4 for the 3-319th AFAR, these two missions were eye-opening; much like the rest of the brigade, I was surprised by the operational pace required over this distance compared to previous training. For the *Gun Devils*, in particular, we also realized that if these had been real missions requiring actual ammunition, we would not have been able to provide anywhere near the number of Fires needed to support either subsequent phase of the operation. Were this “the real thing,” both missions would likely have ended as catastrophic failures due to our inability to provide adequate Fires, resulting in significant casualties sustained by our maneuver forces. Knowing that we were just weeks away from assuming the IRF mission, the gravity of this realization was shocking.

Because of this exceptional training experience, we made several major changes in how we conducted logistics, beginning with staff realignment during field operations and creating planning products. These changes made a significant impact, but when put into practice during a subsequent Joint Readiness Training Center (JRTC) rotation, further changes were also needed, particularly in coordination with higher echelons. With those final refinements captured, I feel confident that the battalion was ready to meet the logistical demands of a sustained large-scale combat operations (LSCO) artillery fight. These lessons are shared here in hopes that they can be of equal value to any readers from the Field Artillery force in the future – or at least new battalion S4s.

### Staff realignment

Previously, our battalion Administration and Logistics Operations Center (ALOC) had always been located separately from our Tactical Operations Center (TOC), sometimes even as far away as the Brigade Support Area (BSA) on the original drop zone. While easier to coordinate with the Brigade Support Battalion (BSB) from this point, this virtually removed half of the staff from operations. As a result, when the mission came down to provide Fires in support of the wet-gap crossing, the personnel, medical, signal, and – most notably in this case – logistics planning and coordination were all conducted by several assistant S3s, junior captains, or lieutenants tasked with running the current operations fight

at the same time. Naturally, those areas did not receive the attention that a brigade-level combat operation required, compared to the dedicated planning and preparation given to the initial operation. By the time we got to the TOC to assist, it was too late to affect any changes needed – the distro plan was already in motion, with insufficient quantities and timing to ensure the batteries were in position and ready to fire. As a result, we did not have nearly enough high explosives or smoke distributed forward to provide adequate Suppress, Obscure, Secure, Reduce, and Assault Fires. At most, all we could have provided was a 5- to 10-minute smoke screen, with far more high-explosive rounds staged than were needed for follow-on suppression missions or other targets.

To correct this issue before our upcoming JRTC rotation, we decided to bring our TOC and ALOC together during operations, relying on an extremely light Tactical Command Post (TAC) when Command and Control needed to move forward. The TOC and ALOC remained separate to minimize target signature but always co-located in the same position. This simple move enabled the Executive Officer (XO) and ALOC staff to move to the plans area within the TOC upon receipt of an order, combining to make a complete staff and allowing for a full form of MDMP for every follow-on mission. It also allowed our TAC to be light and move quickly, often undetected. In short, we could utilize the entire staff, dedicating nearly the same amount of effort for each follow-on mission as we did the initial. As a result, paragraphs four and five of the Operations Order received more than just the usual minimal emphasis, receiving the same



Jump Fire Direction Center.



Paratroopers land on the HDPI.

attention as paragraphs two and three. This detail could likely be the difference between success and failure in a large or sustained artillery fight.

### Logistics Artillery Readiness Plan

Most triggers to resupply developed by staff officers connect to using a Rearm, Refuel and Resupply Point during movement or rely on point-supply “tailgate” distribution after arriving at their next firing point. However, this often becomes reactionary, usually resupplying with whatever is on hand rather than specific predicted requirements needed to meet planned missions. Further, when units train, ammunition is frequently notional, so the various types of munitions magically appear when needed, and the staff is never stressed. In actual operations, however, when the mission demands a large volume of smoke, the mass quantities required are stockpiled miles away, requiring considerable logistics coordination and effort to move them forward for use. All this becomes even more complex when synchronizing this distribution with firing battery movement. In addition, once a distro platoon offloads the ammunition, it is too late to go back and correct, having grabbed the wrong propellant lot or forgotten fuzes of a specific type.

In trying to create a solution to this problem, my team realized that we already had the product we needed. With slight modifications, we converted the Fire Support Execution Matrix, and Field Artillery Support Matrix (FASM) templates to create an *as-detailed* logistical planning matrix, using the easy-to-remember title of Logistics Artillery Readiness Plan (LARP). The LARP

consists of each firing battery’s maximum load capacity of Class V, available distribution assets, and a by-hour sequence mirroring what is on the FASM. Templated targets are aligned on this time sequence with the appropriate fire order by firing battery or platoon.

With the TOC and ALOC co-located, it was easier to share necessary information between the battalion Fire Direction Center and the S4 to create this product, including the likely demands of counter-fire operations or unplanned targets. Based on these planned missions and other predicted demands, we prepared crops with appropriate ammunition configurations, synchronizing travel time and movements to ensure it was delivered where needed at the right time. The LARP also added the benefit of serving as a historical document, showing what was fired throughout an operation, and presenting valuable information to the Fire Support Coordinator (FSCOORD) and the rest of the staff.

### Pre-configured loads

Devil Storm II demonstrated difficulty moving the correct ammunition across a wide support area. During the exercise, the battalion used “chit” cards internally to simulate the effect of moving certain projectiles on a HEMTT Load Handling System; however, this quickly proved ineffective in simulating realistic ammunition simply due to cheating. Specifically, while we attempted to work a resupply plan when the mission came down, units still conducted dry-fire missions regardless of the ammunition numbers actually delivered. While doing so was necessary so the fire supporters and gun crews could train, this failed to stress the logistics systems. As a result, this critical aspect of artillery operations was never developed and strengthened. This is undoubtedly a commonly overlooked or under-emphasized point of emphasis in training across the Army.

However, the training did still demonstrate the need to deploy ammunition packages to the firing batteries swiftly and efficiently. Therefore, before our JRTC rotation, we established pre-configured load plans organized for each crop that we could call forward immediately based on the missions the LARP projected. Each package had a specific designation for quick understanding.

Package “Red,” for example, was prepared based on a Unit Basic Load of 70% high explosive, 20% smoke, and 10% illumination. In contrast, package “Blue” was tailored for the defense, built, and on standby days before the execution of even the AJFE for delivery upon completing the initial brigade objectives. Images were printed to put on each prepared crop rack to “dummy proof” what load each contained. Altogether, these measures proved effective in understanding ammunition availability between operations and the ALOC, giving the Fire Direction Center a picture of what was available on the battlefield, and helping translate artillery to our sustainers.

### **Ammunition stockage**

While the LARP proved an effective planning tool, we learned during our subsequent experience in the swamps of Fort Polk that the expenditure rates required to have an effect on a target caused an approximately three-fold increase in demand for munitions. This severely strained our higher-echelon logistics systems, and our Ammunition Holding Area (AHA) was never able to build anywhere near appropriate stockage. As a result, most ammunition was pushed out as soon as received, and usually as an emergency tailgate resupply for the firing batteries.

While we dealt with the usual issues of resupply requests getting lost or the wrong munitions being delivered, the bottom line is we needed a *non-stop resupply* “into the box” of thousands of rounds, building an ammunition stockpile that we could draw from whenever needed. The only way this would have been possible is for ammunition requests to be started 72 hours prior to the start of the exercise and establishing close working relationships with our BSB and even directly with the supporting Combat Sustainment Support Battalion (CSSB), to include possibly embedding an artillery liaison within each, as will be discussed below. Again, the second the rotation started, a non-stop stream of artillery ammunition should have poured into the box until the parking lot with all the concrete simulation rounds was empty.

### **Artillery logistics at all echelons**

Finally, the stresses revealed by a combat training center (CTC) rotation demonstrated the importance of planning and shared understanding

across the sustainment Warfighting Function, and again, especially in the subsequent phases of the operation following the JFE. In our case, the Brigade Support Operations Officer (SPO) gave the S4 a predetermined number of crops to prioritize upon establishing ground lines of communications just prior to H-Hour. While we fought it, ultimately, this was the extent of redistribution of ammunition post-JFE, resulting in a window of 24 to 72 hours with only three crops worth of ammunition planned for the entire battalion. Within the first day, we were asking for immediate resupply. As a result, we did not have sufficient ammunition for the upcoming defense against the inevitable counterattack. The *Devil Paratroopers* did what they do best and successfully denied the enemy a breakthrough. Still, it was also the last time the observer-controllers allowed us to streamline our ammunition distribution for the remainder of the rotation.

As the exercise continued, while the previous lessons learned and applied following Devil Storm II paid some dividends internally, ultimately, our failure to properly integrate with our higher headquarters in training beforehand almost completely negated our progress. Specifically, while our ammunition requests were what LARP called for exactly, often, our SPO simply ordered the same types of ammunition from our initial loads. Other times, the CSSB grabbed whatever rack of artillery ammunition was most readily available, resulting in the wrong type of ammunition arriving at the AHA, if any arrived at all. Further, our brigade held logistics synchronization meetings approximately every two to three days. This did not give us enough lead time to correct any requests. Compounding the issue, it did not help that frequently the opposing force ambushed and destroyed CSSB convoys upon entering the box, significantly disrupting our resupply. This culminated in another shortage in artillery ammunition prior to our brigade attack. Lastly, perhaps the most significant takeaway was that we had never been stressed in previous training with “real” logistics, and neither had our higher echelons. Going into our JRTC rotation, we felt we had applied the correct systems from our lessons learned; however, these were only internal to our battalion and proved almost moot. This failure is on us for not reaching out and integrating during training.

The sustainment community is in a struggle

to develop institutional knowledge on Class V (ammunition), not unlike the majority of the Army with its various required knowledge base and technical skills. In the *Devil Brigade*, 89Bs were undermanned, resulting in most Class V operations or decisions primarily falling on the brigade warrant officer. In JRTC, this often resulted in our over-tasked sustainers using the default setting of “just order what we asked for yesterday” regarding artillery ammunition resupply. Naturally, what arrived was usually not what we needed (once, we received a rack of illumination rounds in lieu of the high-explosives needed), if anything arrived at all.

The recommended solution is to embed artillery liaisons within the Brigade SPO team to help shape and assist in this process. Doing so will give a point of contact for contact and control to ensure sustainers receive the order and process the requested resupply. In the future, we plan to place our battalion ammunition NCO inside the brigade SPO shop to fill this role, thereby giving the battalion this secondary line of communication and someone familiar with artillery ammunition. This liaison will also help manage the previously discussed ammunition stockage and pre-configuration in the BSA.

Similarly, we recommend dedicating an artillery liaison to the CSSB at wherever location they draw ammunition from for the same reasons. This would allow the added benefit of controlled distribution of appropriate propellant lots to specific brigades, minimizing the need for registration and predictive muzzle velocity variations and simplifying and enabling the achievement of more accurate and lethal Fires. Given a real-world operation, a CSSB will be required to support more than one brigade at a time. We recommend that a Division Artillery cell is best to assume this role, especially during CTC rotations.

## Conclusion

My team and I were fortunate to have our roles stressed during two exceptional training events designed to do just that. We had our eyes opened to the demands of what it would realistically take to provide artillery support in real-world LSCO, which invariably will include multiple follow-on operations throughout the duration of a sustained

fight. That thought alone – and what it will require to complete such requirements – should give leaders at all echelons pause as we reflect on how we train.

I learned a significant amount from these experiences; likewise, our battalion’s overall readiness improved considerably as a result. As I talked with my Battalion XO before we each departed to our different positions and new assignments, our conversation drifted to these experiences, reflecting on how important these lessons were. We realized that they would likely disappear with us as we moved on, that it would not take long before the Army is forced to train these lessons all over again, at great expense and effort.

Undoubtedly, many units already practice some of the systems and methods mentioned above; I hope that we were the only ones that needed to learn these lessons the hard way and that everyone else is already ahead of where we were. But if some may have these same issues, we hope our experience captured the lessons learned. If nothing else, maybe it will give a new Battalion XO or S4 something to think about as they prepare for a similar training path.

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This is a story I hardly ever share. One of those personal experiences from combat that you are inwardly proud of but keep to yourself over the years. Interestingly, as I have returned to Snow Hall and have seen the new lieutenants and captains coming and going, young officers who I once was just yesterday; this memory has come to mind quite a few times. I guess it is just the thought of my naivety at the time and how the experience detailed below was about to change me forever, both personally and professionally, just a few months after leaving these same classrooms. I am sharing this because, like me years ago, this next generation of artillerymen and women could be called into combat tomorrow and what that



## When the Call Comes

By MAJ Rich Ingleby

might bring. Perhaps this article can share a little of the perspective that I had to earn as they train and prepare today.

I graduated from the Officer's Basic Course, or OBC, in December 2006, right at about the time the second lieutenants currently in BOLC were mid-way through kindergarten – that hurts to realize... At this time, the Global War on Terror was at its peak, dominating the news, politics, and everyone's thoughts across the nation. The war was not going well, casualties in Iraq were shocking, and the Afghanistan war was resurging.

Watching the war start as a cadet, I was excited to finally be out of school and ready to actually



SFC Matthew Kahler supervises and provides security for PFC Jonathan Ayers and PFC Adam Hamby while they emplace an M240 Machine Gun as part of a fighting position in the mountains of Afghanistan's Kunar Province, Oct. 23. The Soldiers are all from Chosen Company, 2nd Battalion, 503rd Parachute Infantry Regiment. (Courtesy Photo Defense Imagery Management Operations Center)

get out there and do my part. I had orders in hand to be a Fire Direction Officer (FDO) with the 4-319th Airborne Field Artillery Regiment, 173rd Airborne Brigade. While I was not particularly excited about being an FDO, I knew that the wait was not going to be long for my chance to deploy once I signed in.

I always had a strong work ethic growing up and assumed that if you spend the time doing something, you might as well go all in. I had a great section and was fortunate to get assigned to some fantastic noncommissioned officers with the same mindset. We trained hard and were generally proficient after the roughly five months we had to prepare before we departed. That said, we probably were about as proficient as the average well-trained Fire Direction Center (FDC) section out there.

As part of “The Surge,” our brigade went to plus up Afghanistan, meaning that my unit was extremely fortunate as Redlegs to get to stay on our guns, while the majority of the branch was primarily tasked with maneuver or security missions in Iraq. We arrived in Regional Command-East in May 2007 and immediately flew out to Forward Operating Base (FOB) Blessing, a small infantry battalion headquarters tucked into the mountains along the Pakistani border near the town of Nangalam. Below the walled-off FOB was a helipad, and just beyond that, a small compound surrounded by a berm and C-Wire, with two M198 155 mm howitzers sitting inside of it. The 10th Mountain Division unit before us had named it Firebase Sloan; that was to be our home for the majority of our 15-month deployment. If you saw the documentary *Restrepo*, this was the headquarters for *Battle Company's* parent unit, the 2nd Battalion, 503rd Parachute Infantry Regiment, *The Rock*. This particular story took place on the main mission seen in the film, during *Battle Company's* exfiltration and right after the camera crews departed.

The Korengal Valley, a small offshoot a few kilometers to the southeast of the valley we were in, was easily one of the hottest areas in Afghanistan. And with the valley easily falling within our range ring, our platoon was about to be one of the highest-firing platoons – if not the – in both theaters of operation. In fact, my platoon had not even had the chance to open their duffel bags after arriving when the radio squelched, “fire

mission coming down.” There was no gradual settling in for us; the Taliban wanted to test the new unit right out the gate. With the previous unit having departed on the same birds we had come in on, my platoon fired its first combat mission on its own within minutes of arriving. Training was over.

That entire summer, we fired virtually every day, usually multiple times. We had missions of all types – Sweep in Zone, Danger Close, and Direct Fire, all of them against real enemy targets. A couple of times, we even adjusted three simultaneous Fires for Effects (FfEs) on two guns – with multiple adjustments on each target. We had to do it – and pulled it off – but fortunately, we never had to try to do four. We were on call 24/7. So much so that once I heard the radio send a mission warning order in my sleep. I ran to the FDC and got the platoon stood up for the call-for-fire about to come down, only to find that no mission had ever been transmitted. My troopers, of course, gave me a hard time afterward for hearing things, but not too much – because of the amount we had been shooting, it was not a big surprise.

Naturally, both gun crews and the FDC got extremely proficient. Being involved in combat operations, including being intimately involved when some of our paratroopers had been hurt and killed, things got real for us – fast. A sense of urgency came over us, knowing that we could not afford to waste a fraction of a second getting the rounds out, so we trained and refined our crew drills to perfect efficiency. Further, whenever there was a report of troops in contact, we stood our guns up and told the Battalion (BN) Fire Support Officer (FSO) that we were ready – even if no call-for-fire had been submitted for us, so they knew we were there. This aggressiveness, plus our increased proficiency, quickly earned us an unequaled level of trust with the infantrymen we supported –before long, every time they got into a fight, one of the first things they did was call *Bulls FDC*.

Several months passed, constantly firing in support of maneuver missions or in response to enemy attacks. In early October, *Rock* decided to do a clearing mission, air assaulting roughly four companies in the mountains above the Korengal Valley – again, one of the worst in all of Afghanistan – and then, in essence, walk down

from the top of the mountains, inviting contact and clearing the enemy as they went. They called it Operation Rock Avalanche.

We spent the days prior in maneuver and fire support rehearsals, with *Rock* paratroopers conducting constant PCCs and PCIs. We staged additional ammunition, gave the guns a little extra maintenance, and ensured we had the Target List Worksheet and other products built and ready in all of our systems. I distinctly remember walking back from the battalion headquarters late on the night of October 18, 2007, watching these paratroopers all staged and waiting to load onto waiting CH-47s to start the mission that night. I had never sensed anything like it before, but you could feel in the air that something big was happening.

The majority of the mission went as shown in the film. We shot a couple of times, but it was relatively quiet for us on the gun line. For us, the whole operation was the same as any other day. We just tracked their movements and ensured our guns were on an azimuth in their direction. On October 23, the mission had generally ended, and all the companies started a two-day movement back to their various outposts. Assuming it was all over, the film crew boarded Blackhawks and departed.

As the *Battle Company* moved on October 24, they were attacked from what they called a “banday,” a sort of housing complex with a sizable number of fighters located inside. They quickly called for our guns, and we shot over 30 rounds until one round struck the structure perfectly, killing all the fighters inside. It was a memorable engagement for us due to the unique target, but we did not

think much of it, and *Battle* continued their movement down.

On the 25<sup>th</sup>, it seemed like it was all about over. We did receive a good amount of reports that the Taliban was maneuvering to get into position against *Battle*. This was nothing very unusual; whenever our guys were out, there was always quite a bit of chatter, so we did not put too much thought into it and just continued to track their movement. On top of that, the terrain was rough, with a steep hillside dropping off to one side, so the reports did not make much sense.

Then the phone rang. We had a VOIP phone that connected us to the *Rock's* Tactical Operations Center (TOC). Captain P., the BN FSO, who we all greatly respected and even looked up to, was on the other end. I will never forget what he said: “Rich, I need twelve rounds of HE/VT and WP/TI on this grid now.” I read back the grid – loudly for my FDC to overhear – then just replied something like, “you got it sir,” and hung up. Not a big deal – the guys were probably in contact, but other than the call-for-fire coming in over the phone (versus the usual Internet Relay [mIRC]

chat) and coming from the BN FSO himself, this was pretty standard for one of our daily fire missions. So not thinking much of it, roughly about thirty seconds from me relaying that grid back to CPT P., the guns started thundering away outside.

I remember there being a longer than usual delay in waiting for feedback from the observers after sending “splash,” but we didn’t think much of that either. Maybe the mission was over, and they were taking their time sending End of Mission



Firing high-angle in support of *Rock* Paratroopers from Firebase Sloan.  
(Photo by MAJ Rich Ingleby)

(EOM). So we just waited. Eventually, we got a “repeat” and sent another 12 high-angle rounds into the air. A short time after, we received an “EOM” with the usual canned end-of-mission report across the mIRC, so we relayed to the gun sections to stand down. Pretty standard.

Then the phone rang, again with CPT P. on the other end. “Rich, I’m coming down. I need your whole platoon outside when I get there.” Not

a big deal. A handful of minutes later, my team came back in, all extremely somber and wide-eyed. Still thinking this was nothing out of the ordinary, I asked what was up, and they relayed what had just happened.

From a short distance away, a large group of Taliban had ambushed *Battle Company* in a classic L-Shaped ambush, mortally wounding the paratrooper walking point and killing the medic



Firebase Sloan and the helipad viewed from FOB Blessing. Just beyond the ridgeline in the center lies the Korengal Valley. (Photo by MAJ Rich Ingleby)

knowing what to think of this, I acknowledged and got the men standing by. I started to worry that maybe we had hit some of the *Battle* guys or something in that odd delay.

*Battle Company* was still out, so someone had to stay and watch the mIRC. I think we realized there was something special about that mission at this point, so I stayed in the FDC while the guys went out and got a pat on the back. Nice, but still not

nearby. As they engaged the company, pouring a massive amount of RPG and machine gun fire on the exposed men below, several fighters threw a sort of lasso around the wounded point man, SGT Joshua Brennan, and began dragging him off. His team leader – we were told at the time this was SPC Hugo Mendoza, the medic who had been killed – had seen this and ran alone into the woods after them, driving them off and rescuing his severely injured squad member.

Our artillery rounds had broken up the rest of the ambush – the long side of the L on the elevated terrain off *Battle Company*'s flank – that odd delay the result of the Forward Observer having to stay squeezed against a rock until the last round finally splashed because they had us firing at “danger close.” Apparently, during that pause, the BN thought we had hit them too and were starting to get nervous in the TOC when the radio finally came to life with, “it’s dead on, pour it on ‘em!” (in Snow Hall terms, “repeat”). Standing there outside the FDC bunker in the dark, the always-solid CPT P. had broken down in tears as he told the story of what had just happened.<sup>1</sup>

Things changed for me during that deployment; in how I saw the world, the war, etc. More importantly, it changed how I saw myself as an artilleryman. It changed how I understood our job and what we are here to do. I picked the Field Artillery because I thought shooting high explosives from a big cannon was awesome as hell, and because seeing the crew drill in action was – and still is – one of the best things in the world to watch or be a part of. Nevertheless, I left the Pesh Valley – almost a year exactly from when I left Snow Hall – with a completely different perspective on what it *really* means to be an artilleryman. Moreover, while this shift undoubtedly took place over the course of several months, October 25, 2007, is the day that stands out most and probably solidified my view.

I did not know the entire story about what had happened until several years later when I ran into the old *Battle Company* FSNCO. He told me about

the L-Shaped ambush and everything described above, all less than 100 yards away from *Battle Company* troopers. When CPT P. first called, he never told me it “danger close.” Whether out of haste or deliberate, *Battle* was well within our Probable Error in Range at that distance. And with such a large immediate Fire for Effect, compounded even more by the call to use WP/TI – which in those mountains usually required a Height of Burst correction – that was about as gutsy of a call-for-fire as it got.

Without warning, that Forward Observer, then-SPC Roberto Sandifer, had been called on to plot a perfect target location, all while cowering behind



Fire mission in action. White phosphorus bursting in the mountains to the northwest of FOB Blessing. (Photo by MAJ Rich Ingleby)

a rock under intense enemy fire. No warning, no time to think, double check notes or stare at the target through binoculars. Yet his entire platoon depended on him for their lives. A half of a second delay on his part could have been the difference between a Taliban fighter squeezing off just one more round and sending a young paratrooper to Arlington under a flag-draped coffin. The slightest error in direction or range could have just as easily sent our rounds on top of them with the same result. Thankfully, SPC Sandifer had been ready the moment the call came.

I am proud to say that we were ready as well. Again, in our FDC, thirteen kilometers away, none of us knew what was happening when the call came. It was the same fire mission as any other. What we had done came out later, the full story even years later, after the specialist, who saved Brennan, then-SPC Salvatore Giunta, was awarded the Medal of Honor for what he did that day.<sup>2</sup>

<sup>1</sup> This account differs slightly from what has been written about it today. At the time, details were unclear, and even the above is clarified more today than what we were originally told had happened. The author tried to keep it as close to what was originally understood immediately after it happened.

<sup>2</sup> Awarded in November 2010, SSG Giunta became the first living recipient of the Medal of Honor since Vietnam.

My platoon understood that we had to ensure we were ready for every mission, that we could not allow any inefficiencies on our end, and that we had to give our preparation beforehand everything we possibly could – otherwise, that one-second delay on our part could result in an American not coming home that night. We had to know deep down inside that we had done everything possible to ensure that delay never happened. Ultimately, the person responsible for my platoon’s timeliness and accuracy was me. I knew I could not allow the horrible result of any one-second delay on my conscience, something I would have to carry for the rest of my life. Fortunately, we realized this going into the deployment and increasingly over our first months, so we were ready when the call came, even though we did not realize it was *that call* at the time. As a result, I have no doubts or regrets today. Neither does – or should – any of my platoon.

Again, I do not think I have ever fully shared this story. I’m not sure I ever will again. But I leave this here for the new officers currently walking through Snow Hall or training with their sections. Hopefully, it will help them gain this perspective faster than I did, without having to go through the experiences I went through to gain it.

The bottom line, we have a special trust and responsibility as artillerymen and women. No other branch has it. Yes, we have a “role” published in FM 3-09, but what we *really* do is bring our people home. Our fires, both on offense and defense, destroy the enemy so that they cannot kill or wound one of the riflemen we see in the formations outside the barracks where we currently serve. Real people. People that are prepared to go into harm’s way because our nation asked them to. And in

many cases, our fires will be the only thing that allows them to return when it is over.

You never know when this moment arrives until after it is over. When it does, it is too late to do more training. There is no switch to flip to where suddenly you are perfectly spun up and ready. That all has to be done beforehand, right now. Because, for all we know, we might be sent to war

tomorrow – it is up to us as Redleg leaders to ensure our teams are ready now. When the call comes, there is someone out there depending on it.

*MAJ Rich Ingleby is currently serving as the executive officer to the Field Artillery Commandant at Fort Sill, Oklahoma. His desk is located just down the hall from where he took his first gunnery block of instruction a few years ago.*



White phosphorus bursting during a fire mission in support of Battle Company somewhere in the Korengal Valley. (Photo by MAJ Rich Ingleby)

# Arctic Artillery: Overcoming Mobility Challenges

By MAJ Brian P. Bierwirth

**F**ield Artillery units must be able to support maneuver forces wherever they operate. The U.S. Army Arctic units live and execute operations in an austere and harsh environment, which requires different materiel and organizational solutions to remain an effective fighting force. To better enable the Joint force in the Arctic, the U.S. Army should invest in modifying existing Fires platforms in the 11<sup>th</sup> Airborne Division to enable the Joint force to fight and win in a multi-domain environment in the Arctic region.

## Issue

In January 2021, the U.S. Army released its new Arctic Strategy, titled “Regaining Arctic Dominance.”<sup>1</sup> This strategy, along with the Department of Defense’s (DOD’s) “2019 Arctic Strategy,” highlights the growing importance of the Arctic region.<sup>2</sup> Climate change is currently reducing the levels of Arctic Sea ice, opening sea lines of communication and trade routes previously limited to the summer months or routes that have been unavailable year-round.<sup>3</sup> Both the DoD and the Army recognize that the growing importance and economic benefits of the Arctic could lead to competition with both Russia and China. Russia has also been building its Arctic capabilities under the guise of defending the Russian homeland. This would appear to be in line with their large territorial claims to the Arctic Sea floor, which is estimated to have approximately 35.7 trillion cubic meters of natural gas.<sup>4</sup> The Arctic geography also puts the United States in closer proximity to Russian territory

through Alaska, providing potential for direct confrontation between land forces.

Maneuverability in the Arctic is difficult. Contrary to initial assumptions, the U.S. Army Arctic Strategy notes that maneuverability is often greatest in the winter. However, the warmer summer months and thaws in the spring limit heavy vehicles’ mobility due to melting snow and permafrost. The Army currently stations an Infantry Brigade Combat Team (Airborne), 1st Brigade Combat Team, 11th Infantry Division (1/11<sup>th</sup> IBCT[A]) at Fort Wainwright, and an Airborne Infantry Brigade Combat Team (2/11<sup>th</sup> IBCT[A]) at Joint Base Elmendorf-Richardson (JBER) as the only Arctic-positioned forces. Due to the weight of the Stryker in the previous configuration of 1/11<sup>th</sup> IBCT(A), the U.S. Army also equipped both Alaska brigades with the M973 Small Unit Support Vehicle (SUSV) and has also begun the process of procuring an updated, similar vehicle to the SUSV.<sup>5</sup> The SUSV is reliable over all terrain types and has an amphibious capability without any prior conversion. Due to the amphibious capabilities of the vehicle, it is also in service in the U.S. Marine Corps. According to AFC Pam 71-20-2 “Army Futures Command Concept for Brigade Combat Team Cross-Domain Maneuver 2028,” the maneuver requires the support of Fires to be effective.<sup>6</sup> As the Army looks to field these light, maneuverable, and amphibious vehicles for maneuver forces, the associated Field Artillery units in the Arctic must be able to match these capabilities to provide close support to maneuver forces. Current towed artillery systems and their associated prime mover vehicles are ill-suited to keep pace with the SUSV.

Background: A gun crew from Battery B, 2nd Battalion, 8th Field Artillery Regiment sends a 155 mm howitzer round down range in the Yukon Training Area, Alaska, March 7, 2018. The exercise, Automatic Big Rig, was part of the first gun raid in three years for the 2nd Battalion, 8th Field Artillery Regiment, and was carried out in conjunction with helicopter support from the 1st Battalion, 52nd Aviation Regiment. The Field Artillery regiment is part of the 1st Stryker Brigade Combat Team, 25th Infantry Division. (Army photo/John Pennell)

The U.S. Army requires long-range surface-to-surface Fires as part of the new Army Operating Concept, Multi-Domain Operations. U.S. Army units must be able to “penetrate and disintegrate” enemy formations before an adversary can bring their force to bear. As noted earlier, the Arctic climate and geography make the current planned use of High Mobility Artillery Rocket System (HIMARS) vehicles impractical for the Arctic environment. The Arctic regions suffer from poor infrastructure such as roads and airports, the two primary ways in which HIMARS units travel at speed. Using HIMARS within the Arctic Multi-Domain Task Force (MDTF) consequently ties that MDTF to a fixed location, negating the ability of the MDTF to execute survivability moves or to exploit an opportunity on a pursuit. The vast distances in the Arctic necessitate a long-range Fires system that is all-weather capable, something the air component and (to a lesser degree) the maritime component cannot provide as effectively. Air systems that deliver similar munitions do not have the same endurance (even with aerial refueling) to maintain the persistent coverage required. The expensive costs, both monetarily and politically, of current naval cruise missiles also make use of those munitions prohibitive in competition against an adversary in the Arctic.

### **Recommended approach**

A materiel solution would best enable the Army’s Arctic artillery capability. As mentioned earlier, the main issue facing Arctic units is mobility. Being able to move rapidly about the battlefield is essential to support maneuver forces. Modifications to the M119A3 should be adopted to facilitate better mobility for Arctic forces to achieve this aim. This would require divesting the current M777A2 Howitzers (three batteries at Fort Wainwright and one battery at JBER) in favor of the “Arctic” variant of the M119A3. This reconfiguration would also support the current debate on whether a Stryker brigade is necessary or appropriate in Alaska, as most of the assets in a Stryker Brigade Combat Team are too heavy to navigate softer terrain.

The “Arctic” variant of the M119A3 (referred to as the X119 for simplicity) should have the option of being fielded with skis in place of wheels and be buoyant enough to overcome marshy, boggy, or shallow water obstacles. The same ski equipment used by the aviation units stationed in Alaska that

use skis on CH-47s could be trialed to determine if they are sufficient for use on the X119. These Howitzers would be capable of being towed by the SUSV (or its replacement) and require an amphibious capability to maximize their use with the SUSV. Much of the Howitzer consists of hollow tubing, notably the trails. Testing should be conducted on adding lightweight foams into the trails and under the carriage, enabling the Howitzer to float and meeting a cost-efficient buoyancy requirement. Such foams would also not add significantly to the weight when the Howitzer and vehicle have to traverse snow or ice and requires no capabilities to be added or removed depending on the environment. Since the Army has access to Arctic training areas in Alaska, the units stationed at JBER and Fort Wainwright should be supported by Army Futures Command with unit-based testing. This would encourage innovation and “buy-in” at the unit level while harnessing the experience and expertise of the Soldiers who operate in the Arctic environment regularly.

While the author will freely stipulate he is not an engineer, the basis of the technology required to implement this course of action is available today. The Army has helicopters stationed in the Arctic with fitted skis capable of supporting a vehicle dramatically heavier than a Howitzer. While the Army does not currently use foam materials for buoyancy, the relative ease in modifying existing Howitzers can be done at each unit location.

This conversion would also require an organizational change based on the current structure of the BCT at Fort Wainwright and an airborne IBCT at JBER. Four batteries of M777A2 would have to be converted to an X119 configuration. However, this could be executed through a Force Design Update “junior,” as the MTOE strength of an M777A2 battery is 105 personnel, while an M119A3 battery strength is 75 personnel.<sup>7</sup> There would be no requirement for additional MOS changes, and the resulting decrease in overall manpower would enable Field Artillery personnel to be shifted to support other Army priorities.

### **Downstream effects**

As mentioned above, this fielding of the X119 would necessitate an organizational change.

Many of the same challenges faced in the Arctic environment are shared by those that operate in mountainous terrain. While the focus of the X119 would be on the formations stationed in Alaska, the 10<sup>th</sup> Mountain Division would also be affected due to their designation as mountain infantry. The overall impact on the organization in terms of manpower is the same (in this case, transitioning three M777A2 batteries to X119).

Doctrine would need to be revised for how to employ a new Arctic artillery formation. ATP 3-90.97 “Mountain Warfare and Cold Weather Operations” would need to be amended to account for the new capabilities of the X119. While ATP 3-90.97 gives good planning considerations for maneuverability and emplacement, it would need to be updated to ensure that commanders and staffs understand that the restrictive terrain of the Arctic environment does not always necessitate an air assault or dispersed operations.<sup>8</sup> There could also be an argument made that, based on the Army’s new Arctic Strategy, which bespoke doctrine for Arctic operations would be beneficial to develop before the Arctic becoming a more geopolitically competitive space. This doctrine would likely need to be developed in a combination of the Centers of Excellence (CoE), with the Fires CoE and Maneuver CoE collaborating to ensure mutual support. In a wider sense, the risks associated with removing the M777A2 capability from both 1/11<sup>th</sup> IBCT(A) and 2/11<sup>th</sup> IBCT(A) reduce the ability of those brigades to shape deeper into their area of operations.

## Operational concept

The X119 would look similar to how current M119A3s are trained, employed, and fought. In the situations where marshy or snow conditions are present, the X119 would be equipped with skis instead of wheels and be towed not by a HMMWV but the SUSV. The foam materials within the body of the Howitzers will enable the SUSV to navigate the same terrain it could with its integral second compartment. Although the overall firepower will have been reduced in the two current Arctic formations, the X119 and SUSV will enable better mobility without reliance on aviation assets or developed infrastructure. This will enable more responsive Fires in support of the Joint force and reduce the signatures associated with higher caliber artillery systems. The logistic requirements are also streamlined

as the ammunition is fixed (in that rounds and charges come packaged together), lighter, and in the case of the IBCT, all of the same caliber.

Due to the increased mobility of the X119, the units would no longer have to look at doing dispersed operations due to road networks or air assaults. The organization would be able to move artillery units into positions where the effects of all organic artillery systems can be massed. Concerning multi-domain operations, removing the reliance on aviation to move artillery assets frees up those aircraft to support other missions where there is no viable alternative. It also reduces the threat and effects of air defense artillery.

This change will be most evident in the brigades stationed in Alaska. The overall structure of the brigades will remain the same, as each will retain its organic artillery battalion. However, the added mobility will enable the maneuver forces to be better supported by artillery. This additional amphibious capability of the X119 also will influence planning and operations at the 11<sup>th</sup> Airborne Division or a Joint task force commander. The X119 and SUSV give the commander an additional method of conducting a forcible entry. While not as capable as the vehicles typically employed by the Marines, the mere capability introduces uncertainty for an adversary.

## Concept of change

The initial fielding and equipping of the X119 will be less lengthy than more traditional materiel solutions for the Army. This is mainly because only two brigades have an Arctic dedicated mission, with the 10<sup>th</sup> Mountain Division potentially being a secondary priority with their focus on high altitude, mountainous terrain environments. Additionally, as the X119 is still essentially a modified M119A3 with respect to mobility, additional training on the operation of the system (except for driver’s training) is not required.

One of the main friction points will be the changed structure of 1/11<sup>th</sup> IBCT(A), as under this proposal, the brigade will lose the range and destructive power of the M777A2. With the Army’s focus on long-range Fires and increased lethality, the initial proposal to reduce the reach of the brigade commander will likely be met with resistance. Although the operation at the

Howitzer level will remain the same, new tactics, techniques, and procedures (TTPs) will take time to develop in order to ensure the Field Artillery battalion, with the X119, can maneuver and be more responsive to demonstrate the increased capability of the X119.

The fielding of the X119 is designed for Army units. However, due to its amphibious capability and maneuverability with the SUSV, the U.S. Marine Corps may also be interested in the X119 system. This could cause the proposal for the X119 to have to be routed above the Army Requirements Oversight Council to the Joint Requirements Oversight Council, which could increase the time it would take to get the system and capability fielded and to the force. Although the Marines are divesting their towed Howitzer systems in favor of rocket artillery, keeping the capability in units postured to support operations in the Arctic may bear further consideration.

Fielding the X119 would increase the mobility of the Arctic brigades and provide a lower visual and logistical signal compared to the current structures, thereby increasing survivability. The materiel solution is modest in terms of cost, as modification of existing systems in the inventory can be done instead of beginning the research and development stage from the beginning.

### **Hasty solutions**

A solution that would begin to move in the direction of the capability of the X119 would be fielding the M119A3 to the 1/11<sup>th</sup> IBCT(A) at Fort Wainwright. The M119A3 has increased mobility over the M777A2, and such fielding would enable 1/11<sup>th</sup> IBCT(A) to develop the required TTPs for the X119 Howitzer to support maneuver formations. This would also assist Army Futures Command in gaining data on how quickly the different training and fielding times would look in preparation for the X119 fielding. This could potentially demonstrate that while the amphibious nature of the X119 is a key system attribute, it may not be a key performance parameter if the M119A3 is sufficiently responsive and mobile to support the BCT in an Arctic environment.

### **Conclusion**

The Army is already looking to expand its capabilities in the Arctic. However, these

modernization efforts must be applied equally across different Warfighting functions, with special consideration given to the ability of Field Artillery units to support their maneuver brethren. Enabling Army formations to operate effectively in an environment of growing importance requires investment and attention now to maintain American dominance in the region.

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### **Endnotes**

- 1 Department of the Army, "Regaining Arctic Dominance: The U.S. Army in the Arctic," Chief of Staff Paper #3, (Washington D.C., Department of the Army, 2021).
- 2 Department of Defense, "Department of Defense Arctic Strategy," Report to Congress, (Washington D.C., Department of Defense, 2019).
- 3 Peter F. Johnston, "Arctic Energy Resources: Security and Environmental Implications," *Journal of Strategic Studies*, Vol 5-3, (Fall 2012), 14.
- 4 Johnston, "Arctic Energy Resources," 16.
- 5 Connie Lee, "Army Looks to Replace Cold Weather Vehicle," *National Defense Magazine*, February 13, 2019, Accessed September 20, 2021, <https://www.nationaldefensemagazine.org/articles/2019/2/13/army-looks-to-replace-cold-weather-vehicle>.
- 6 Department of the Army, "Army Futures Command Concept for Brigade Combat Team Cross-Domain Maneuver: 2028," *Army Futures Command Pamphlet 71-20-2*, August 14, 2020, 65.
- 7 Force Management System Website, accessed September 28, 2021, <https://fmsweb.army.mil>.
- 8 Department of the Army, "Mountain Warfare and Cold Weather Operations," ATP 3-90.97 (Washington D.C., Department of the Army, 2016), 3-1.



Bravo Battery, 2-4th Field Artillery Regiment M270A1 begins movement to the air land raid firing point to conduct a live-fire mission.

# Operation Unlimited Reach: The Lessons Learned from M270A1 Air Land Raid

By 1LT Kyle J. Walter, CW2 Cody R. Sorrell, CPT Austin J. Cibik, MAJ Joseph G. Jankovich





Left: Bravo Battery, 2-4th Field Artillery Regiment M270A1 under the leadership of SSG Dela Cruz rehearses exfiltration upon arrival prior to the live mission from Altus Air Force Base to Fort Sill, Oklahoma. Right: M270A1 launchers exfiltration C-17s following arrival at Fort Sill, Oklahoma.

As the Army returns focus to large-scale combat operations (LSCO), it is critical that all of the armed forces train as we would fight in LSCO. Understanding how different military services operate and how their standard operating procedures (SOPs) influence operations is imperative to coordinating cohesive efforts. By conducting unified action, we had the opportunity to identify the lessons learned and adapt them for future missions.

On May 26, 2022, the 2-4<sup>th</sup> Field Artillery Regiment (FAR) and the Air Force's 97th Logistics Readiness Squadron (LRS) conducted an air land raid with two M270A1s Multiple Launch Rocket System (MLRS), a joint force mission usually reserved for M142 High Mobility Artillery Rocket System (HIMARS). The air land raid simulated a raid mission conducted behind the forward line of own troops and would therefore require minimal external support as outlined in ATP 3-09.60. Two MLRS and two High Mobility Multipurpose Wheeled Vehicles departed Altus Air Force Base, Oklahoma, for Fort Sill, Oklahoma, via C-17s. Once on Fort Sill, both MLRS acquired geospatial data and navigated to the firing point (FP) in accordance with Fort Sill regulation. Within five minutes of arriving on the FP, both MLRS were ready to receive fire missions. The mission allotted one pod of six M28A1 rockets. The MLRS fired all six rockets and then proceeded back to the aircraft, at which point the operation ended, and both units validated their command deployment discipline programs.

Building mutual trust amongst the Army and Air Force members was paramount to the mission's success. Utilizing monthly synchronization briefs alternating between Fort Sill and Altus Airbase allowed both units to lean on branch-specific knowledge and expertise. The dissemination of

information from these meetings allowed units to explain doctrinal requirements that could require changes to the mission requirements. These meetings were central in identifying requirements that impacted the key tasks needed to accomplish the mission.

Missions with the greatest level of success are a result of good planning and placing the right people in the right positions. Leaders met for the air land raid to establish a realistic end state that the equipment's capabilities could meet. A lesson learned was to identify early on the essential personnel needed to conduct each step of the planning process and introduce them to their counterparts who can leverage subject matter expertise. In doing so, this alleviated many problems in the top-down dissemination of tasks and allowed for cross-talk between sections and the units to facilitate more effective synchronization.

While the 97th LRS had extensive experience working on air land raids with HIMARS, the tracked MLRS posed different problems. Joint inspections proved to be a good learning experience highlighting the subject matter expertise of both units. Understanding the different requirements needed to load the MLRS successfully onto a C17 was a task that none of the MLRS crews had experienced. The 2-4<sup>th</sup> FAR developed its air land raid SOP in conjunction with the 97th LRS in order to utilize their expertise and create a product that can be disseminated to the other MLRS units in the 75th Field Artillery Brigade.

The Field Artillery branch constantly revolutionizes how we destroy, neutralize, and suppress the enemy with indirect fire through innovative ways. Long Range Precision Fires (LRPF) have been the Army's number one modernization priority since 2021. However, we



A 2-4th Field Artillery Regiment M270A1 conducts live fire at air land raid destination firing point following download of C-17.

must shape the battlefield with equipment on hand and with all services until new rockets and artillery pieces are completely fielded and supported in the DOTMLPF-P processes. By training artillery units to attack targets beyond the maximum range of the weapon system, these units can shape the battlefield to a greater extent and destroy, neutralize, or suppress the enemy. The lessons learned from the air land raid stress the importance of building trust through constant communication between the services and the importance of determining equipment limitations.

*MAJ Joseph Jankovich currently serves as the executive officer of 2-4<sup>th</sup> FAR, 75th Field Artillery Brigade at Fort Sill, Oklahoma. His previous assignments include S3, observer, coach or trainer, battery commander, and fire support officer during Operations Iraqi Freedom and New Dawn. He is an undergraduate alumnus of George Mason University ROTC and has master's degrees from George Mason University, University of Oklahoma, and the Command and General Staff College.*

*CPT Austin Cibik is currently serving as the assistant operations officer in the 2-4<sup>th</sup> FAR, 75th Field Artillery Brigade at Fort Sill, Oklahoma. His previous assignments include fire direction officer, fire support officer, targeting officer, and battery executive officer. He was commissioned in 2017 through the Northern Arizona University ROTC program.*

*CW2 Cody Sorrell was born in Fort Collins, Colorado, and grew up in Berwick, Maine. He enlisted in May of 2011 as a 13 Foxtrot and, in 2019, was selected to attend Warrant Officer Candidate School and later attended the Warrant Officer Basic Course to become a 131A Field Artillery Technician. CW2 Sorrell currently serves as the battalion targeting/intelligence officer for the 2-4<sup>th</sup> FA Battalion.*

*1LT Kyle Walter is currently serving with the 2nd Battalion, 4th FAR as the battalion fire direction officer. His previous assignments include battery fire direction officer and executive officer while serving at 2-2<sup>nd</sup> FAR. Walter has a master's degree in Human Systems Engineering from Arizona State University, and commissioned through Officer Candidate School in 2019.*



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The 2nd battalion, 2nd Field Artillery, came together to say goodbye to their Commander, LTC James O. Johnson, with a ceremonial firing of his last round. (Photo by Edward Muñiz, Fort Sill Public Affairs Office)

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