



“How the DIVARTY and Field Artillery Brigade Fights”

(In Support of the Division and Corps)

An Assessment of Today’s Force Field Artillery Headquarters

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Executive Summary

The United States Army is in the midst of modernization and immense organizational change, which will have a central role on how it fights and wins our nation's wars. Recent conflicts in the Crimea and Nagorno-Karabakh validate the critical importance of operational fires. As a result of modularity and 20 years of contingency operations, the Army has a fundamental capability gap – operational fires. The Army's number one modernization priority is long range precision fires, a collaborative science and technology effort that will produce fires capabilities with unprecedented range and lethality. The Combined Arms Doctrine Directorate, with the support of the Centers of Excellence transforms Multi-Domain Operations, from a concept to an effective warfighting doctrine. Today the Division Artillery and Field Artillery Brigade are the agents of change and pathfinders for these emerging systems.

The tools in the hands of today's warfighters, primarily doctrine describes the what and why of operational fires, but not how to manage complicated organizational systems needed to execute deep fires at the operational level. Learning the how occurs at the institution, organization, or through self-development. The highest level of learning occurs in the execution of Warfighter Exercises in support of a Division and Corps against a peer threat. Due to the operational tempo of FORSCOM units and annual personnel turnover, organizational understanding of the how is short-lived and often lost within months of an exercise. The purpose of this paper is to provide authentic feedback from contemporary warfighter exercises to enable the development of future capabilities and accelerate the institutional, organizational, and individual learning. The recommendations on how the DIVARTYs and Field Artillery Brigades fight are not absolute, but common-sense recommendations based on best practices grounded in doctrine.

This document identifies the problems faced by today's Division and Corps: an inability to range, a lack of force structure, and inconsistent training readiness. From these problems, it compartmentalizes assessments and recommendations by plan, prepare, and execute. The basic principle for a successful DIVARTY or FAB is that they are an extension of the Division or Corps staff and not a subordinate brigade. This reality requires a different perspective of integrated rather than parallel planning. This led to a consistent positive trend that DIVARTY and FAB analysis enables higher headquarters staff processes such as targeting. In preparation, most units do not have mature systems due to a lack of repetition. Rehearsals at every echelon are back briefs or lack leader involvement. The execution of operational fires presents a distressing problem in the lethality of today's units. MG (Ret.) Richard Longo created a concise definition for lethality as timeliness + volume + accuracy, which assist the identification of organizational gaps. This document concludes with recommendations on building training readiness. Often units rush to collective training without a solid foundation in the fundamentals. This trend compounds the discussed challenges and results in negative training outcomes.

The goal of this paper is to assist units in building readiness with a clear description of the problem and associated recommendations. Most of these problems do not have definitive solutions because they are inherently complicated. DIVARTYs and FABs will continue to innovate and determine new solutions. Leaders must continue to think, write, share, and publish their ideas to truly close the gap in operational fires.

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In the six years since the return of the Division Artillery (DIVARTY) and reorganization of Field Artillery Brigades (FAB), these headquarters fought in numerous campaigns in Iraq and Afghanistan, executed over 30 Warfighter Exercises, and trained hundreds of lethal batteries and battalions. While retaining the DIVARTY namesake, the current headquarters are significantly different organizations in capability, capacity, and authorities than their predecessors. The revival of the DIVARTY sought to reverse the degradation of field artillery core competencies and fill a critical gap in operational fires.¹ Operational fires have a decisive impact on a major operation or campaign. They are integrated at all echelons and inherently joint. They primarily seek to overwhelm the enemy at critical points facilitating operational maneuver; interdict enemy forces that are not currently engaged in the close operations, but are capable of engaging or inflicting damage in future close operations; and destroying critical capabilities that would adversely affect the enemy's campaign.² Before the return of the DIVARTY, this capability existed in a handful of Fires Brigades. These organizations primarily served as force providers for operations in Iraq and Afghanistan. The focus was not operational fires. Division Fires cells could not perform this function because they lacked a cross functional staff, fires focused expertise, and authority of a field artillery commander. Therefore, the transition to modularity left Divisions and Corps without a headquarters capable of integrating operational fires. A revisionist Russia intensified the urgency of eliminating this shortfall. As the pacing threat for the U.S. Army's multi-domain operations concept, TRADOC pamphlet 525-3-1 describes Russia's aim to create "physical stand-off by creating layers of anti-access and area denial systems designed to inflict unacceptable losses on U.S. and partner military forces and to achieve campaign objectives within days, before the U.S. can effectively respond."³ A recent RAND study on U.S. fires capability cited that Russia's ability to mass high volumes of surface fires is the greatest risk to the force.⁴ In order to counter this threat, Force Field Artillery Headquarters enable the convergence of effects across all domains by destroying air defense, neutralizing artillery through counterfire, and integrating disparate fires capabilities to create a position of relative advantage. However, stark contemporary challenges impede the application of operational fires needed to achieve this aim.

Since the return of the DIVARTY and FAB reorganization, systematic challenges in range, force structure, and organization hindered the execution of operational fires. First, current US artillery has a

¹ U.S. Field Artillery School, "DIVARTY: A Force Multiplier for the BCT and Division", Fires Bulletin, 2014, https://sill-www.army.mil/fires-bulletin-archive/archives/2014/nov-dec/05_DIVARTYWP.html.

² United States Army, FM 3-09, *Fire Support And Field Artillery Operations* Washington, DC: Department of the Army, 2020, 1-1.

³ Department of the Army, *TRADOC Publication 525-3-1, The U.S. Army In Multi-Domain Operations 2028*, Fort Eustis, VA: Training and Doctrine Command, 2018, 7.

⁴ John Gordon IV, Igor Mikolic-Torreira and Sean Barnett, *Army Fires Capabilities for 2025 and Beyond* Santa Monica, CA: RAND Corporation, 2020, 76.

30% deficit in range against contemporary Russian systems. A divestment of artillery battalions and their brigade support battalions resulted in an inability to deliver and logistically support a large volume of fire for a major campaign.⁵ The Army currently has 26 rocket battalions and zero organic lift capability beyond the forward support company for rocket and missile munition resupply. The Army recently ameliorated this problem by switching from 3x6 Batteries to 3x9, which will modestly increase the force structure by adding an end strength of 150 systems. This increase in launchers will compound the problem of limited lift. The Army's modernization efforts led by the Futures Command seek to eliminate the operational fires gap through a material solution such as hypersonic weapons, strategic long-range cannon, and a host of new space and cyber based capabilities. The contemporary threat is too great to wait for a technological solution. Organizational ideas, how a force organizes to fight is often the most powerful means to create a marked advantage in a future conflict.

The organizing principle behind the U.S. Armed Forces is operations are inherently joint.⁶ Jointness requires a cross-Service combination where the capability of the joint force is synergistic, with the sum greater than its parts.⁷ The integration of joint fires (artillery, naval, air, aviation, space, CEMA, and PYSOPS) is highly complicated and requires advance intelligence, planning, and coordination. DIVARTYs and FABs must create systems (processes and procedures) to make the complicated routine. Without the ability to integrate operational fires fast and frequently, adversarial nations will use their asymmetrical advantages (A2/AD) to create and a position of advantage over the joint force. This simple assertion is an immense problem for today's headquarters. The organizational challenge is arguably the most critical unaddressed and correctable problem. Wargames provides the best opportunity to identify organizational problems, best practices to solve them, and stimulate innovation for long term solutions that will allow the Army to close the gap in operational fires.

The Mission Command Training Program (MCTP) is purpose built to assess, understand, and improve organizations. It executes five multi-echelon warfighter exercises (WFXs), six brigade-level WFXs, and three Army Service component command (ASCC) exercises each year. "From its inception, MCTP featured key elements of the combat training center model such as a 'free-thinking' opposing force (OPFOR), the use of experienced observer/trainers, advanced technology to gather data," and a scenario that stresses current doctrine.⁸ These exercises provide a mechanism to determine whether the Army fires

⁵ John Gordon IV, Igor Mikolic-Torreira and Sean Barnett, *Army Fires Capabilities for 2025 and Beyond* Santa Monica, 24.

⁶ Joint Staff, *Joint Publication 3-0, Joint Operations* Washington, DC: Joint Chiefs of Staff, 2018, I-2.

⁷ Ibid, I-1.

⁸ "Mission Command Training Program History", United States Army Combined Arms Training Center, Last modified 2020, <https://usacac.army.mil/sites/default/files/documents/cact/mctp/MCTP%20History.pdf>.

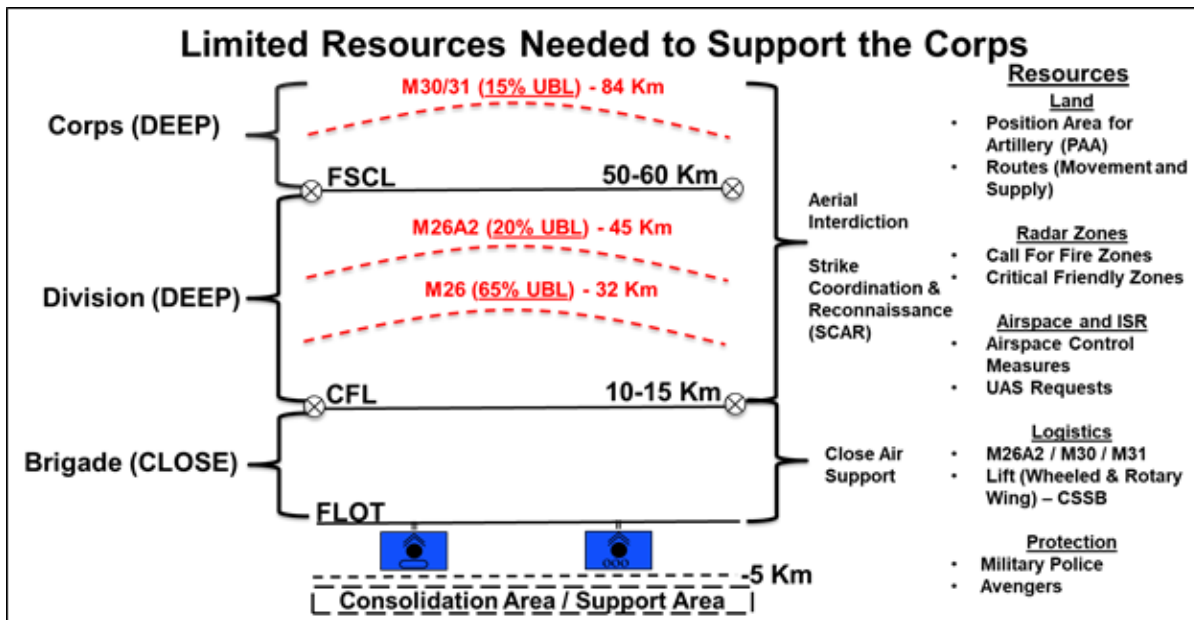
enterprise fills the gap, operational fires. Mission Command Training Program senior mentor MG (ret) Richard Longo coached nearly every DIVARTY and Field Artillery Brigade since 2015. He defined the single greatest factor in the success of a Force Field Artillery Headquarters as how well they integrate with their higher headquarters, adjacent units, and subordinate battalions. Doctrine describes integration the arrangement of military forces and their actions to create a force that operates by engaging as a whole.⁹ This requires Commanders, enabled by their staffs, to combine numerous processes and activities within their formations and across the joint force. Effective integration requires staffs to create a shared understanding and purpose through continuous collaboration.¹⁰ The DIVARTY and FAB must fight as a command that is so integrated that they are extensions of the Division and Corps staffs. An assessment of how FFA HQs integrate in planning, preparation, and execution by the Mission Command Training Program will allow units to build readiness, make incremental improvements, and innovate solutions to tough systemic problems.

A review of the Warfighter Exercise trends provided the foundation for understanding the challenges for force field artillery headquarters support to the Division and Corps. The warfighter overarching trend is Divisions and Corps culminated with an average loss of 20,000+ Soldiers every rotation due to attrition from enemy long-range artillery.¹¹ In the last five years, every Division and Corps listed the neutralization or similar effect of the enemy long-range artillery as a key task. This is not a failure of DIVARTYs and FABs, but a complicated series of cascading challenges that center on a lack of integration across the entire joint force. The defeat of long-range artillery necessitated a joint combined arms approach due to the protection provided by layered and integrated air defense. The DIVARTY integrated and synchronized surface fires from the Coordinated Fire Line to the Fire Support Coordination line. Active duty Field Artillery Brigades typically served as the force field artillery headquarters for Corps and delivered surface fires beyond the fire support coordination line and/or served as a counterfire headquarters. The diagram below depicts the typical battlefield geometries for Divisions and Corps.

⁹ United States Army, *FM 3-0, Operations*, 4-5.

¹⁰ United States Army, *ADP 5-0, the Operations Process*, 4-33.

¹¹ Mission Command Training Program. Mission Command Training In Large-Scale Combat Operations FY19 Key Observations, Last modified 2020. <https://usacac.army.mil/sites/default/files/publications/20-15.pdf>, 35.



Operational Framework and FFA HQ Resources

Force Field Artillery Headquarters have the capability and expertise to locate enemy artillery, but they cannot produce the volume needed to neutralize the fires system with surface fires alone. Division Artillery and Field Artillery Brigades provide specialized command and control for this effort. This focus centers on the detection of enemy surface fires, delivery of friendly surface fires, and assessment of counterfire operations. DIVARTY and FAB commanders oversee the corps targeting process, which is a multi-echelon staff process to decide on when, where, and how a Division or Corps will apply combat power to achieve a desired effect.¹² The force field artillery headquarters integrate with the Division and Corps detection effort by providing predictive artillery analysis and radar zone management.¹³ The ‘cross-cue’ of artillery radar acquisitions to the other delivery and detection means such as fixed wing and attack aviation was especially effective. However, 75% of all radar acquisitions originate beyond the fire support coordination line and/or across a unit boundary, which is at or beyond the extreme range of surface fires and requires detailed coordination.¹⁴ The Opposing Force utilized Russian equipment such as the 9A52-2 SMERCHs and 2S19s that can outrange contemporary US equipment and concurrently exploited the constraint to clear airspace and cross boundary fires. As a result, in this simulated environment, Divisions and Corps could not attrit long-range artillery until after a significant loss of friendly combat power. The employment of close air support, aerial interdiction, and attack aviation was

¹² United States Army, FM 3-09, *Fire Support And Field Artillery Operations*, Washington DC, 2-7.

¹³ MCTP, FY19 Key Observations in Large Scale Combat Operations, 44.

¹⁴ Ibid.

the most effective means of physically destroying enemy artillery. Surface fires allowed the execution of these capabilities through neutralization of the enemy's air defenses. Based off these trends, how a unit conducted integrated planning is a critical factor in its success or failure at a Warfighter exercise.

Plan

The complicated character of large-scale combat operations breaks the paradigm of parallel planning and instead requires integrated planning. Integrated planning calls for concepts to drive details and details to shape concepts to produce a complete and practical plan by multiple echelons simultaneously.¹⁵ The anti-access/area-denial threat is an intricate system of capabilities that requires interdependent joint actions to defeat.¹⁶ Therefore, there cannot be a 'maneuver plan' and a 'fire plan,' but one integrated and synchronized plan. The Division and Corps staffs do not have the time and specialized expertise to understand the details to develop a conceptual plan to defeat enemy long-range artillery in an A2/AD environment. Division Artillery and Field Artillery Brigade staffs intimately understand the surface fires threat in detail to include its range, volume of fire, strengths, and weaknesses.¹⁷ In addition, these FFAHQs also know their own surface fires capability in range and volume of fire based off available munitions. In order to ensure success, artillery headquarters must sequence their staff work to participate directly with their higher headquarters' staff. Specifically, before mission analysis a DIVARTY staff would execute an abbreviated mission analysis prior to the Division with a focus on the terrain for Position Areas for Artillery (PAAs), enemy artillery capability, and initial required resupply rate (RSR). This would allow the DIVARTY S2 and S3 to participate in the Division's mission analysis by providing the indirect fire threat layer to the Division intelligence preparation of the battlefield (IPB) on behalf of the fires warfighting function. It also allows the S3 to identify and communicate resource shortfalls (typically logistic and protection) directly to the Division staff. The S2 and S3 return at regular intervals to participate in both the DIVARTY and Division planning processes. Collaborative planning creates a shared understanding and this integration in the end saves time. This method also allows the Fire Support Coordinator (FSCOORD) to build an understanding and provide his expertise as the primary advisor to the division commander for the fires warfighting function at the Division mission analysis brief. The same methodology should be applied to each subsequent step of the Military Decision Making Process to maintain a shared understanding and ensure integration of subject matter expertise as indicated with further detail below.

¹⁵ United States Army, *ADP 5-0, the Operations Process*, 2-16

¹⁶ United States Army, *FM 3-09 Fire Support And Field Artillery Operations*, 1-2.

¹⁷ Leslie Stanfield, "Artillerization of IPB in Large-Scale Combat Operations", *Center For Army Lessons Learned*, 2019, 7-8.

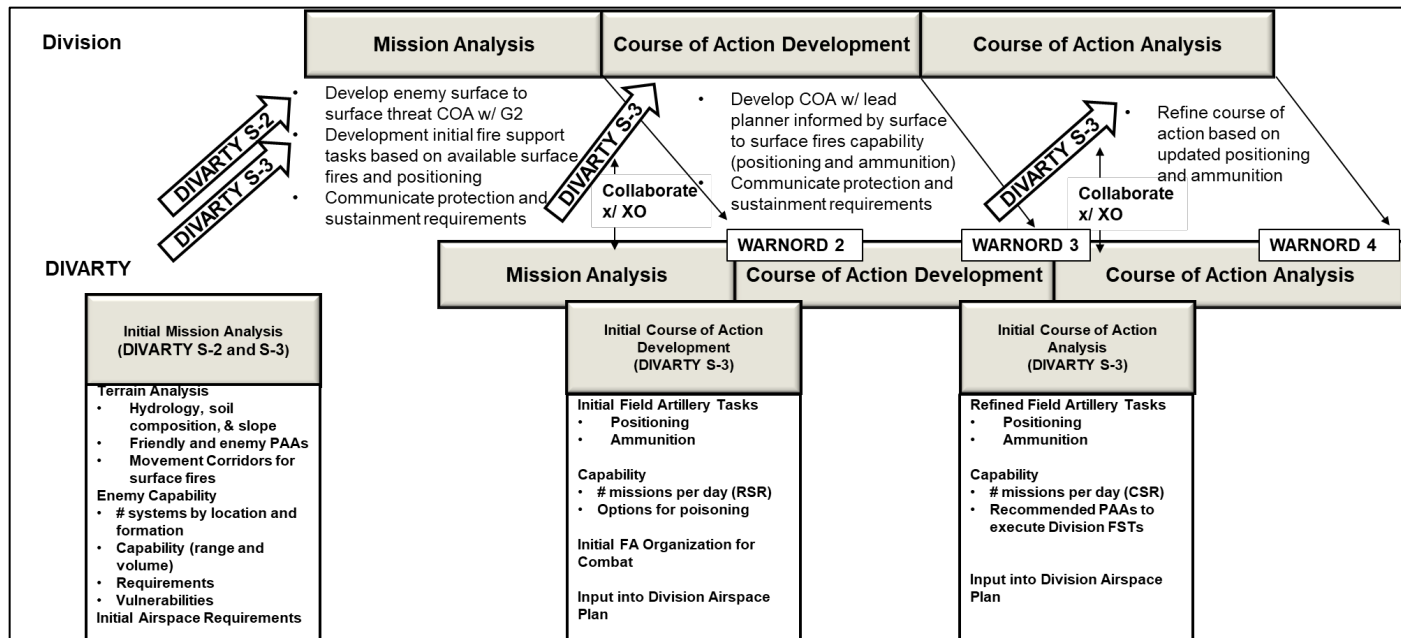


Diagram of Fires Integrated Planning

This model demonstrates that each step of MDMP requires the DIVARTY or FAB to briefly plan ahead of its higher headquarters to discern critical facts needed to integrate. This is another shift in the typical planning approach where the DIVARTY only starts planning until after receipt of Division planning products. Instead the DIVARTY must be comfortable with making assumptions and creating its own planning products before Division's are available. The DIVARTY or FAB S3, an experienced field grade, is a stakeholder who can make the necessary decisions and facilitate rapid planning. The S3 must be in constant communication with the executive officer who manages the staff's participation in MDMP. Once large-scale combat operations begin, the need for integration is even more critical due to the tempo of warfighter exercises.¹⁸

¹⁸ United States Army, *FM 3-09 Fire Support And Field Artillery Operations*, 3-14.

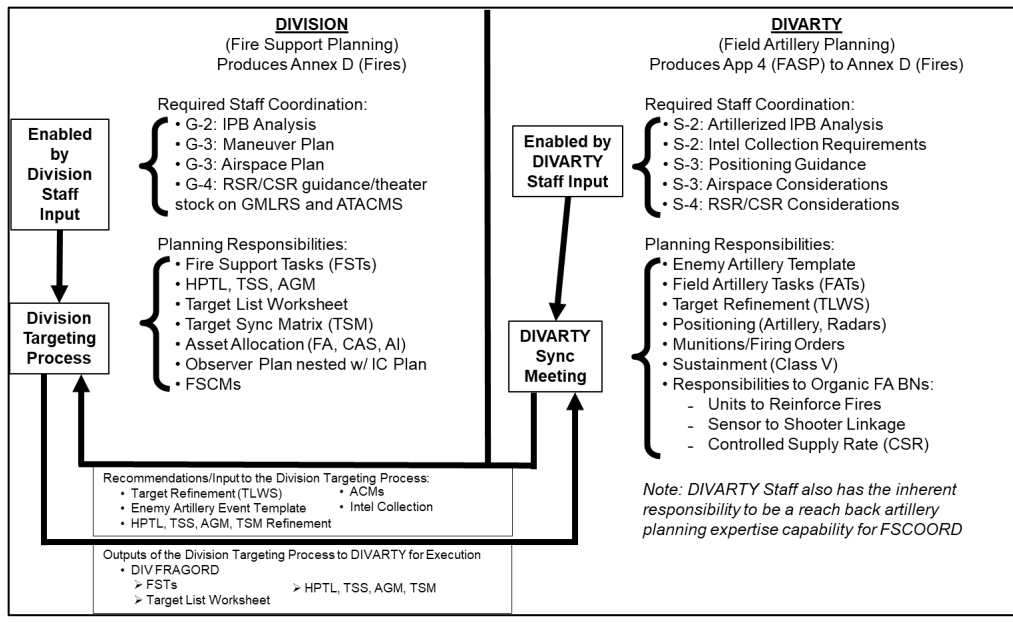


Diagram of Fires Integrated Planning (82nd DIVARTY)

Due to the rate of speed in relation to the enemy, units utilized the Rapid Decision-Making Synchronization Process (RDSP) rather than MDMP, but often struggled to nest their efforts with all echelons. Therefore, integrated planning must be aligned within a battle rhythm to ensure a harmonious sequencing of staff inputs into the higher headquarters' processes. Over the last two years, Division Artillery and Field Artillery Brigades employed a daily planning session that served two purposes: enable Division and Corps targeting and synchronization of surface fires. This brigade synchronization meeting occurred prior to the Division or Corps Targeting Working Group and produced a friendly and enemy surface fires assessment.¹⁹ This planning session typically forecasted resource requirements such as PAAs, ammunition, airspace, and radar zones at 72 hours. At 48 hours, the staff would coordinate the movement and approval of those resources. Lastly, at 24 hours the force field artillery headquarters conducted detailed synchronization for each assigned high payoff target. This assessment would be recorded on a sketch that detailed Named Areas of Interest, PAAs, ammunition consumption, etc.²⁰ Upon completion of the brigade synchronization meeting, key staff members such as the S2 and S3 took the draft course of action sketch and participated in the Division or Corps Targeting Working Group. This collaboration allowed surface fires to be integrated and synchronized with other delivery capabilities (Combat Aviation Brigade, Airforce, and Electronic Warfare). Upon completion of the targeting board,

¹⁹ MAJ Benjamin Maher, "A Battle For Time - A Method To Enable Division Targeting While Synchronizing The DIVARTY", *Fires Bulletin* (2019).

²⁰ Mission Command Training Program, "FY19 to FY20 Warfighter Exercise Final Exercise Reports" Fort Leavenworth: Mission Command Training Program, 2020.

the brigade staff would finalize the initial plan developed at the synchronization meeting and produce an updated Field Artillery Support Plan and Field Artillery Support Matrix. Simultaneous to the targeting board, the executive officer supervised the other inputs into the Division and Corps battle rhythm to get the resources needed to synchronize surface fires.

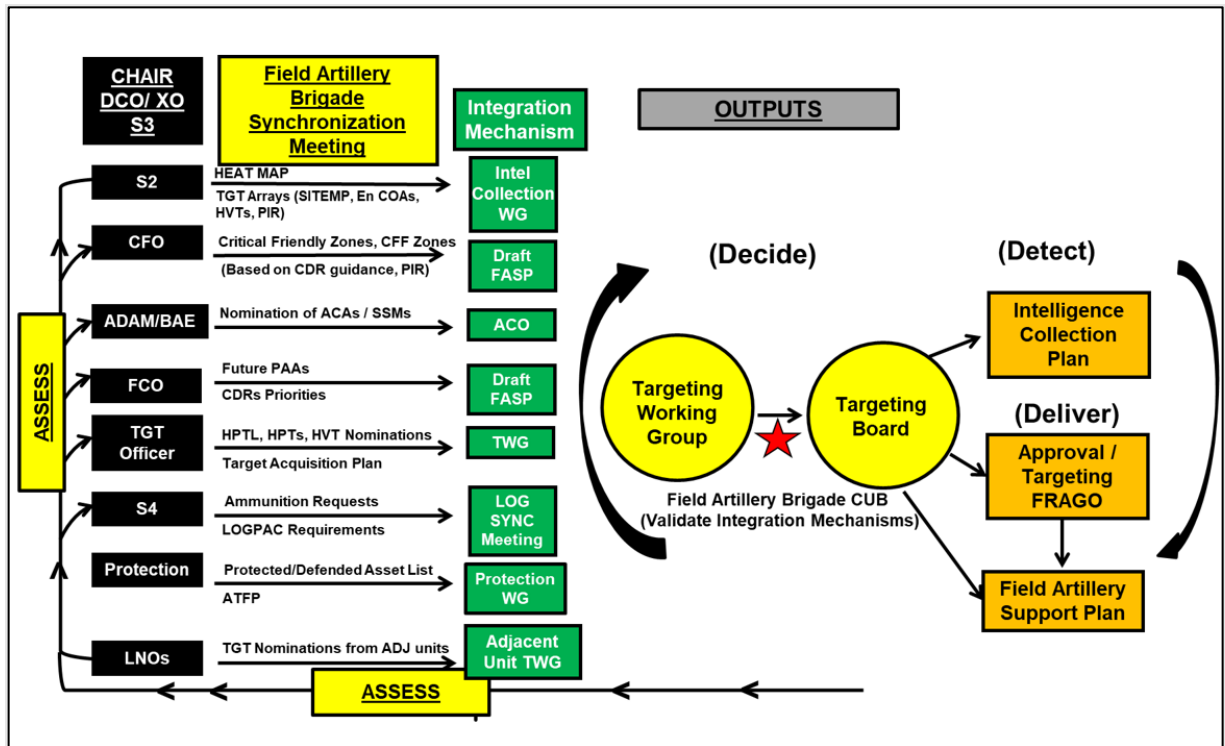


Diagram Showing FFAHQ Inputs into Higher Headquarters Battle Rhythm

The widespread adoption of this method significantly improved the ability to integrate and synchronize joint fires. In addition, the force field artillery headquarters' staff work produced the tangible analysis required to request additional assets from the next higher echelon. The challenge for Divisions is that the preponderance of artillery threat is beyond the Fire Support Coordination Line (FSCL). Corps often restricts Division fires beyond the FSCL to allow Divisions to focus between the CFL and FSCL.²¹ This method may appear to be an organized approach to focus of fires and asset allocation (field artillery battalions and long-range munition allocation). However, the Corps does not have the capability or capacity to defeat the long range artillery by themselves. Corps has limited detection and delivery capabilities that range beyond 45km. Historically, Corps are unable to produce a high volume of aerial interdiction and strikes against long range artillery. Units also do not pre-clear cross boundary fires

²¹ MCTP, FY19 Key Observations in Large-Scale Combat Operations, 40-45.

through detailed planning with adjacent units.²² The prioritization and allocation of limited resources that can destroy artillery systems at range beyond 60k are critical. Therefore, the integration of surface to surfaces fires intelligence is fundamental in the success of targeting long range artillery.

A key element of maintaining integration is sharing the DIVARTY or FAB counterfire analysis and updates to the artillery enemy situation template with the higher headquarters G2. At a minimum the counterfire analysis product must include point of impact (POI) and point of origin (POO) density; POI and POO correlation; volume and type of fires by time with an assessment as to what drives the enemy's firing times; distance, munition, and rate of fire for a given enemy location with an assessment as to what enemy formation this indicates; and an assessment of the enemy HPTL.²³ The visual portion of this counterfire analysis may take the form of a kernel density plot (commonly referred to as a "heat map"), Joint Automated Deep Operations Coordination System (JADOCS) screen capture, or other visual representation of the counterfire fight based on the organization and commander's preferred method of visualization. The counterfire analysis product is then used to refine the situation template, event template, collection plan, and target nominations. This enemy artillery situation template and event template become the enemy artillery layers of the higher headquarters' situation template and event template as all units continue to assess and update IPB during execution.

Preparation

DIVARTY and Field Artillery Brigade preparation activities consistently do not achieve their primary purpose: shared understanding and synchronization prior to execution. ATP 3-90.93 outlined fire support preparation tasks into three categories: rehearsals, continued refinement to the plan, and verification of understanding at subordinate units.²⁴ There are typically four key rehearsals executed by Force Field Artillery Headquarters: a Combined Arms Rehearsal (CAR), Fire Support Rehearsal, Field Artillery Tactical Rehearsal, and Technical Rehearsals.²⁵ Despite the time, detailed terrain models, and staff effort, the CAR and Fire Support Rehearsal at Warfighter Exercises routinely devolved into an elaborate back brief. Division and Corps overreliance on scripts and sequential briefing by formation do not build a shared understanding. A typical rehearsal was a three hour back brief where individual commanders described their task and purpose one at a time on a large terrain model then departed the map. The audience does not leave the rehearsal with an understanding of the arrangement of tactical

²² MCTP, FY19 Key Observations in Large-Scale Combat Operations, 45.

²³ MCTP, FY19 Final Exercise Report.

²⁴ United States Army, *Army Training Publication 3-09.93, Division Artillery Operations And Fire Support For The Division* Washington, DC: Department of the Army, 2017, 2-34.

²⁵ United States Army, *FM 3-09 Fire Support and Field Artillery Operations*, 3-34.

actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time. In order to enable integration through rehearsals, simplicity is the greatest factor to create a shared understanding. A best practice is to utilize only the operation’s execution tools such as collection, execution, fire support execution, and decision support matrixes rather than a lengthy script.²⁶ The participants execute the operation together on the terrain model or on a distributed medium such as CPOF in the order prescribed on the fighting products. Greater focus should be spent on the most complicated operations that require the greatest degree of synchronization such as air assaults, wet-gap crossing, and cross boundary fires. For fire support rehearsals, the most effective rehearsals incorporated the entire sensor to shooter architecture and participation from Division and Brigade maneuver commanders. In addition, units that focused on fewer targets planned in greater detail, allowed greater flexibility in execution.

Division Fire Support Rehearsal: This rehearsal synchronizes the Targeting process utilizing the Decide, Detect, Deliver, and Assess method. It must detail execution of the more challenging situations the Division is likely to encounter, i.e. a cross boundary fires with adjacent units, fires beyond the FSCL, and transition points in the operations when Command Posts are displacing.

	Decide	Detect	Deliver	Assess
D3A	Participants / Inputs <ul style="list-style-type: none"> FSCoord / DFSCoord Process <ul style="list-style-type: none"> Scheme of Maneuver / Fires Tools <ul style="list-style-type: none"> HPTL / AGM / TSS / EFST 	Participants / Inputs <ul style="list-style-type: none"> Collection Manager / ACE / Field Artillery Intelligence Officer Process <ul style="list-style-type: none"> Execute Information Collection Plan Update Information Requirements Revise Targeting Products / TSM 	Participants / Inputs <ul style="list-style-type: none"> DIVARTY S-3 / Air Liaison Officer / Combat Aviation Brigade S-3 Process <ul style="list-style-type: none"> Execute Fires, Joint Fires, Combat Aviation Brigade Operations Tools <ul style="list-style-type: none"> IAW AGM / TSM / HPTL 	Participants / Inputs <ul style="list-style-type: none"> Collection Manager / ACE / DFSCoord Process <ul style="list-style-type: none"> Task Accomplishment (MOPs) Vs Task Effectiveness (MOEs)
	Concept of the Operation	Scheme of Collection	Scheme of Fires	Integrated and Continuous
Organization	<u>Executed within D3A framework</u> Framework <ul style="list-style-type: none"> 2 hours or less to execute Synchronizes fires support effort with maneuver plan All participants (CG, COS, G3, BDEs) Structure <ul style="list-style-type: none"> Broad Enemy & Friendly Scheme of Maneuver Commander’s Guidance for Fires Fire Support Tasks by Phase / Scheme of Fires Critical Fire Support Coordination Measures (FSCMs) Focused on critical events / friction points of the operation Confirms requisite detail of targeting / fires planning 	Intelligence <ul style="list-style-type: none"> Corps collection efforts and handover line ISR assets available NAs / TAs and associated enemy formations Scheme of Collection and PIRs Priorities of collect within DIV and BCTs Detection assets assigned to High Payoff Targets Fires <ul style="list-style-type: none"> Radar zones, Task / Purpose, Azimuth of Search and cueing schedules 	<u>Target Synchronization Matrix is the Focal Document</u> Surface to Surface Fires <ul style="list-style-type: none"> Fire Support Tasks for the phase or critical event DIVARTY unit locations, PAAs, ranges, and special munitions Joint Fires <ul style="list-style-type: none"> CAS, AI, and SCAR assets available / requested Non-lethal <ul style="list-style-type: none"> Scheme of nonlethal fires 	<ul style="list-style-type: none"> Integrate national and theater assets Leverage predictive BDA processes and tools Assess task accomplishment as determined by Measures of Performance, i.e. 398th MRL BDE destroyed (30%) Assess effects as determined by Measures of Effectiveness ex. 398th MRL BDE unable to mass fires on friendly units at Wet Gap

Keys to Success for a Division Fire Support Rehearsal (MAJ Joshua J. Jacquez)

The Field Artillery Tactical and Technical Rehearsals lack structure and leader emphasis, which limits their effectiveness. The FA Tactical Rehearsal is rarely executed due to the time required to participate in the CAR, fire support, and technical rehearsal. The FA Tactical Rehearsal is the brigade commander’s opportunity to ensure subordinate battalions understand a plan, but it is often not conducted.²⁷ This is a missed opportunity to validate movement and logistical triggers, ammunition

²⁶ MCTP, FY19 Key Observations in Large-Scale Combat Operations, 10.

²⁷ MCTP, FY20 Final Exercise Report.

distribution, and command post transitions. The technical rehearsal is habitually compressed and does not include brigade combat team fire support elements, the joint air ground integration cell (JAGIC), and subordinate battalions. In addition, DIVARTYs and Field Artillery Brigades do not integrate DCGS-A, JADOCs, and TAIS into the technical rehearsal. These trends are a missed opportunity to ensure a synchronized execution. This rehearsal, when executed, validates movement and logistical triggers, ammunition distribution, and command post transitions.

Staff	Input Requirements
S3	Rehearsal Orientation
FSCOORD	Roll Call Orientation to the Terrain Model
FSCOORD	Timeline (review Planning and Operational) Rules for Rehearsal Events to be Rehearsed Briefing Order
S3	Area of Operations / Area of Interest Higher HQ Mission and Intent Mission Commander's Intent Adjacent Unit Tasks and Purpose Initial Unit Locations and Posture
S3 Fires Battle Captain	Fire Support Coordination Measures Review HPTL
Subordinate CMDs	(Take positions on terrain model or map for initial location)
S2	Updated IPB (by exception) Recent SIGACTs Current Enemy Situation
	Rehearsal Turn (repeat for each turn)
S3	Start and End Point for Turn Significant Effects and Decisions for this Turn
SWO	Weather Effects this Turn
S2	Enemy COA for this Turn
S3 OPS	Scheme of Maneuver
S2	Intel/Collection Plan
S3 Fires	FA Organization for Combat Lethal Essential Effects (Task, Purpose, Method, Effects)
S3 IO	Non-lethal Essential Effects (Task, Purpose, Method, Effects)
Maneuver FSOs (as available)	Essential Field Support Tasks Lethal Targets by PLOT-CR (Purpose, Location, Observer, Trigger, Communication, Redundancy) Non-lethal Targets (Purpose, Location, Delivery Asset, Trigger, Message)
FA BDE/DIVARTY and BNs	Essential Field Artillery Tasks Battery Locations Priority of Targets Radar Locations, Zones, Cueing, Movement Triggers
ALO	CAS Employment
BJA/FSCOORD	Review Fire Support ROE
FSCOORD	Review Notes and Observations for the Turn for Clarifications or Additions to the OPORD

Sample Field Artillery Tactical Rehearsal Script (17th Field Artillery Brigade)

Everyone from the Corps commander to the Fire Direction Specialist understands the importance of technical fires rehearsals, but units do not allocate the resources and effort to execute them effectively. Training and material readiness are the root of this problem. Units do not incorporate the full digital architecture until execution in a Warfighter exercise. Digital sustainment training is myopically focused

on Advanced Field Artillery Tactical Data System (AFATDS) and not the entire fires system. It is not until the execution of the rehearsal at a WFX that units realize that equipment is not configured correctly or serviceable. It is a best practice to keep the command post's digital systems in a 'warm status' within the garrison headquarters. Leveraging IaaS (Installation as a Docking Station), units can use their tactical network over the Network Enterprise Center (NEC) infrastructure at home station. This allows units to conduct individual skills training on digital systems, validate that equipment functions, maintain user accounts and system patches, and provide a means to execute planning using digital systems of record. Additionally, CTCs have cited IaaS as a best practice that has significantly decreased network establishment times in the field environment.²⁸ Frequent fire control exercises (FCX) that incorporate the entire Division and/or Corps fire control architecture will build multi-echelon training readiness. Operators learn troubleshooting procedures, fire control officers gain invaluable experience, and the whole fires enterprise will gain confidence in their standard operating procedures. *FM 3-09.22 Tactics, Techniques, and Procedures for Corps Artillery, Division Artillery, and Field Artillery Brigade Operations* recommended the combination of the technical and tactical rehearsals to save time.²⁹ This would require well-written SOPs and a high level of training readiness, but it would be an efficient way to obtain the purpose of the rehearsal, understand and validate the plan. Another key factor in the success of rehearsals is the often-overlooked option to exchange liaison officers.

Liaison officers are routinely not employed to integrate surface fires and streamline adjacent unit coordination. Traditionally, the exchange of field artillery liaison officers is primarily concerned with lower to higher and supporting to supported relationships. However, the threat of cross boundary fire calls into question this tradition. DIVARTYs and FABs are authorized a robust liaison section of four and six respective senior fire supporters. These leaders are often integrated into the command post and not allocated to their intended purpose.³⁰ LNOs, when they are exchanged, often do not have the required equipment to plan and facilitate surface fires. The exchange of information is critical, but the verification of shared understanding persisted as a significant problem.

The failure to verify critical aspects of the plan during WFX exercises induced systemic friction that consumed unit effort in the critical 24-48 hours prior to execution. From the moment an order is published to the execution of an operation, conditions on the battlefield and decisions during rehearsals

²⁸ "The Mission Command Network Vision And Narrative" Fort Leavenworth: Combined Arms Center, 2015, <https://usacac.army.mil/sites/default/files/documents/mccoe/MissionCommandNetworkNarrative1Oct15.pdf>.

²⁹ United States Army, *FM 3-09.22, Tactics, Techniques, and Procedures For Corps Artillery, Division Artillery, And Field Artillery Brigade Operations* Washington, DC: Department of the Army, 2001.M 3-09.22 2001, J-4.

³⁰ MCTP, FY19 Key Observations in Large-Scale Combat Operations, 52.

change the plan. Even under the best conditions, the dissemination of fragmentary orders is no substitute for leaders verifying critical aspects of the plan. A brief narrative illustrated the common friction that units experience when they do not have validation mechanisms to ensure a plan is disseminated and understood.

It is six hours from Warfighter Exercise execution and the DIVARTY S3 learned that the task organization is incorrectly configured in a subordinate battalion's AFATDS. The ammunition delivered by the Combat Sustainment Support Battalion is a fraction of the critical munitions allocated in the Corps order and rehearsal. Two batteries are 45km out of position. The Division counterfire quickfire net is routed to the wrong unit. The Short Range Air Defense (SHORAD) is still located at the Division logistics support area and the firing units are forward in their PAAs.

How can this friction be overcome? Doctrine outlined that units must verify task organization, positioning (firing, CSS, and target acquisition asset), fire support coordination measures, High Payoff Target List, and execution responsibilities.³¹ ATP 3-09.90 may list what must be checked, but it fell short in providing a way. It is a best practice for key leaders to conduct battlefield circulation and utilize a conditions check prior to execution to validate these critical aspects of the plan. A list detailed in a standard operating picture can be utilized over a net call to confirm a plan is understood and disseminated. This greater emphasis on precombat checks and inspections will save time and resources and improve the effectiveness during execution of operations.

Execution

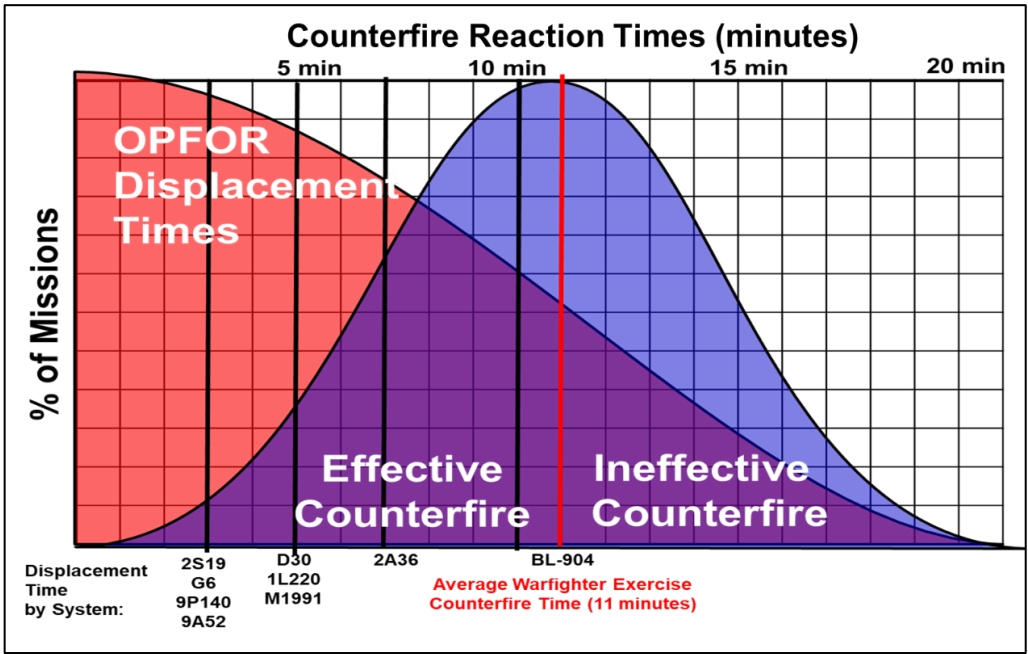
The effectiveness of DIVARTY and FAB surface fires execution during Warfighter Exercises is a misunderstood and unaddressed problem across the force. The principle challenges centered on their lethality, positioning, and protection. After six years of warfighters, DIVARTYs and Field Artillery Brigades achieved limited effects against the universal field artillery task, neutralization of enemy long-range artillery. The fire support system (joint fires, attack aviation, and surface to surface fires) is typically effective as a whole at achieving considerable effects, but only after the culmination of multiple brigade combat teams. Historically, friendly surface to surface fires achieve only effects against 14-20% of the missions fired against enemy artillery despite the application of considerable resources and effort.³² There is cultural aversion to deal with this puzzle, because it represents a systematic and professional failure. Therefore, it is often ignored or blamed on erroneous factors such as the simulation. In addition, senior leaders focus on counterfire reaction times as the key metric to success. The time of flight for long range munitions, rapid enemy displacement, and mission processing time preclude effectiveness. As a

³¹ United States Army, ATP 3-09.93, *Division Artillery Operations and Fire Support for the Division*, 2-35.

³² MCTP, FY19 and FY20 Final Exercise Reports.

result, units are chasing the wrong metric for success. MG (ret.) Richard Longo, a senior mentor with 50+ MCTP rotations and former DIVARTY commander created an aphoristic definition that outlined the metric for success. It is simply called lethality.

For the effectiveness of operational fires, lethality is measured in timeliness, volume, and accuracy. The greatest impediment to timely fires is the erroneous requirement that a fire mission must be approved at every echelon. 15+ years of counter-insurgency engendered norms for positive air and ground clearance that paradoxically magnified tactical risk in LSCO. The average fire mission processing time exceeds 11 minutes because units continue to attempt positive airspace clearance through a combination of chat, voice, and only intermittently, the Tactical Airspace Integration System (TAIS). Without active airspace control measures that deconflict surface and air assets, every fire mission resulted in numerous human intervention points that slowed the fire mission time.³³ Coordination and pre-approval through detailed staff work eliminated intervention points and pre-cleared missions from the sensor to the shooter.³⁴ However, the trends demonstrated that DIVARTYs and FAB did not create an integrated unit airspace plan, dedicated sensor to shooter links, and fire plans with Division and Corps that would allow the simultaneous execution of surface and other joint fires.



Reactive Counterfire Effectiveness (CW4 Arron M. Gonzales)

³³ MCTP, FY19 Key Observations in Large-Scale Combat Operations, 41.

³⁴ United States Army, *FM 3-09 Fire Support and Field Artillery Operations*, 3-39.

The volume of fire at the desired range is severely hindered by the limited amount of long-range munitions and a lack of standard fire orders. M30 Dual Purpose Improved Convention Munition (DPICM) and M26A2 (DPICM), the munitions with the greatest range constituted only a fraction of the unit basic load.³⁵ This resulted in the rationing of these munitions and ineffective Standard Fire Orders that did not achieve their intended effect. Fire Control Officers exacerbated this problem by relying on personal experience to execute tactical fire direction to determine the method of fire, ammunition type, quantity, and units to fire.³⁶ The Standard Fire Order developed by analyzing the threat, available ammunition, and friendly tube strength should be recorded in the AFATDS's database. The inadequate utilization of digital mission command systems impacts the timeliness and ultimately accuracy of fire missions.

The inconsistent utilization of Digital Mission Command Systems results in unnecessary intervention points that substantially delay fire missions, which results in inaccurate fire missions. The use of AFATDS is widespread, but units' poor integration of AFATDS with other mission command information systems, particularly Tactical Airspace Integration System (TAIS), Distributed Common Ground System–Army (DCGS-A), and Joint Automated Deep Operations Coordination System (JADOCS), severely hampers the fire mission accuracy and consequently its lethality. Mission Command Training Program observed a pattern of what is best described as a “digital analog,” which is the use of a networked system as a non-networked standalone system. The entire lifecycle of a target from the call for fire, tactical and technical fire direction, and its clearance rarely remained within digital fire support system.³⁷ The most common problem was the use of chat tools to circumvent the direct exchange of reporting with of DCGS-A and TAIS. The “swivel chair” approach engendered a risk of error, slowed the process, and guaranteed a human being must be in the loop. A human being realizes there is an item in a chat window, manually reviews control measures, makes a decision or asks another person for approval, and then acts. All these factors created unnecessary intervention that hindered the accuracy and timeliness for fires. The force cannot wait for Futures Command to produce an artificial intelligence to solve this problem. Units must utilize existing digital systems of record, configure databases correctly, and train Soldiers then teams to standard.

The lethality challenges are multifaceted but it centers on material and training readiness. Units who do not use their digital systems routinely will always struggle in execution. Digital systems require the same regularly scheduled maintenance as rolling stock. Army Regulation 750-1 states that the systems

³⁵ MCTP, FY20 Final Exercise Report.

³⁶ MCTP, FY19 Key Observations in Large-Scale Combat Operations, 45.

³⁷ MCTP, FY20 Final Exercise Report.

must enrolled in GCSS-Army, users perform regular PMCS recorded on 5988s, and their statuses regularly updated. Without this level of effort, the critical systems never receive replacement components and required software updates. As for training readiness, a best practice is to have every senior staff section Noncommissioned Officer attend the Mission Command Digital Master Gunner Course. This program provides the knowledge, skills, and expertise to operate and configure the mission command systems for interoperability. This course allowed these leaders to not only build cross-platform synchronization, but train their subordinates to use the digital systems as they are intended. This improvement in readiness will allow DIVARTYs and FABs to take on the more advanced problem of positioning.

Positioning

DIVARTYs and Field Artillery Brigades positioned subordinate battalions reactively and consequently they did not mass fires effectively during warfighter exercises. Positioning is a highly complicated problem that required continuous movement of field artillery units, ammunition, target acquisition resources, and command posts to mass fires at the appropriate area of operations.³⁸ In simpler terms it is about placing the right unit, at the right place, and at the right time. MCTP observed the routine publishing of Field Artillery Support Plan, but the plans did not have the flexibility needed for execution. Due to unanticipated changes in the FLOT, Division plan or loss of combat power, Battalions would receive hasty movement orders to new position areas. This hasty movement fractured the coordination for airspace control measures, logistical resupply, and protection.³⁹ The best current operations sections adapted and re-synchronized these capabilities, but most did not. Successful positioning would require a flawless combination of planning, preparation, continuous communication, and execution. There is a constant tension between moving closer to the forward line of troop to gain additional range and staying farther back for protection and proximity to logistics. The tension combined with friction induced by the enemy and friendly actions make successful positioning a tremendous challenge. MCTP observed DIVARTYs and FABs employ two approaches to overcome this challenge.

In order to ensure successful positioning, force field artillery headquarters executed two methods: centralized and decentralized positioning. Centralized positioning is the most common approach where DIVARTYs and Field Artillery Brigades position individual units down to the Battery level. This method facilitated integration with Division and Corps, because these headquarters could produce airspace control measures and direct logistics. The disadvantage for this method is DIVARTYs and FABs became

³⁸ United States Army, *FM 3-09 Fire Support and Field Artillery Operations*, 3-15.

³⁹ MCTP, FY19 Key Observations in Large-Scale Combat Operations, 47.

overwhelmed with protection and terrain management for multiple brigades. The DIVARTY and FAB is not resourced a protection section. In order to mitigate this challenge, several DIVARTYs and FABs experimented with a decentralized approach. The DIVARTY and FAB did not control movement of subordinate battalions, but gave them positioning guidance instead. For example, a DIVARTY would direct a subordinate fires battalion to position 5-8km south of the 3/1 ABCT FLOT at all times and range OBJ Orange with M30. The G3 tasked 3/1 ABCT to secure the fires battalion. The DIVARTY retained tactical fire control. The subordinate Battalion commander assumed the responsibility of integration with the ABCT for protection and logistics support. The challenge for a decentralized approach is building airspace control measures and synchronizing logistics. Another decentralized technique to mitigate that problem is to establish dedicated counterfire quickfire nets for fixed periods of time and the battalion commander determines the survivability move criteria. It could be beneficial to use both the centralized and decentralized approach during an operation. An event with a high degree of risk and synchronization such as a wet-gap crossing would benefit from a centralized approach. A movement to contact with constant movement would benefit from the flexibility of a decentralized approach. This varied approach would also benefit from the emerging employment of a new way of targeting to overcome the challenges of both positioning and lethality.

Ground Movement Targeting Indicator (GMTI) – A New Approach to Dynamic Targeting

Each DIVARTY and a handful of Field Artillery Brigades experimented with incorporating Geospatial Intelligence capabilities within the force field artillery headquarters command post to increase the lethality of surface fires. Opposing Force (OPFOR) systems' ability to displace rapidly create a situation wherein if one combines fire mission processing (tactical and technical) time, clearance of air, and munition time of flight, it is nearly impossible to achieve effects with reactive counterfire.⁴⁰ In order to solve this problem, DIVARTYs and FABs began exploring ways to use counterfire acquisitions to support cueing of other assets. Units began by requesting integration of the appropriate analysts for timely processing, exploitation, and dissemination (PED) of the resulting information in support of dynamic targeting.⁴¹ While the counterfire analysis product mentioned earlier supported future planning, the application of collection assets and the appropriate PED directly within the Force Field Artillery Headquarters supported timely, accurate fires in current operations. It enabled DIVARTYs and FABs to execute the dynamic targeting process of F2T2EA (Find, Fix, Track, Target, Engage Assess) including "track" by following the intelligence operations guideline of, "gain and maintain sensor contact" directly

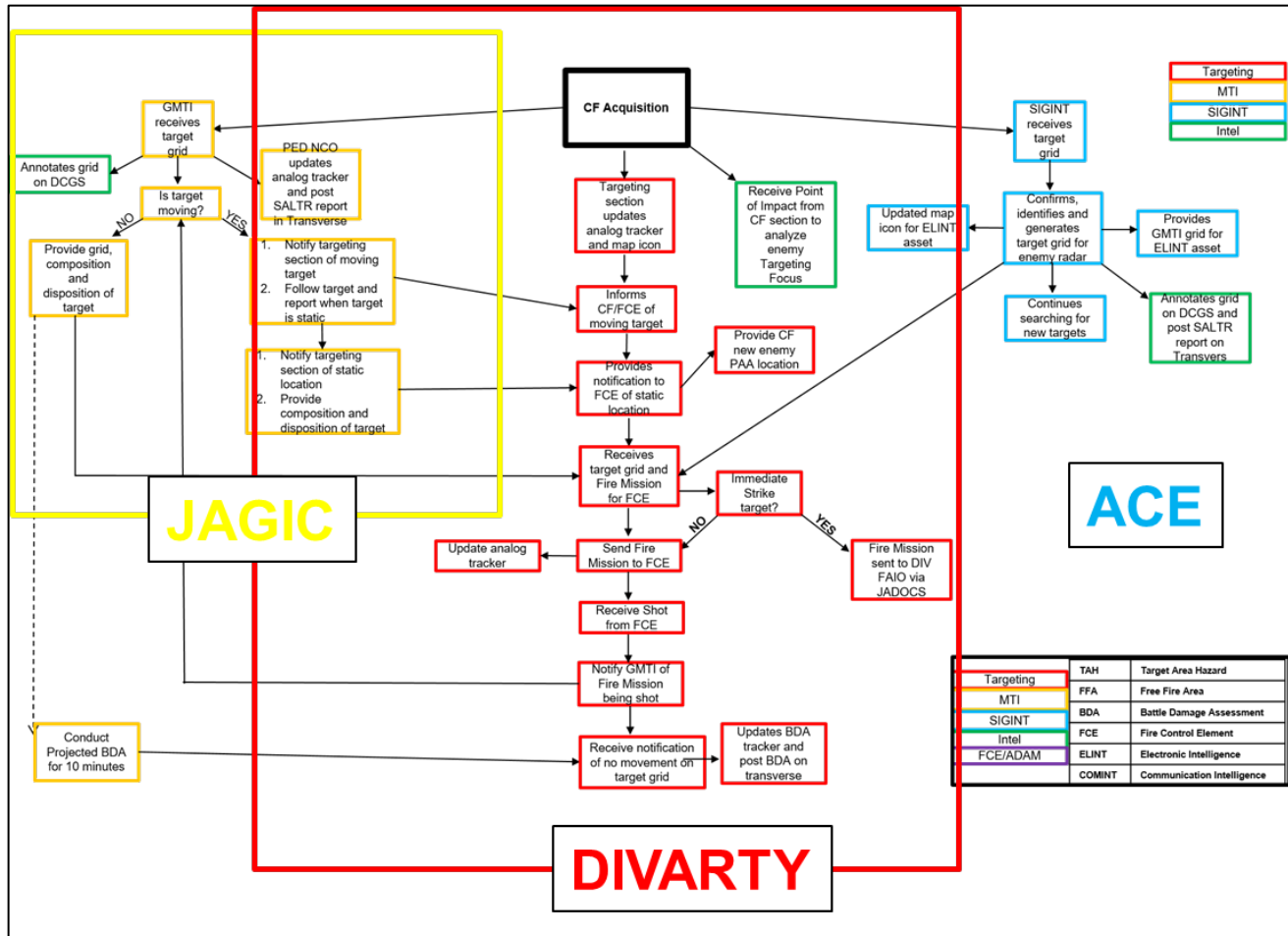
⁴⁰ MCTP, FY20 Final Exercise Report.

⁴¹ Ibid.

within the current operations integration cell (COIC).⁴² The DIVARTY could then continue to either track and engage the target by creating its own fire mission or send the target to the JAGIC for execution. Executing the dynamic targeting process directly within one integrating cell of the force field artillery headquarters eliminated multiple intervention points, potential communication system friction points, and the natural latency of passing information between headquarters and warfighting functions. This vastly improved firing times and, ultimately, lethality.⁴³ Unfortunately, this is not an organic capability to a DIVARTY or FAB whose intelligence section only includes all-source and geospatial engineering analytic capabilities. Those units that executed this methodology, required external augmentation to receive, process, exploit, and disseminate single source intelligence, but the increased lethality in Warfighter Exercises makes a compelling argument for co-locating the appropriate real time processing, exploitation, and dissemination capabilities within the command post of the Division or Corps asset responsible for planning and executing its operational fires

⁴² MCTP, FY19 Key Observations in Large-Scale Combat Operations, 42.

⁴³ MCTP, FY20 Final Evaluation Report.



Integrated Counterfire Battle Drill (1CD DIVARTY)

A long-term solution must account for the target location error of the sensor, integrate the sensor all the way to shooter, and allow a human being to be on the loop to mitigate fratricide, collateral damage, and the excessive use of munitions. While this method does increase the lethality of surface fires, the challenge of protection and sustainment significantly blunted overall effectiveness.

Protection

DIVARTY and Field Artillery Brigades on average incurred a loss of 65% of their combat power during Warfighter Exercises due to a series of systemic integration challenges. Force field artillery headquarters lost delivery and radar platforms due to a combination of mines, counterbattery fire, attack aviation, and direct fire from special purpose forces.⁴⁴ With the exception of counterbattery fire, the

⁴⁴ MCTP, FY19 Key Observations in Large-Scale Combat Operations, 55.

forces needed to mitigate these tactical risks do not exist organically within either DIVARTY or FABs and require protection resources allocated by Division and Corps. In addition, rocket battalions position close to the forward line of troops to gain additional range. Lastly, the headquarters have minimal protection personnel to coordinate and synchronize protection activities. The most successful units advocated for resources during Division or Corps MDMP and protection working groups. Unless a unit is on the Division and/or Corps Prioritized Protection List (PPL), maneuver, air defense, or any other capability will not be allocated to protect the organization. When units obtained capabilities to protect surface fires, they are often ineffective due to integration shortcomings in execution.

Disjointed command post operations often led to the loss of combat power despite the allocation of protection capabilities. The time tested six functions of the command post (receive information, distribute information, analyze information, make a recommendation, integrate resources, and synchronize resources) is still relevant today, but integration is the most critical factor in success. This integration meant effective communication amongst Division and Corps, adjacent units, and subordinate battalion. Most units utilized a tool, Command Post of the Future, to create a shared understanding. However, units seldom integrated all other mission command systems to populate the COP with information such as unit locations, minefield locations, and enemy locations.⁴⁵ Therefore, battle tracking devolved to another ‘digital analog’ where Soldiers manually populated the COP with digital icons rather than allow systems to work as they were intended. This method exponentially increased not just the tasks, but the risk for a mistake. The typical scapegoats of a “lack of SOPs” or “poor running estimates” does not identify the problem. Instead, the inability battle track and make good decisions is a symptom of immature systems which more likely stemmed from training readiness. All units experienced a high degree of personnel turn over every summer, but the units that executed protection tasks best had more repetitions than the average training audience. There is a stark difference between performance in June rather than September. Unfortunately, there is no best practice or technique other than increase the number of repetitions.

Recommendations

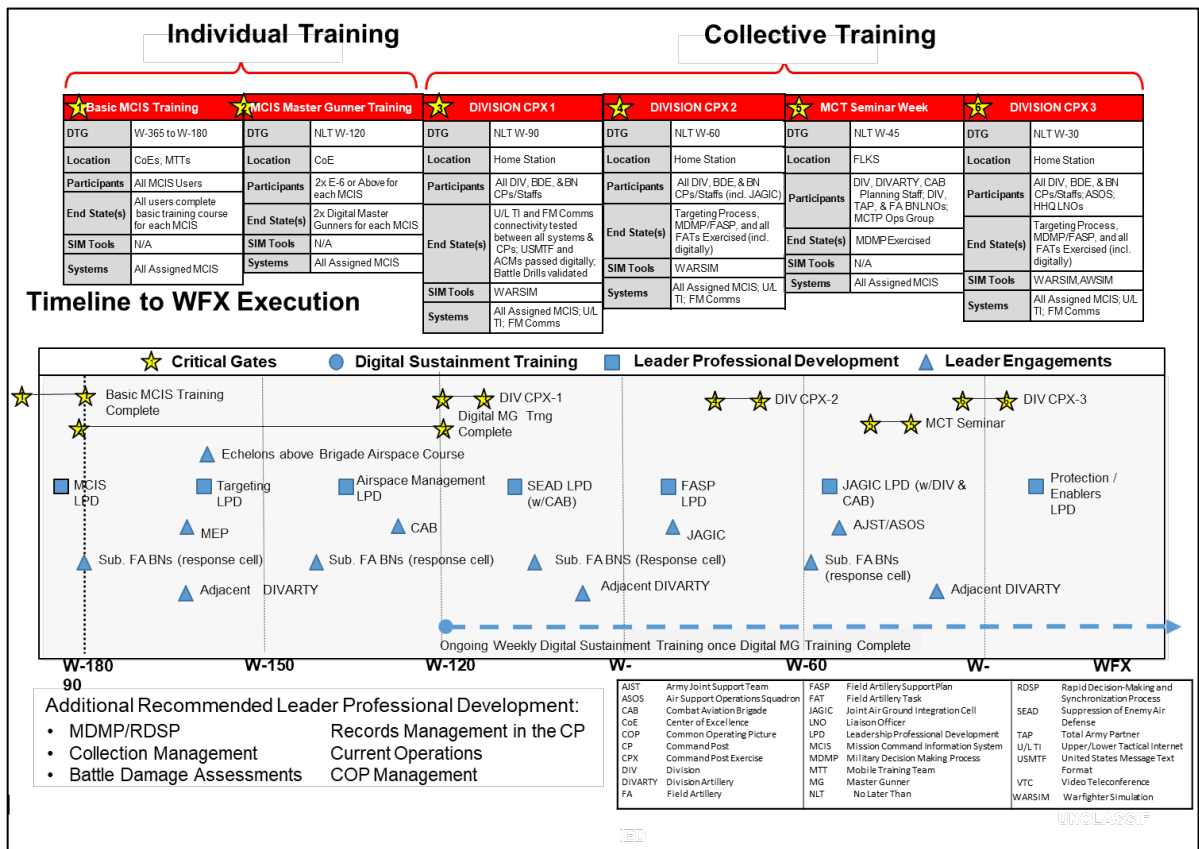
How the DIVARTY and Field Artillery Brigades integrate with their higher headquarters, adjacent units, and subordinate battalions will define the future success of these organizations. The DIVARTY and Field Artillery Brigade made steady and impressive gains in the last six years, but most importantly continue to learn and adapt. Despite structural challenges, these headquarters made

⁴⁵ MCTP, FY20 Final Exercise Report.

incremental improvements. An understanding of contemporary challenges will allow organizations to develop training plans informed by the hardest problems. A concise list of recommendations will enable these vital organizations to build readiness and deliver operational fires in support of the joint force.

Training Readiness

The Mission Command Training Program averaged five rotations each year and half these rotations occur in less than six months from the summer personnel transition. A DIVARTY, and to lesser extent a FAB, required Division or Corps participation to train mission essential tasks. These higher headquarters experience the same personnel turnover. Therefore, DIVARTY and FABs must execute collective training within 30 days of building a new staff in conjunction with an untrained higher headquarters. Units must compress 18 months of training into a window of four to six months to complete three command post and warfighter exercises. This requires planned and resourced training 18 months from execution of a warfighter exercise. A greater emphasis must be placed on the level 10 and 20 tasks needed for successful command post operations. The figure below depicts a 12 months training plan that includes individual and collective training. It also provided recommended LPDs to educate and build relationships amongst a Division or Corps fires enterprise.



Collective Training

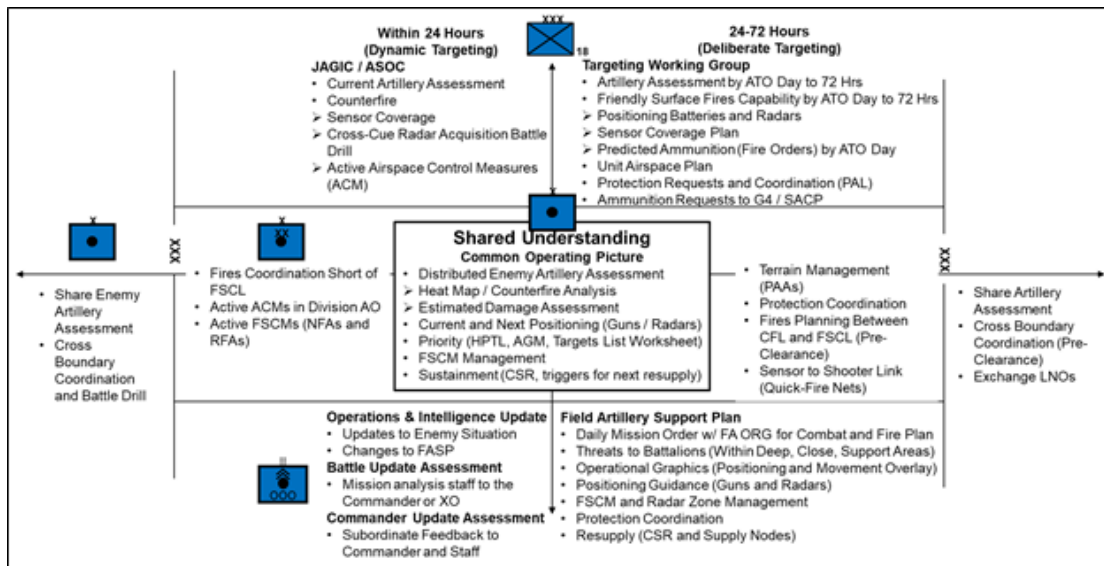
Command Post Exercise Three is both the first and last opportunity to train the entire Division fires enterprise prior to warfighter execution. MCTP observed over the last 24 months a steady improvement in the delivery of surface fires, but the average time for a fire mission from receipt to shot is approximately 8 to 11 minutes. This occurs because units execute complicated fire support processes such as cross boundary fires for the first time at the warfighter exercise. In addition, units do not have clear authorities integrated into their procedures. The new FM 3-09 published in April which addresses this problem described independent battle drills or preferably integrated as vignettes into the combined arms and fire support rehearsals: clearance of fires, cross boundary fires, unplanned SCAR, and counterfire.

These battle drills must include the Joint Air Ground Integration Center, DIVARTY command post, subordinate battalions, and if available an adjacent DIVARTY and Corps. These battle drills are interdependent at every echelon. The DIVARTY is the integrating headquarters for fires, but the battle drills require input the Division Fire Support Element, ASOS, Combat Aviation Brigade, and sustainment brigade. It is a best practice for stakeholders from these headquarters to codify the listed battle drills. This will allow authorities to be streamlined, reduction of unnecessary steps, and a shared understanding in execution.

Just as critical as the multi-echelon training aspect, every battle drill must utilize mission command information systems at every step. Units continue to create intervention points by relying on chat and voice calls to process missions and clear airspace. Therefore, you can have the best battle drill in the world and it will not make a difference unless you utilize your digital systems.

In order to prepare for Command Post Exercise (CPX) 3 and the WFX, units can execute fire control exercises that incorporate these battle drills. Digital sustainment training is not limited to batteries and battalions. The more repetitions a unit executes, the better prepared they will be for a warfighter. Do not underestimate the friction of transitioning from individual to collective training. Without dedicated time to train, operator level problems will significantly hinder the delivery of fires. Technical rehearsals are also a key event to execute these battle drills as a final check before execution. Battle drills are a start, but they need to be refined and developed. Units that focus and develop these battle drills prior to CPX1 refine and update each drill after each training event. Ensure everyone has a copy posted at every workstation. As each CPX progresses everyone from the junior enlisted operator to the executive officer writes notes on how to improve the battle drill. Dedicate time prior to the warfighter to make changes and updates. The battle drill with fewest possible steps and requirements for coordination will produce the

most lethal results. The collective training goes far beyond battle drills, there are numerous systems that a DIVARTY and FAB must manage to execute its core function, the integration of Fires.



Multi-echelon responsibilities for a Force Field Artillery Headquarters by Time Horizon

This figure depicts the major responsibilities for a DIVARTY and FAB by time. Each system requires a person, process, network, and headquarters. This layout can be used by Commanders and their staff to create a roadmap from CPX1 through WFX on what systems to focus on with outside agencies to improve overall integration. The end state is best codified in training objectives that focus on the interdependence of these systems.

Collaboration

Each DIVARTY and FAB routinely innovates solutions to the difficult problems detailed in this paper, but they do not leave the originating headquarters. DIVARTYs and FABs often retain a trained staff for only six months or less after a Warfighter exercise. This is a critical opportunity to disseminate lessons learned. Units must reach to one another to exchange ideas, attend each other’s training events, and publish in professional journals. Noncommissioned officers, warrant officers, and officers each have specialized expertise in operational fires. The major obstacle is the absence of a medium to collaborate. The Mission Command Training Program hosts a Milsuite that contains SOPs, tools, and sample unit product etc. In addition, a former DIVARTY S2 runs a collaborative site for DIVARTY Intelligence sections at <https://www.milsuite.mil/book/groups/divartyfab-s2-community-of-interest>. The sharing of

ideas will not just accelerate the training readiness of the force, but more importantly rebuild operational expertise for a new generation.

Conclusion

The character of warfare will constantly change, but the DIVARTY and Field Artillery Brigade will continue to be the focal point for operational fires. The leaders developed within these organizations are vital to the success of the Army and joint force. In the future the mandate to integrate these headquarters with new capabilities and formations will only become stronger. Multi-domain operations foreshadowed that the force will be more joint and interdependent. Therefore, at every echelon units must continue to learn, adapt, and overcome these problems. Streamlined processes and the elimination of intervention points allows operational fires to create windows of opportunity. Only with these openings can joint fires produce a position of relative advantage and allow Brigade Combat Teams to close with and ultimately destroy the enemy. Without this synchronization and integration, the unacceptable casualties in today's warfighters will be a terrible prologue for tomorrow's war.

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