

## Looking to the Past for LSCO Inspiration

### **“Desert Redleg: Artillery Warfare in the First Gulf War”**

*By MAJ Destry S. Balch*

**T**he role of division artillery units (DIVARTYs) has been a topic of heated discussion for the operational force since their reimplementation in 2014. Aside from their bi-annual roles in simulated Warfighter Exercises (WFX), many leaders are unable to draw much inspiration for the true scale of what a DIVARTY provides the division and how to effectively integrate that capability. *Desert Redleg: Artillery Warfare in the First Gulf War* by L. Scott Lingamfelter (US Army Colonel, retired) explores how the 1st Infantry Division Artillery (1ID DIVARTY) planned, organized and executed the largest organization of FA units since World War II. It provides present-day FA leaders much needed insight into the function of a DIVARTY in large-scale combat operations (LSCO) and provides inspiration for how a DIVARTY commands, controls and sustains large-scale artillery operations.

Blending personal memoir with historical analysis, Lingamfelter recounts his firsthand experience as the 1ID DIVARTY Executive Officer (XO) during the “Big Red One (BRO)” operational train up, deployment, execution and redeployment in the First Gulf War from 1990 to 1991. Along the way, Lingamfelter analyzes the logistical and operational friction the 1ID DIVARTY faced and highlights challenges that modern DIVARTYs will encounter in future large-scale conflicts. Lingamfelter divides the 1ID DIVARTY combat operations into three phases: 1) Artillery raids against Iraqi forces from 16–24 February 1991, 2) Preparatory fires against Iraqi positions prior to the 1ID breach on 24 February 1991 and 3) Field artillery tasks supporting the 1ID from the breach up to the suspension of hostilities on 28 February 1991.

Lingamfelter describes the preparatory fires before the combined arms breach of the Iraqi defenses, in which nearly every delivery system under the DIVARTY’s control continuously fired for an hour in support of the combined arms breach. The Commanding General of the 1st Infantry Division, Major General Thomas G. Rhame stated that, “the performance of the FA in combat has

caused all of us to remember what we had perhaps forgotten, namely its incredible destructive power and shock effect. The preparation fires I witnessed prior to our assault on the breach line were the most incredible sight I have seen in 27 years of service.”

The Army has primarily trained and fought counter-insurgency operations since 2003. Since then, institutional LSCO fires skills have atrophied, making it crucial to draw inspiration and guidance from the past. Throughout *Desert Redleg*, Lingamfelter repeatedly emphasizes two primary responsibilities a DIVARTY has in LSCO: 1) Command and control (C2) of all FA units supporting the division and 2) Sustainment of those FA units, especially concerning ammunition.

### **C2 of FA Units Supporting the Division**

The first responsibility of a DIVARTY in LSCO is the C2 of all FA units supporting the division. This requires accurate positioning of delivery systems at the correct time with the appropriate ammunition to effectively engage targets and execute the detailed synchronization of the supported division’s fire support plan. 1ID DIVARTY masterfully executed the ability to rapidly adapt the FA C2 structure to support and sustain the fires demands of the division. At execution on D-Day (24 February 1991), the 1ID DIVARTY controlled a total of seventeen artillery battalions, including nine 155mm battalions, four 203mm battalions, three M270 battalions and an additional three M270 / Army Tactical Missile System (ATACMS) batteries.

C2 of FA units is a complex process that is standardized in FM 3–09. The two most important elements of FA C2 in FM 3–09 are 1) Army Support Relationships (formerly known as FA Tactical Missions) and 2) the tenets of “AWIFMN.”

The 1ID DIVARTY tasked organized their supporting FA units into the four doctrinal FA support relationships: direct support (DS) for the FA cannon battalions to support their maneuver brigades and decrease the response time for brigade level targets; general support (GS) for FA units to exclusively service deep division targets for the 1ID Force Field Artillery Headquarters (FFAHQ); general support reinforcing (GSR) to



## 1st Infantry Division Artillery (DIVARTY) Task Organization 24 February 1991

### 1ID DIVARTY: Force Field Artillery Headquarters (FFAHQ)

1-5 FA (155mm SP)	DS 1/1ID
4-5 FA (155mm SP)	DS 2/1ID
4-3 FA (155mm SP)	GS
B-6 FA (MLRS)	GS
D-25 TAB	GS

### 75th Field Artillery Brigade: R 1ID DIVARTY

1-17 FA (155mm SP)	R 4-5 FA
5-18 FA (203mm SP)	GSR 1-5 FA
A-1-158 FA (MLRS)	GS
A-6-27 FA (ATACMS)	GS VII Corps Artillery
C-26 TAB	GS

### 1st UK Armored Division Artillery: R 1ID DIVARTY

2 FD (155mm SP)	GSR 4-5 FA
26 FD (155mm SP)	GSR 4-5 FA
40 FD (155mm SP)	GSR 4-5 FA
32 HV (203mm SP)	GSR 4-5 FA
39 HV (MLRS)	GS

### 42nd Field Artillery Brigade: R 1ID DIVARTY

3-20 FA (155mm SP)	R 1-5 GA
2-29 FA (155mm SP)	GSR 1-5 FA
1-27 FA (MLRS)	GS

### 142nd Field Artillery Brigade: GSR 1ID DIVARTY

1-142 FA (203mm SP)	GS
2-142 FA (203mm SP)	GS
1-158 FA (MLRS)	GS

GS - General Support  
GSR - General Support Reinforcing  
R - Reinforcing  
DS - Direct Support  
TAB - Target Acquisition Battery (Counterbattery Radar)  
MLRS - Multiple Rocket Launch System  
ATACMS - Army Tactical Missile System  
UK - United Kingdom

enhance the supported unit's ability to mass when the supporting unit was not servicing targets for the FFAHQ; and reinforcing (R) to enable the supporting FA unit's exclusive massing of fires for the supported FA unit. Detailed definitions of these support roles and their accompanying Seven Field Artillery Inherent Responsibilities are found in FM 3-09, Chapter 4.

## 1ID DIVARTY also embraced the tenets of AWIFMN:

Adequate fire support for the committed units: 1ID DIVARTY placed 1-5 FA and 4-5 FA in DS of each of their maneuver brigades (1/1ID and 2/1ID, respectively) and subsequently assigned them their own GSR and R cannon battalions to

provide adequate fires. This allowed the brigades to service targets in their own deep areas and provided them the ability to mass multiple FA BNs on maneuver objectives before their seizure or clearance.

Weight to the main effort: 2/1ID was the main effort for the division. 1ID DIVARTY not only placed 4-5 FA in DS of 2/1ID, but gave them four cannon battalions in GSR, one cannon battalion in R and priority of GS fires during the attack phase of the operation.

Immediate responsive fires: 1ID DIVARTY accomplished responsive fires by decentralizing a large portion of the supporting FA units. Placing units in DS to maneuver brigades or R to other FA units is the most common facilitation of responsive fires. However, establishing quick fire nets for planned targets and rehearsing mission processing procedures prior to combat operations were vital to ensuring that firing units processed fire missions as quickly as possible after target identification.

Facilitation of future operations: The 1ID DIVARTY staff conducted extensive analysis into the positioning of FA units on the battlefield as well as time-distance analysis of friendly maneuver units. This was vital to ensure that the supported maneuver brigades of 1-5 FA and 4-5 FA (along with their own R and GSR FA units) did not outpace them as they switched their support relationship from GS to DS.

Maximum feasible centralized control: Generally, the maximum C2 limit of any unit is around three to five subordinate units. It would be impractical for the 1ID DIVARTY to exercise direct C2 over all seventeen supporting battalions. If the 1ID DIVARTY was unable to effectively C2 a particular unit, that unit would be put into a supporting role to another, to ensure that every delivery system stayed shooting for the duration of the operation. 1ID DIVARTY delegated specific control authorities to subordinate FA brigade HQs but maintained centralized command of all supporting units by exercising the duties and responsibilities of an FFAHQ outlined in FM 3-09. This ensured that no echelon controlled more than five subordinate units but still maintained the maximum feasible centralized C2 through the 1ID DIVARTY commander.



Never keep artillery in the reserve: Lingamfelter emphasizes the critical concept that any non-firing tube, launcher, or cannon is an opportunity wasted by the division commander. Every FA unit was continuously tasked with planning, rehearsing, or executing fire missions for 1ID.

Without the deliberate C2 structure provided by the 1ID DIVARTY, the joint force could not have coordinated and executed the massive rocket and cannon artillery raids, massed preparatory fires and rapid reorganization of delivery units to their supported maneuver brigades that were vital to the rapid defeat of the Iraqi army. Every division requires a well-trained and well-educated DIVARTY to provide that C2 to effectively manage internal FA units and integrate any external FA units into their task organization. Due to the increasingly complicated nature of warfare and the high-demand/low-availability of cannon, rocket and missiles in LSCO, the mantra of every DIVARTY should be “right command/support relationship, right time, right place, right ammo.” These relationships are the first crucial element that facilitates accurate and timely fires.

Modern DIVARTY commanders can exercise and increase their proficiency in C2 of division FA units during WFX and during command-post exercises (CPXs). When DIVARTY commanders plan training objectives for their CPXs or WFX, they should aim for their DIVARTYs to successfully C2 up to twelve (12) individual FA Battalions, with one to three reinforcing FA BDE HQs to enable the delegation of control. Twelve (12) should be the aimpoint because it is more than the span of typical “garrison” C2 but not so many that it detracts from the DIVARTY’s ability to effectively plan. This forces commanders to place units in the support roles outlined in FM 3-09 to effectively fight. Commanders should request FA Battalions and brigades that include as many

diverse weapon systems as possible (M777A2, M119A3, M109A6/7, M270A1, M142) and even emerging system battalions like Extended Range Cannon Artillery (ERCA) to exercise the rapid transition of support relationships and nuances in fire mission processing that were so vital to the 1ID DIVARTY’s success. Learning how to rapidly integrate external units and consistently tasking, changing and exploring the intricacies of support relationships is the only way that DIVARTYs will be able to learn how to provide adequate C2 to supporting FA units in future conflict.

### Sustainment of FA Units Supporting the Division

Providing the ammunition for the 1ID DIVARTY’s task-organization was a significant logistical feat for its staff. Transporting and storing artillery Class V ammunition is burdensome for even the best trained and fully manned logistical units. It requires intricate knowledge of fuze/shell combinations, propellant types, munition ranges and projectile functions that may not be well understood by those outside the FA branch. Lingamfelter provides an extensive analysis of the ammunition required to keep the King of Battle shooting during the Gulf War. The expenditures totaled almost 25,000 cannon shells and over 2,500 rockets in the campaign’s twelve days of ground combat operations. The result of the artillery ammunition expenditure was the destruction of 50 enemy tanks, 139 armoured personnel carriers (APCs), 30 air defense systems, 152 artillery pieces, 27 missile launchers, 108 mortars, 548 wheeled vehicles, 61 trench lines and bunker positions, 92 dug-in and open infantry targets and 34 logistical sites.

Modern DIVARTY and FA battalion staffs struggle to forecast or properly plan for the appropriate type and quantity of ammunition

1 ID DIVARTY and Supporting Units Ammo Expenditures 16-28 FEB 1991				
	HE	DPICM	RAP	Rockets
Artillery Raids (16-23 FEB 91)	5792	1436	1980	1606
Preparatory Fires Prior to Breach (24 FEB 91)	4621	1515	0	414
Breach to Change of Mission (24-28 FEB 91)	5614	4057	290	540
Total	16027	7008	2270	2560



to support their commander's objectives. One could reference ATP 3-09.23, Chapter 7 for historic trends of the type and quantity of cannon ammunition based on the operation type, but these tables are generic "cookie cutter" planning tools and no such tables exist for rockets. The targeting cycle and the subsequent identification of Field Artillery Tasks (FATs) are what truly drives FA ammunition forecasts and unit basic loads (UBLs). The quantity and type of ammunition required to support those FATs are a function of "Battlefield Calculus," or the total amount of ammunition required based on range to the target, target type and the commander's desired effect.

Just like C2, modern DIVARTY commanders should train ammunition management during CPX and WFX and most importantly during battle rhythm academics and leadership professional development (LPDs). An effective method to establish Class V discipline in any formation is to modify leader certification exams to add nomenclatures, fuze shell combinations, munition ranges, munition functions, Department of Defense Identification Codes (DODICs) and vehicle haul capacities and develop a unit development plan to educate the formation on Class V. Leaders will only make learning their ammunition a priority if their commanders make it a priority.

Education aside, a good litmus for commanders to gauge their unit's ability to manage ammunition is how well they forecast expenditures. If a staff is unable to effectively forecast ammunition 72 hours out, it indicates that 1) the staff does not understand the capabilities, limitations and functionality of the ammunition they are managing, or 2) the division's targeting cycle is broken and cannot provide the necessary inputs for the DIVARTY staff to forecast the ammunition required to support their assigned FATs.



Battlefield calculus, outputs of targeting, haul capacities, controlled supply rates, required supply rates and UBLs are all topics

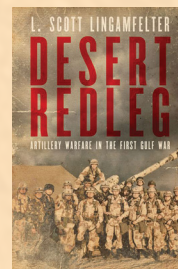
that are far too complex to outline in this article. Previous FA officers have already written about these topics and copies of their findings can be found below. The first is an article from 2001 written by MAJ Brent Parker and CPT Michael

Philbin and the second from 2014 written by CPT Westly T. LaFitte. Both are prime examples to the level of detailed planning and analysis required to execute effective fires in LSCO.

To be successful, the 1ID DIVARTY staff had to ensure every staff section integrated into the 1ID targeting cycle. Treating the DIVARTY staff as an extension of the Division staff, not just a subordinate HQ involved in parallel planning, was an essential element 1ID DIVARTY used to ensure delivery systems were in the right time, in the right place, with the right ammunition and right command support relationship to execute their FATs. Parallel lines never touch.

## Conclusion

As the joint force looks ahead towards LSCO, the Field Artillery Branch should draw insights and inspiration from the Gulf War to understand the complexity and challenges associated with planning, executing and sustaining fires. Although current DIVARTYs are learning how to adapt to fighting in LSCO, they have not demonstrated their true potential and lethality in more than three decades. Lingamfelter's detailed historical account highlights the command, control and sustainment that DIVARTYs must apply in the LSCO of tomorrow, even thirty years after the Big Red One was "rounds complete." For the FA branch to effectively provide this vital support in future conflicts, "Desert Redleg: Artillery Warfare in the First Gulf War" by L. Scott Lingamfelter should be mandatory reading material for FA Captains Career Course, students at the U.S. Army Command and General Staff College and all FA battalion and DIVARTY staffs across the Army. In the words of COL Lingamfelter, "You go forward best, by going back first."



## References:

Lingamfelter, L. S. (2020). *Desert Redleg: Artillery warfare in the First Gulf War*. University Press of Kentucky.

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