REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE *(DD-MM-YYYY)*	2. REPORT TYPE	3. DATES COVERED *(From - To)*
	Master of Military Studies (MMS) thesis	AY 2020-2021

4. TITLE AND SUBTITLE
Professionalizing the Fire Support Officer

5a. CONTRACT NUMBER
N/A

5b. GRANT NUMBER
N/A

5c. PROGRAM ELEMENT NUMBER
N/A

6. AUTHOR(S)
Scheetz, Ryan T. (Major)

5d. PROJECT NUMBER
N/A

5e. TASK NUMBER
N/A

5f. WORK UNIT NUMBER
N/A

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
USMC Command and Staff College
Marine Corps University
2076 South Street
Quantico, VA 22134-5068

8. PERFORMING ORGANIZATION REPORT NUMBER
N/A

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
N/A

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)
N/A

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release, distribution unlimited.

13. SUPPLEMENTARY NOTES

14. ABSTRACT

Force Design 2030 calls for organizational changes in the Marine Corps to meet the demands of great power competition. The inclusion of new units and capabilities will strain current fire support paradigms across the enterprise. Current Marine Corps structure and capabilities, in terms of fires, remain largely modeled on the Global War on Terror (GWOT) and do not account for the capabilities and systems of a near-peer competitor. As the Marine Corps prepares for future conflict, it has prioritized resources allocation to equipment and not emphasizing the professionalization of its personnel to plan and coordinate those systems. As such, the Marine Corps is not prepared to execute all-domain fires, as a Joint Force provider, against a near-peer competitor.

15. SUBJECT TERMS
Force Design 2030; organizational culture; force structure; fire support

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			USMC Command and Staff College
Unclass	Unclass	Unclass	UU	28	19b. TELEPHONE NUMBER *(Include area code)* (703) 784-3330 (Admin Office)

United States Marine Corps
Command and Staff College
Marine Corps University
2076 South Street
Marine Corps Combat Development Command
Quantico, Virginia 22134-5068

MASTER OF MILITARY STUDIES

TITLE: Professionalizing the Fire Support Officer

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

AUTHOR: Major Ryan T. Scheetz

AY 2020-21

MMS Mentor Team and Oral Defense Committee Member:
Eric Y. Shibuya, PhD
Approved: _____
Date: 13 April 2021

MMS Mentor Team and Oral Defense Committee Member:
LtCol Jarrod Stoutenborough
Approved: _____
Date: 13 April 2021

Executive Summary

Title: Professionalizing the Fire Support Officer

Author: Major Ryan Scheetz, United States Marine Corps

Thesis: A Fire Support Officer (FSO) Primary Military Occupational Specialty (PMOS) must be created in order to enable the success of the Marine Corps, as part of the Joint Force, in future great power conflicts.

Discussion: Force Design 2030 calls for organizational changes in the Marine Corps to meet the demands of great power competition. The inclusion of new units and capabilities will strain current fire support paradigms across the enterprise. Current Marine Corps structure and capabilities, in terms of fires, remain largely modeled on the Global War on Terror (GWOT) and do not account for the capabilities and systems of a near-peer competitor. As the Marine Corps prepares for future conflict, it has prioritized resources allocation to equipment and not emphasizing the professionalization of its personnel to plan and coordinate those systems. As such, the Marine Corps is not prepared to execute all-domain fires, as a Joint Force provider, against a near-peer competitor.

Conclusion: The current paradigm for FSOs in the Marine Corps will prove inadequate in the face of both Force Design and great power competition. Future conflict with a near-peer competitor will occur across multiple domains and at a much higher pace than the Marine Corps is used to as compared to experiences from the GWOT.

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

Table of Contents

Page

Preface

After learning that I would attend Command and Staff College, I immediately knew that my thesis would relate to fire support. I have spent the preponderance of my career serving as an FSO, in one form or another, from the company to the division-level. In all my time and experience as an FSO, I would regularly ask myself, "What changes need to happen in order to produce better FSOs in the Marine Corps?" What follows are a collection of my thoughts, based-off observations in garrison and combat, that I firmly believe provide solutions to the previous question. To call it a passion project is a gross understatement; words cannot appropriately describe my personal and professional investment in fire support.

I would like to thank my mentor, Dr. Shibuya and second reader, LtCol Stoutenborough for their guidance and patience throughout this process. Your perspectives and feedback undoubtedly strengthened my thoughts and ideas and drove me to find supporting information that went beyond the scope of "because Ryan thinks so".

In addition, I would like to thank Conference Group 9: LTC Preston, Dr. Benitez, Maj Ronnie Wilburn, Ms. Joellen Welch, Maj Rachad Fayad, Maj Amanda Gross, Maj Mike Mahoney, LCDR Josh Johnson, Maj Kyle Bookhout, Maj Alan Thompson, Maj Dimitri Stepanoff, Maj Elvis Huian, Maj Will Riordon, and MAJ Pat Toffler. CG-9 helped me "crush it" throughout the academic year. I am forever in your debt.

Last, and certainly not least, I would like to thank my wife, Maggie and my son, Greyson for their unwavering support as I spent countless hours in my office researching and typing my paper. I could not have done it without you.

Insert 298

Introduction

The United States Marine Corps faces significant challenges as it wrestles with future concepts to combat emerging threats. After nearly two decades of conflict in Iraq and Afghanistan, the Marine Corps' ability to plan, coordinate, and execute all-domain fires as part of the joint force against a credible, aggregated adversary has atrophied.[1] Current doctrine and force structure remains largely inundated with Global War on Terror (GWOT) Tactics, Techniques, and Procedures (TTPs). While the Marine Corps enjoyed relative freedom of maneuver to conduct all-domain fires against terrorist groups during OPERARTION Iraqi Freedom (OIF) and OPERATION Enduring Freedom (OEF) it fell behind the proverbial power curve as juxtaposed with its contemporaries in this era of great power competition. To maintain its primacy as a global force in readiness, the Marine Corps must reorganize its current fires structure in order to effectively enable the Joint Force to deter, and if necessary, defeat, the military of another great power.

With the proliferation of long-range, anti-access, area-denial (A2/AD) weapon systems, amphibious operations, the Marine Corps' niche mission sets, are subject to unacceptable risk. As the Joint Force's foremost contributor to amphibious requirements, the Marine Corps is placed in a precarious position as it stacks its current capabilities against those of its adversaries in possession of advanced A2/AD systems. Cognizant of the need to adapt the force, General David S. Berger, 38th Commandant of the Marine Corps, stated that the coming decade will be, "…characterized by conflict, crisis, and rapid change".[2] In the Force Design Phase I and II report, General Berger identified several essential competencies that the Marine Corps must

[1] Marcial J. Garcia, *Enhancing the Artillery Fire Support Model, Part I*, p 78
[2] David S. Berger, *Commandant's Planning Guidance*, p 1

possess in order to overcome evolving threat capabilities.[3] For the purposes of this monograph, the Commandant's quintessential requirement for the Marine Corps is to "..sense, shoot, and sustain while combining the physical and information domains to achieve desired outcomes".[4]

As a means to fulfill the aforementioned requirement, the Marine Littoral Regiment (MLR) concept emerged. In a memo to the Secretary of Defense this past February, General Berger described the MLR as, "Possessing a degree of organic lethality and able to persistently maintain Joint C5ISR-T [Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance] networks inside the [Weapons Engagement Zone], these organizations will be able to deter malign activity, support regional allies and partners, hold key adversary assets at risk, and when necessary, *complete naval and Joint force kill chains for decisive effect*".[5][6] Students of history will note that the MLR is reminiscent of the Marine Defense Battalion construct of the 1930s and 40s, whose purpose was to "…defend island outposts against air, sea, and amphibious assaults" and, similar to the MLR "…fit into the grand strategy of the United States Navy".[7] For the defense battalions, "…unity of command was absolutely crucial to the success of any mission-especially an amphibious assault".[8] Though technology has evolved drastically since the 1940s, the mission sets for both the Defense Battalion and the MLR are remarkably similar. In that context, the MLR will face challenges significantly more complex than its predecessor faced over 80 years ago: what must it do in order to effectively cooperate and coordinate with the Joint Force to accomplish the mission?[9]

---

[3] David S. Berger, *CMC38 Force Design 2020 Report Phase I and II*, p 3
[4] Ibid, p 3
[5] Italics added for emphasis
[6] Mallory Shelbourne, *Berger Reaffirms Commitment to Force Design 2030 Overhaul In Memo to New SECDEF*, https://news.usni.org/2021/03/01/berger-reaffirms-commitment-to-force-design-2030-overhaul-in-memo-to-new-secdef
[7] David J. Ulbrich, *Thomas Holcomb and the Advent of the Marine Corps Defense Battalion, 1936-1941*, p vi
[8] Ibid, p 8
[9] Ibid, p 8

The requirement to effectively plan, coordinate, and execute timely, all-domain fires in support of Joint Force amphibious operations against a great power competitor, is a complex problem set for which the Marine Corps is not currently suited to address.[10] As the Marine Corps embarks on Force Design to prepare for future conflicts, principally through the development and acquisition of *equipment* for the MLR, a significant *personnel* gap exists to support that structure. Stated plainly, the Marine Corps does not possess the personnel with the requisite training, or experience, to integrate fires from the MLR in support of the Joint Force. As a result, the Marine Corps places itself at a heightened level of risk should it be required to conduct an amphibious JFEO today. As a means to mitigate this risk, a Fire Support Officer (FSO) Primary Military Occupational Specialty (PMOS) must be created in order to enable the success of the Marine Corps, as part of the Joint Force, in future great power conflicts.

This paper argues why FSO must become a PMOS in order to meet the 2019 Commandant's Planning Guidance for 2023 and beyond. It begins with an overview of the roles and responsibilities of FSOs to build a conceptual baseline for the reader. Then it delves into the educational foundation of FSOs within the framework of the current training continuum, covering entry-level training at The Basic School (TBS) and Fort Sill. Following education, it covers the typical career paths of FSOs within artillery battalions and regiments. It identifies and addresses counterarguments as to why the creation of an FSO PMOS is not necessary. After counterarguments, it discusses how an FSO PMOS will enhance the Joint Force for future conflict. Finally, it concludes with recommended changes to the current structure.

The Role of the FSO

[10] David S. Berger, *CMC38 Force Design 2020 Report Phase I and II*, p 2

Marine Corps Doctrinal Publication 1 *Warfighting* describes combined arms as, "…the full integration of arms in such a way that to counteract one, the enemy must become more vulnerable to another". [11] Put simply, adversary forces are placed in a dilemma whereby they are given the choice of being defeated by maneuver forces, fires, or a combination of the two. Commanders are charged with the responsibility of positioning their maneuver forces in such a manner that they can defeat the adversary. This process is primarily enabled, at the company and battalion-level, by organic mortar systems. Planning for the employment of these systems is conducted by weapons platoon commanders, who serve as Fire Support Team (FST) leaders at the company-level and the weapons company commanders, who serve as Fire Support Coordinators (FSCs) at the battalion-level.[12] This model, at the company and battalion-level in particular, places an emphasis on infantry officers as the primary planners, coordinators, and executors of all-domain fires.

Holistically, fire support planning is not easy and becomes immensely more complex at higher echelons. Infantry officers serving as the primary fire supporters during OIF and OEF, where the integration of all-domain fires was relatively limited, was appropriate considering the adversary threat capabilities. If the same methodology is employed in a future conflict with a great power competitor in possession of advanced A2/AD systems, the Marine Corps will be at a disadvantage, whereas artillery officers serve as FSOs from the rank of second lieutenant to colonel. They are generally assigned to maneuver units from the company to the division-level and are critical members of FSTs and coordination centers at all echelons. In this capacity, they are primarily relied upon to plan artillery fires and act as LNOs to supporting artillery units. However, as early as their time as students in entry-level training, they are exposed to the

[11] Headquarters United States Marine Corps, *MCDP1 Warfighting*, p 93
[12] Headquarters United States Marine Corps. *MCTP 3-10F Fire Support Coordination in the Ground Combat Element*, p 1-5

processes required to plan, coordinate, and execute all-domain fires, including Close Air Support (CAS) and Naval Surface Fire Support (NSFS), from both the Marine Corps and the Joint Force.[13] FSOs consider the battlefield in all three dimensions: the lateral movement of forces on the ground, the vertical movement of aircraft and munitions along their ballistic trajectories, and most importantly, the sequencing of actions to ensure the right target is struck at the right time. The current model does not set artillery officers up for success for future assignments. Yet FSOs with a fires-specific PMOS, and the requisite education, will best enable the Marine Corps to gain a competitive advantage in this era of great power competition.

Education

A leading factor in the Marine Corps' inability to combat emergent threats with kinetic and non-kinetic fires stems from its current, misaligned entry-level education system: students are not being taught the right things. All Marine officers are required to attend the six-month Basic Officer Course (BOC) at TBS in Quantico, Virginia before they are assigned an MOS. The purpose of TBS is to, "Train and educate newly commissioned or appointed officers in the high standards of professional knowledge, esprit-de-corps, and leadership to prepare them for duty as company grade officers in the operating forces, with particular emphasis on the duties, responsibilities, and warfighting skills required of a rifle platoon commander".[14] Part of the curriculum introduces students to fire support principles and fire support planning through a series of lectures and practical applications given by Marine Air Ground Task Force (MAGTF) Fires Instructors. [15] Following classroom instruction, students participate in tactical decision

[13] Marine Detachment, Fort Sill, *Marine Artillery Officer Basic Course Program of Instruction* p IV-111
[14] Headquarters United States Marine Corps, *The Basic School Home Page*, https://www.trngcmd.marines.mil/Northeast/The-Basic-School/
[15] Joseph R. Mozzi, email correspondence BOC_POI-Course_Structure DRAFT WFD 20210309

games that serve as a mechanism to validate what they learned as they apply fire support plans they develop to a scenario supervised by one of the instructor cadre. This initial exposure to fire support plays an important role as it informs the decisions students make as they prioritize their "wish-lists" of MOS preferences to their instructors. Therefore, it is critical that students who place the MOS of artillery high on their list are taught by experienced and knowledgeable FSOs.

Upon BOC Completion, selected to become artillery officers receive the 0801 MOS and attend the Marine Artillery Officer Basic Course (MAOBC) in Fort Sill, Oklahoma. Over the six-month Period of Instruction (POI), students spend 684 total hours learning the three pillars of the artillery MOS: the battery, gunnery, and fire support. 64 hours are dedicated to battery operations, which includes the basic procedures to emplace and displace a firing unit from a position, how to conduct local security inside of a position, and all of the other requirements to keep that unit operational.[16] 182 hours are spent learning gunnery, the technical aspect of the artillery officer MOS where students learn how to perform the computational procedures necessary to fire accurately.[17] 194 hours are dedicated to fire support, where students learn to call for various types of fire, the duties of fire support personnel, and planning. As outlined in the MAOBC POI, students learn the basic principles of fire support comprising of 19 1000-level Training and Readiness (T&R) events and a number of practical applications to evaluate mastery of the requisite skills to graduate. Of the 19 T&R events, only one focuses solely on fire support planning and is evaluated over several practical applications totaling eight hours.[18] Upon conclusion of MAOBC, there are limited opportunities for artillery officers to receive fire support-specific intermediate or advanced-level schooling. Captains are "re-greened" in fire support planning if they attend resident or non-resident Expeditionary Warfare School (EWS) or

[16] Marine Detachment, Fort Sill, *Marine Artillery Officer Basic Course Program of Instruction*, p IV-67
[17] Ibid, p IV-68-69
[18] Ibid, p I-14

the Field Artillery Captain's Career Course. In rare instances, company and field grade officers attend joint fires courses if they are identified for Individual Augment (IA) deployments to fill an FSO billet. Otherwise, artillery officers must balance their knowledge of artillery operations and fire support, based-off the foundation developed at MAOBC, for their entire careers.

The knowledge FSOs inherit from their fire support instructors at TBS and MAOBC comes from junior captain artillery officers with approximately four to six years of time in service. This distinction is critical to note as the experience those instructors have in fire support may be limited, or in some cases nonexistent, prior to them assuming teaching roles. Neither TBS or MAOBC fire support instructors are selected based-off their real-world experience as an FSO; it is possible that they have none prior to assuming a teaching role. This fact may appear trivial; however, it contributes to the Marine Corps' inability to combat emergent threats with kinetic and non-kinetic fires largely in terms of MOS credibility and experience. Put simply, it would be similar to learning how to throw a baseball by a person who has never thrown a ball themselves. Though they may understand the process from start to finish, they lack proficiency to throw the ball at the intended target. As such, entry-level training must be reorganized whereby students receive fire support instruction from officers with FSO as a PMOS.

Career Paths

Upon graduation of MAOBC, artillery officers arrive to their Fleet Marine Force (FMF) units and are typically assigned to a battery or an FSO billet. Battalion executive officers attempt to evenly distribute the amount of time lieutenants spend as platoon commanders, fire direction officers (FDOs), and FSOs to ensure they are well rounded artillery officers before they move on to their next assignments. However, competing requirements often preclude a full one-

third split between billets over a typical 36-month assignment. This is due, in part, to the fact that MAOBC is a six months-long course and counts against the 36-month obligation lieutenants are required to fulfill in accordance with their orders. As a result, the majority of artillery officers have a disproportionate amount of experience in the aforementioned billets at the conclusion of their first FMF tours. It is not uncommon for an artillery officer to never spend time as an FSO during their first FMF tour. In the age of great power competition, the Marine Corps cannot afford to consider FSO as a lesser priority.

Following their first FMF tours, captain artillery officers spend 24 to 36 months in a B billet. B billets are duties that a Marine is assigned to outside of their occupational field as a means to broaden their understanding of the Marine Corps. B billets can include recruiting as an officer selections officer or series commander at one of the recruit depots. The downfall to B billets is that they remove officers from their primary occupation for extended periods of time, which ultimately results in skills atrophy. In the case of artillery officers, there is one B billet that ties directly to their MOS proficiency as an FSO: Air Naval Gunfire Liaison Companies (ANGLICOs). The ANGLICO mission is, "To provide Marine Air Ground Task Force Commanders a liaison capability to plan, coordinate, employ, and conduct terminal control of fires in support of joint, coalition, or allied forces."[19] In essence, artillery officers assigned to an ANGLICO spend their B billet time honing their all-domain fires skills before returning to the FMF, providing them with the requisite experience to be most successful as battalion FSOs as compared to their contemporaries. The same would hold true for TBS and MAOBC instructors if an FSO PMOS were created. At the conclusion of their B billets, selected officers attend

[19] Headquarters United States Marine Corps, *1st ANGLICO Home Page*, https://www.imef.marines.mil/Units/I-MIG/1ST-ANGLICO/

resident EWS or FACCC before they return to the FMF. Completion of either school is a prerequisite for promotion to the rank of major.

After completing their B billet, captains return for their second FMF tours to fill billets as assistants to primary staff officers, such as the assistant operations officer, serve as battery commanders, or battalion-level FSOs. In the case of those that are assigned to battalion FSO billets, the disparity in the current construct emerges. Imagine going to college to become a doctor. Students spend years taking the required courses and earning the appropriate grades to make them competitive for medical programs that ultimately result in them becoming doctors, in one form or another. Then, upon earning the title "doctor" they were told to drive a trash truck for three years before they could practice medicine. Once they finished their three-year commitment as trash truck drivers and returned to a hospital, what if they were told that they were expected to perform advanced procedures for which they had no formal training? This analogy appropriately describes the current paradigm implemented on artillery officers that serve as FSOs at the battalion-level and above.

The current Manpower Management Model places an emphasis on what are referred to as "key billets" for promotion and advancement: battery command for captains and battalion executive officer/operations officer for majors. FSO is not considered a key billet, making officers that serve in those capacities less competitive for promotion. Additionally, artillery officers identified as having potential for development have a greater chance of being placed in a key billet, and are therefore more likely to be promoted to the next rank, while the same cannot be said for their peers in FSO billets. A parallel can be drawn that the best and most qualified artillery officers are prioritized for key billets, leaving the remainder of their peers to fill FSO billets. This paradigm of talent management will become unfeasible as the Marine Corps

transitions for future conflict. A higher caliber of fire support professional is required to appropriately support the MLR, and the Joint Force, as the Marine Corps develops "…multi-axis, multi-domain precision fires organic at all echelons, enabled by a federated system…to ensure all elements can fight in a degraded command and control environment".[20]

If FSO were to become its own PMOS, battalion FSO billets for captains, and regimental Assistant FSC billets for majors, would hold the same weight on promotion boards as battery command and executive officer/operations officer billets. Adjusting the current paradigm to include FSO-specific key billets would ensure that the best, and most qualified, personnel are selected to serve those in those roles. This change would not be difficult and does not cause the enterprise to sacrifice anything from its current model. Ultimately, FSO-specific key billets guarantees that the Commandant's intent is met as part of the "federated system" discussed above. Additionally, it would provide dedicated experts to serve as FSOs for the rank of lieutenant colonel and colonel. Under the current construct, artillery battalion and regimental commanders serve dual purposes as commanders and fire support coordinators for infantry regiments and divisions respectively.[21] Splitting the requirement by having dedicated regimental and division FSOs would enable artillery commanders to focus their efforts on the employment of their units without the added responsibility of planning fires.

Counterarguments

The creation of an FSO PMOS will generate some problems for the Marine Detachment at Fort Sill: the current structure of the Marine Detachment is designed solely to support MAOBC; requires additional instructors to compensate for increased class sizes; increases the

[20] David S. Berger, *CMC38 Force Design 2020 Report Phase I and II*, p 12
[21] Headquarters United States Marine Corps, *Artillery Training and Readiness Manual MCTP 3-10F*, p 1-3; 1-4

costs associated of bringing additional personnel onto an Army garrison; and requires the instructor cadre to conduct a Course Curriculum Review Board (CCRB) to assess the current POI and determine which changes should be made in order to facilitate fire support-focused training. This proposed modification does not call for increases to the Marine Detachment structure; the current staffing solution is sufficient as there is no requirement to increase the size of the Marine Detachment. The same holds true for the instructor cadre as there will not be additional students attending the course; overall, combined class sizes will remain the same. This proposed solution does not call for additional students; the allocated billeting from Fort Sill is sufficient and additional resources will not be needed to purchase additional "bed spaces" on the garrison. Though monetary concerns are always present in a fiscally constrained environment, they would be negligible for the most part. As far as changes to the curriculum, a CCRB will become necessary regardless due to the organizational impacts from force design. A reprioritization of fire support planning would not be driven by the creation of an FSO PMOS, but rather in response to a prioritization on great power competition.

The Marine Corps would incur additional costs if an FSO PMOS is created to compensate for added personnel and equipment structure. Artillery battalions and regiments already have Billet Identification Codes (BICs) for FSOs, therefore the creation of additional structure is not necessary. As an added benefit to the organization and the individual, the addition of an FSO PMOS offers organizational stability by making it easier for executive officers, at the battalion and regimental-level, to forecast personnel changes. This will mitigate the typical churn associated with promotions and annual summer permanent change of station orders. On the behalf of the FSOs, it promotes proficiency by enabling personnel to remain in the same billets for longer periods of time. Currently, it is difficult to track how long a field

artillery officer has been in an FSO billet as there are organizational issues with accurately reporting for personnel in their assigned BICs. Also, the addition of the FSO PMOS does not incur costs for equipment. Current tables of equipment for artillery battalions and regiments support FTSs without need of procurement for additional equipment to aid in the performance of their duties.

On training, a counter argument is that FSOs will be unable to effectively communicate timelines to their supported infantry commanders because they did not receive training on battery operations, or gunnery during, MAOBC. Artillery officers, trained as FDOs, can clearly articulate the amount of time required to process missions before they are fired in support of maneuver forces. The standards established in the Artillery T&R Manual provide enough granularity that non-artillery officers can infer the amount of time it takes to process missions.[22] As another example, Joint Terminal Attack Controllers (JTACs) are personnel that are qualified to clear the release of aviation ordnance during CAS missions. CAS requires detailed coordination as ordnance is often deployed within close proximity to friendly troops. However, even though JTACs are not pilots they are responsible for the routing and safety of flight of aircraft in their assigned battlespaces to prevent mid-air collisions as well as fratricide. Not being a pilot does not prevent them from managing risk and controlling overhead aircraft. The same is true for FSOs: not having training as an FDO does not prevent them from effectively performing their assigned duties.

An FSO PMOS reduces opportunities for Marine officers to command, lead, and build trust within their organizations. Regardless of being in a command billet or not, the expectation is that officers will lead Marines at all times. With the creation of an FSO PMOS, officers have the unique opportunity to lead smaller groups of Marines, at varying sizes depending on the

[22] Ibid, p 5-2

echelon, where they can focus more time and attention on the personal and professional development of the personnel under their charge. As an added benefit, the occurrence of discipline-related issues would likely decrease due to smaller unit sizes while unit cohesion would increase based off of prolonged continuity in officer leadership. Continuity in billets is important as, like most things, trust plays a critical role in the performance of a fires team. Too often are teams compiled at last minute and relationship building starts on the flight over to whichever theater the team will operate. In terms of command opportunities for lieutenant colonels, three currently exist at the active duty ANGLICOs. Because the number of command billets is small, it ensures the most qualified FSOs are selected.

Enabling the Joint Force for Future Conflict

Kotter looks at change in terms of urgency and states that when "…the rate is not pumped up enough, the transformation process cannot succeed and the long-term future of the organization is put in jeopardy".[23] Taken through that lens, the FSO PMOS is the quintessential means by which the Marine Corps can successfully enable the Joint Force with all domain fires in great power competition. A strong educational foundation for FSOs on all-domain fires planning, coupled with experience coordinating and executing fires consistently throughout their careers, provides the answers for MLR integration with the Joint Force. As Marines, they provide the additional experience for amphibious operations, making them uniquely qualified to serve as LNOs at the component level and to lead fires during the execution of wargames. As a direct result, operational plans will be better informed in the event of conflict with a peer-competitor as subject matter experts will participate through the planning and execution processes in support of those plans.

[23] John P. Kotter, *Leading Change: Why Transformation Efforts Fail*, p 60-61.

The creation of an FSO PMOS aligns with the Commandant's desire to reevaluate the Marine Corps' "…traditional models for organizing, training, and equipping the force to meet new desired ends" and better integrate with the Navy.[24] Modernization to meet the demands of great power competition will require the Marine Corps to integrate more closely with the Joint Force, the Navy in particular. This will prove especially during the employment of the MLR as the Marine Corps will be responsible for planning, coordinating, and executing all-domain fires missions through the use of anti-ship missiles. The principal implication of implementing this newly wrought capability is that the Marine Corps will have to work more closely with the Navy to properly de-conflict surface fires with friendly surface and sub-surface combatants. This process will undoubtedly resemble the current model utilized to de-conflict surface fires and aircraft, considering the battlefield must be viewed in all three dimensions, however the extended ranges of weapons systems will require additional coordination. Planners must take into careful consideration the ballistic trajectory of munitions from the point they initiate to the point where they terminate as well as de-conflict air, sea, and land maneuver forces in between. FSOs, being well versed in the planning and coordination of all-domain fires, will play a critical role in the process to facilitate timely fires for supported units. The MLR FSO, preferably a major or lieutenant colonel, would tie directly with FSO LNOs at the component-level to facilitate planning, coordination, and execution.

LNOs with the FSO PMOS have the ability to fill some of the gaps created by the MLR in terms of planning, coordination, and execution of all-domain fires. The emphasis of all-domain integration, started much earlier in their careers, will allow FSOs to have a better understanding of the detailed coordination required during complex amphibious operations. Additionally, more LNOs will be required across all echelons of command as the current

[24] David S. Berger, *CMC38 Force Design 2020 Report Phase I and II*, p 2

structure, which is currently largely OIF and OEF-oriented, does not compensate for newer capabilities. FSO LNOs have a unique perspective on the integration of all-domain fires that enable timely, and well-informed, decision cycles as part of targeting and decision boards with their supported commanders. As an example, an FSO LNO at the Combined Forces Air Component Command provides a maneuver-oriented perspective that may drive decisions for allocation and apportionment of aircraft in support of an amphibious operation. By having the requisite training, and experience, as an FSO in support of a ground-based maneuver unit earlier in their careers, they would provide an important perspective that may not be considered by Joint Force planners at the component level. The same holds true for the land and maritime components and would ultimately result in a holistic approach to all-domain fires in support of Joint Force operations.

FSO LNOs will also play a critical role in the dynamic targeting process. Defined as "Find, Fix, Track, Target, Engage, and Assess" (F2T2EA) and referred to as "the kill chain", the dynamic targeting process is utilized when targets are not preplanned in a targeting board.[25] F2T2EA is currently utilized by the air and maritime components of the Joint Force while the land component utilizes the Decide, Detect, Deliver, and Assess (D3A) methodology. FSO LNOs will facilitate the transition of D3A to F2T2EA by having an understanding of the Joint Force requirements for targeting, which will prove important as the MLR will be more closely aligned to the objectives of the Navy. Exposure to F2T2EA will start early in the careers of FSO and continue to build throughout their professions to best support the MLR. As such, they will act as an effective means to shorten the kill chain, namely the time required to prosecute a target set from the time of acquisition by a sensor to the time is ordnance is deployed by a delivery system. Time is a critical factor when viewed through the lens of great power competition;

[25] Joint Staff, *Joint Fire* Support *JP 3-09*, p IV-13; IV-14

unlike the experiences from OIF and OEF, future conflict will happen at a greater pace and will require timely and informed decisions to strike adversary assets. The concept of building situational awareness through the use of multiple assets and confirm positive identification, as commonly seen during OIF and OEF, will spell disaster for the MLR or the Joint Force considering the adversary will sense, target, and prosecute at greater speeds than experienced in previous conflicts. FSOs can mitigate some of the risk to the MLRs, and gain a better understanding in the tempo experienced during a great power competition, through their participation in wargames.

The process of wargaming is an excellent tool to develop plans for future conflict as it offers the Joint Force an opportunity to gain an understanding of enemy TTPs while concurrently devising its own to maintain a competitive advantage. A great power competitor's ability to leverage all-domain fires can greatly affect how friendly forces are distributed in an area of operations. For the MLR, this will prove critical as it is limited in its ability to maneuver in the littorals once is unmasks its position to employ its weapon system, or is detected by adversary collections assets, and it will largely determine which adversary threat capabilities are prioritized as part of targeting processes. Using a great power competitor to test these potentialities, considering their advanced A2/AD systems and positioning of naval surface assets in the littorals, the adversary can identify gaps in the developing employment considerations for the MLR. Utilized effectively by a peer-competitor across all domains, a peer-competitor has the ability to place the Joint Force in a perpetual state of reaction. The importance of the FSO in the aforementioned paragraphs can also be seen during the wargaming process. By having trained and experienced FSOs to roleplay as friendly and adversary forces in wargames, the Marine Corps can fill identified all-fires gaps to ensure the MLR cannot be targeted by adversary

weapon systems, shorten friendly kill chains by targeting critical adversary systems, and provide a more realistic game that stresses the friendly plan. To do otherwise places the burden of increased risk on MLR commanders.

Recommendations

As a means to improve mastery during entry-level training MAOBC must be divided into two separate schools: an Artillery Officer Course and a Fire Support Officer Course. After one month of instruction and practical application, covering both gunnery and fire support, students will be evaluated by the Fort Sill cadre to determine which of the two areas best suits their potential. Following designation as either artillery officer (0802) or FSO (0860), the class will divide and the remainder six-month academic year will be spent learning their MOS. As a result, FSO students will effectively receive nearly double the classroom time and practical application as compared to the current structure. Additionally, this will open space in the curriculum for additional instruction in critical, all-domain areas such as: aviation planning, with an emphasis on offensive air support and assault support planning that will serve as a good foundation for those students that end up at an ANGLICO for their B billet, information operations, targeting, and NSFS training. The desired ensdstate is to better prepare FSOs for the FMF through application of a "cradle to grave" career path that keeps them in their occupational field and ensures relevancy for future assignments.

FSO structure should be moved from the artillery battalions and consolidated into the artillery regimental headquarters. This organizational restructuring would enable the division Assistant FSCs (AFSCs), as the senior fire supporters, to influence the manning, training, and equipping all FSOs. This model is beneficial for several reasons. First, it promotes continuity

for FSOs in their organizations. It allows the AFSCs to forecast deployments and rotation dates, enabling them to place FSOs in the same FSTs for extended periods of time. This would dissolve the current construct of swapping FSOs between teams as they prepare for deployments or training exercises. It also affords them the opportunity to work with their supported units for extended periods of time and provides a better opportunity for FSOs to develop closer relationships with their commanders. Trust, once established, will be maintained for longer periods of time and reduce friction during training and deployments. Second, it provides better opportunities for FSOs to receive mentorship by senior FSOs within their organizations. This will prove critical for the personal and professional development of junior FSO as their leadership will remain in the same billets for longer periods of time. Congruently, this will reduce friction as all division FSOs will have a working relationship that is transferrable for training or combat operations at higher levels. Looking towards future concepts, this will shorten kill chains and allow the planning, coordination, and execution of fires to happen at greater speeds. Lastly, it promotes unit cohesion. An AFSC's ability to manage the personnel in their organization will enable junior FSOs to stay with the same FSTs for longer periods. This, in turn, will facilitate higher levels of unit cohesion for all parties within a FST. Much as the case in the previous two points, it enables trust and mentorship that will ultimately make the teams better over time.

FSOs must assume the FST leader and FSC billets at the infantry company and battalion-levels. Considering the six-month-long entry-level training paradigm for FSOs, they will be preeminently qualified to serve in those capacities. This will prove especially important as the Marine Corps transitions from the OIF/OEF mentality towards all-domain fires and considers the requirements for great power competition. Infantry weapons platoon and weapons company

commanders will still play a vital role in the FST, considering their training on the employment of organic mortar systems, however the orchestrator of all-domain fires is better suited for the FSOs. This will also enable weapons platoon and weapons company commanders to focus on the employment of their units to best suit the needs of their respective commands. Much as the case with artillery battalion and regimental commanders, it emphasizes the *command* in their billet description and absolves them from prioritizing between two disparate roles concurrently. This change will have positive effects on shortening the kill chain at lower echelons and facilitate units at the low-tactical level to gain and maintain the advantage.

The current Manpower Management Model must be changed to reflect FSO as a key billet. The current construct shows a constant flux of captains and majors that serve in key billets within their respective artillery units and places the *needs* of the individual to be competitive for advancement and promotion, as the priority in their organizations. As a result, cohesion suffers as battery commanders, or executive/operations officers, rotate billets on a constant basis. However, if battalion and division FSOs were considered in key billets, it would drastically reduce the amount of personnel in competition for key billet time. This methodology would consider the best, and most qualified, personnel for selection for both artillery officers and FSOs. In terms of FSOs, it would also serve as a mechanism to keep those officers in their billets for longer periods of time. Continuity is a recurring theme for FSOs and cannot be emphasized enough with the recommended changes to the current structure. Additionally, it would be beneficial during promotion boards for an FSO board member to accurately explain the career paths of eligible officers as they would have a profound amount of experience in the same field. This would also prevent instances where an artillery officer board member, who may not have much experience in the capacity as an FSO throughout their career, of providing an

incomplete picture of the billets held by FSOs considered for promotion. This change would take time as the restructuring would not be instantaneous, however it will prove critical for the future as the requirement for professionalized FSOs comes in higher demand during great power competition.

Conclusion

In conclusion, the Marine Corps must be prepared to address the challenges posed by emergent threats to amphibious operations as the proliferation of A2/AD systems are on the rise. The lessons learned from OIF and OEF, though costly through the sacrifice of human capital, are false prophets when compared to TTPs that will be required in the face of a credible great power competitor. Rising powers possess the means, modes, and ways to effectively conduct all-domain operations and had the distinct advantage of learning lessons from the Marine Corps' involvement in OIF and OEF. The significant contributions that the FSO PMOS brings to address the 2019 Commandant's Planning Guidance for 2023 and beyond cannot be understated or overlooked. Clearly redefining the roles and responsibilities of FSOs is important as the Marine Corps undergoes significant change. Education, as the framework for any MOS, plays an essential role in the development of fire support experts for future concepts. The current training curriculum must be tailored to support the development of the FSO PMOS. The integration of all-domain fires up to, and in some cases beyond, the component-level will become a cornerstone of Marine Corps contribution to the Joint Force. The resulting changes to typified career paths for FSOs will provide better, more qualified and experienced personnel at higher echelons and fill gaps in the current manning structure. Only through significant

organizational change, specifically in terms of the professionalization of FSO as a PMOS, will the Marine Corps be able to leverage its full capability in all-domain fires in support of MLRs. If FSO is not made into a PMOS, the MLR's ability to plan, coordinate, and execute all-domain fires in support of the Joint Force will be heavily degraded. The entire C5ISR-T system will be placed in a perpetual state of reaction during the conduct of operations. Given the circumstance, a great power competitor will exploit the weakness of the MLR's ability to provide timely fires and negate the employment of its systems as the disparity between risk to force and risk to mission will stifle Joint Force decision-making cycles. The appetite to employ the adversary with the MLR will decrease as the risk of detection for the MLR, and the lives of the personnel manning its systems, will drastically increase. The Marine Corps has the opportunity to hedge for success; acknowledgement and acceptance is the first step.

Bibliography

Brose, Christian. *The Kill Chain: Defending America in the Future of High-Tech Warfare*. New York, NY: Hachette Books, 2020.

Department of Defense. *Summary of the 2018 National Defense Strategy of the United States of America*. Washington, DC: Department of Defense, 2018.

Garcia, Marcial J., *Enhancing the Artillery Fire Support Model, Part I: A professional fire support organization*. Marine Corps Gazette: March, 2018.

Garcia, Marcial J., *Enhancing the Artillery Fire Support Model, Part II: A professional fire support organization*. Marine Corps Gazette: May, 2018.

Headquarters United States Marine Corps, *1st ANGLICO Home Page*, https://www.imef.marines.mil/Units/I-MIG/1ST-ANGLICO/, accessed 30 March 2021

Headquarters United States Marine Corps, *Commandant's Planning Guidance*. Washington, D.C.: July 2019.

Headquarters United States Marine Corps, *Force Design 2030*. Washington, D.C.: March 2020.

Headquarters United States Marine Corps, *Artillery Training and Readiness Manual*. Washington, D.C.: 2020.

Headquarters United States Marine Corps. *MCTP 3-10F Fire Support Coordination in the Ground Combat Element*. Washington, D.C.: 2018.

Headquarters United States Marine Corps, *Littoral Operations in a Contested Environment*. Washington, D.C.: 2017.

Headquarters United States Marine Corps, The Basic School Home Page, https://www.trngcmd.marines.mil/Northeast/The-Basic-School/, accessed 28 March 2021

Headquarters United States Marine Corps, *Total Force Structure Management System (TFSMS)*. Washington D.C.: October 2020.

Headquarters United States Marine Corps, *Total Force Structure Process*. Washington D.C.: November 2019.

Headquarters United States Marine Corps, *Warfighting*. Washington D.C.. 20 June 1997.

Joint Chiefs of Staff, *Information Operations*. Washington D.C.: Joint Chiefs of Staff, 2014.

Joint Chiefs of Staff, *Joint Fire Support,* JP 3-09. Washington D.C.: Joint Chiefs of Staff, 2019.
Joint Staff, *Integration of Lethal and Nonlethal Actions*. Washington D.C.: May 2016.

Marine Corps Warfighting Lab, *Expeditionary Advanced Base Operations (EABO) Handbook Version 1.1*. Quantico, Virginia : June 2018.

Marine Detachment, Fort Sill, *Marine Artillery Officer Basic Course Program of Instruction*. 2020.

Morris, Lyle J. et al, *Gaining Competitive Advantage in the Gray Zone*. Santa Monica: RAND Corporation, 2019.

Mozzi, Joseph R., *BOC_POI-Course_Structure DRAFT WFD 20210309*, Email correspondence 16 March 2021

Ulbrich, David J., *Thomas Holcomb and the Advent of the Marine Corps Defense Battalion, 1936-1941*, History and Museums Division, Marine Corps University, 2004