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TARGETING – Where's the Doctrine?

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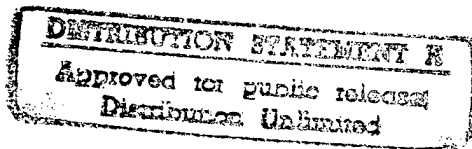
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SEMINAR 1

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.



Signature: 

13 June 1997

Paper directed by
CAPT G.W. Jackson
Chairman, Department of Joint
Military Operations

Reviewed by: COL AI Bergstrom

19970814 098

DTIC QUALITY INSPECTED 1

REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority:			
3. Declassification/Downgrading Schedule:			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization: JOINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol: NWC CODE-1C		7. Address: NAVAL WAR COLLEGE 686 CUSHING ROAD NEWPORT, RI 02841-1207	
8. Title: TARGETING --- Where's the Doctrine (UNCLASSIFIED)			
9. Personal Authors: ARTHUR M. BARTELL, LTC, US ARMY			
10. Type of Report: FINAL		11. Date of Report: 13 JUNE 1997	
12. Page Count: 22			
13. Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.			
14. Ten key words that relate to your paper: TARGETING, SYNCHRONIZATION, DOCTRINE, JOINT, JTCB, FSCL, JFACC, BCE, AOC, JFLCC			
15. Abstract: This report examines the current state of targeting doctrine in US military doctrine. The US Army has excellent targeting doctrine, but it is located in the Field Artillery series of field manuals. This perpetuates the attitude that targeting is a fire support responsibility. This is exacerbated in the joint environment because of a paucity of joint targeting doctrine. Targeting is synonymous with synchronization. In order to maximize combat power, commanders must ensure that the targeting/synchronization process is at the forefront of operational planning process. Targeting doctrine must be located in Operations manuals at all levels.			
16. Distribution / Availability of Abstract:	Unclassified X	Same As Rpt	DTIC Users
17. Abstract Security Classification: UNCLASSIFIED			
18. Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT			
19. Telephone: 841-6461		20. Office Symbol: C	

TARGETING – Where's the Doctrine?

INTRODUCTION

Why is targeting important? The targeting process is synonymous with synchronization of the fight. This is true in tactical, operational, and strategic environments as well as in war and military operations other than war (MOOTW).

Much has been written about targeting and the targeting process. The reason is obvious in as much as the concept of *combat power* is derived from the synergy of several factors: Maneuver plus firepower plus protection plus leadership equals combat power – the ability to fight.¹ Targeting and its attendant process are fundamentally interwoven into all four of the components of combat power, in some cases technically, but in all cases, philosophically. Therein lies the rub.

While intuitively, military leaders understand and accept this concept, contrary to the doctrine that exists on the subjects, targeting and the targeting process invariably fall into the hands of fire support and intelligence personnel. The problem in Army operations is that commanders and S3/G3s do not equate targeting with synchronization. Consequently, the targeting process often never makes it back into the operator's hands for efficient execution. In the joint environment, the problem is more profound; there is insufficient doctrine to assist the joint force commander in synchronizing the fight and maximizing combat power.

CURRENT DOCTRINE

Before delving into this problem, it would be useful to examine some of the doctrine that exists concerning targeting. Army doctrine's capstone document, FM 100-5 *Operations*, delineates fire support as one of the seven combat functions, (the others are intelligence, maneuver, air defense, mobility and survivability, logistics, and battle command), that help the commander build and sustain combat power. It is his responsibility to integrate and coordinate these functions to synchronize battle effects in time, space, and purpose.² This discussion is found under the *Fire Support* heading. Consequently, the groundwork is subtly laid for the misguided notion that targeting is a fire support responsibility. Under the same heading, fire support is defined:

Fire support is the collective and coordinated employment of fires of armed aircraft, land- and sea- based indirect fire systems, and electronic warfare systems against ground targets to support land combat operations at both the operational and tactical levels.³

From this, it is easy to see that fire supporters and commanders alike view the process, once the commander has given his guidance, as a fire support responsibility. There is no specific discussion or direction regarding the targeting process nor is there any discussion of the equation of targeting and synchronization. There is no guidance to the commander regarding the continuing complexity of target detection, prioritization, and attack.

That discussion, direction, and guidance will not be found in FM 100-6, *Coordinating Draft, Large Unit Operations*, either. This manual does, nonetheless, contain the only detailed discussion of the concept of operational

fires in Army doctrine. Again, however, there is no discussion of the targeting process or keeping it within the operator's channels. It does go so far as to place operational fires in the province of theater air forces,⁴ (albeit fire supporters), adding to the notion that the process is a fire support responsibility.

The Army loads its targeting process doctrine in the 6-, (fire support), series of manuals. FM 6-20, *Fire Support in the AirLand Battle*, the fire support capstone document, dovetails nicely with FM 100-5. You will find the same definitions of combat power and the fire support function as well as the same guidance that the force commander has the responsibility for the command, control, and coordination of the fire support system.⁵ The first direct discussion of the targeting process is also found in this manual. The objective and responsibilities are delineated. Furthermore, it spells out, by function, who participates in the process. Disturbingly, the only individual outside of fire support and intelligence personnel that is specifically mentioned is a G3 representative.⁶ There is no mention of the commander or chief of staff as well as no discussion as to how the process finds its way back into the operations channels.

Continued digging into the doctrine finally yields the mother lode, FM 6-20-10/MCRP 3-1.6.14, *Tactics, Techniques, and Procedures for The Targeting Process*. This remarkable document covers all aspects of targeting including a 27-page chapter dedicated to *Targeting in the Joint Environment*. Leading off that chapter is a description of the joint targeting process.

Targeting occurs at all levels within a joint command. It is performed at all levels by forces

capable of attacking targets with both lethal and nonlethal means. Targeting is complicated by the requirement to deconflict procedures and priorities between the different services or echelons or different nations in the same force. The joint force commander must synchronize attacks throughout all dimensions of the joint force.⁷

From there, the process is dissected starting with the integration of targeting and the campaign plan. There is a comprehensive discussion of component target processing focusing on differences in terminology and tactics, techniques, and procedures (TTP). The doctrine also addresses such controversial issues as the Air Tasking Order (ATO), apportionment, allocation, and interpretation of the Fire Support Coordination Line (FSCL).

The most significant aspect of the chapter, however, is the discussion of joint targeting organizations and activities. This section contains the most extensive descriptions of such elements as the Joint Targeting Coordination Board (JTCB), the Joint Intelligence Center (JIC), and the Battlefield Coordination Element (BCE) found in any US doctrine at any level. It also introduces an intriguing concept, the Joint Targeting Steering Group (JTSG). The JTSG has been used by some unified commands, but it is not currently defined in joint doctrine.⁸ The JTSG, as the title alludes, is a tool to help the CINC with apportionment, allocation and assignment of resources and more to the point, reconciliation of competing requests for resources within the theater.

FM 6-20-10 wrestles with the concept of a Joint Force Fires Coordinator (JFFC), another entity not addressed in approved joint doctrine.⁹ At corps and below, the fire support coordinator is the commander of the highest-level artillery

unit in the organization. In joint operations at echelons above corps, there is no requisite artillery unit so suddenly; there is confusion as to who is the commander's advisor on fire support issues. Joint doctrine handles this by not addressing the issue of a JFFC at all and exacerbates the problem by making the one targeting activity that could help the Joint Force Commander (JFC) control the complex targeting process, the JTCCB, an optional activity.

In addition to the excellent handling of *joint* targeting, FM 6-20-10, as would be expected, is the bedrock document for the *Army's* targeting doctrine. The TTP are detailed and cover the targeting process from the task force through the corps level. The same basic blueprint is used throughout; the establishment of the Targeting Team, target analysis and development, prioritization, and execution. The targeting process is designed to be an integral part of the planning process, also called the command decision cycle,¹⁰ and is the responsibility of the commander. The commander forms the targeting team that consists of essential members of the primary and special staffs. The Chief of Staff at the corps and division levels and the Executive Officer at the brigade and battalion level supervise the activities of the team. This is crucial, as it is intended overtly to insure that the targeting process stays focused and subtly to insure that it stays in the commander/operator channels.

The targeting methodology is time tested and based on the **decide, detect, deliver, and assess** functions performed by the commander and staff in planning and executing targeting.¹¹ Before probing the details of the methodology, the doctrine puts targeting into perspective.

Targeting is a combination of intelligence functions, planning, battle command, *weaponeering*, operational execution, and combat assessment. The decide, detect, deliver, and assess methodology facilitates the attack of the right target with the right asset at the right time.... The targeting process provides an effective method of matching the friendly force capabilities against enemy targets. Targeting is a dynamic process; it must keep up with the changing face of the battlefield.¹²

This is the essence of the process. The doctrine dictates that through the mission analysis and commander's estimate, the commander's intent and guidance are elucidated and the targeting team begins to develop targeting products. The S2/G2 conducts target value analysis and develops high value targets. These targets are deemed to be of significant value to the enemy's efforts. Using this list and the commander's priorities, the staff nominates high payoff targets. These targets, if attacked, will contribute significantly to the success of the friendly course of action.

The *decide* function results in several essential products for the overall targeting process. The High Payoff Target List (HPTL) prioritizes the high payoff targets and becomes the driving force for the intelligence collection plan. Obviously, target value is the primary consideration but other factors are important such as the ability to detect, identify, and track the targets, the ability to engage them, and the resources required to do all of that. The intelligence collection plan is designed to address the commander's critical and priority intelligence requirements as well as to prioritize and direct intelligence requirements. It is a collection strategy that encompasses the commander's

concept of operations and the availability of resources. The targeting team establishes target selection standards that address the accuracy and other specific criteria to be met before targets can be attacked. Nominations are separated into two categories; those that meet accuracy and timeliness criteria become targets, and those that do not are categorized as suspected targets which, must be confirmed before they are attacked. Finally, the Attack Guidance Matrix (AGM) is developed to address which targets will be attacked, when, how, and with what desired effect. The targeting team proposes the most efficient attack options based on the commander's guidance as to whether he desires to disrupt, delay, limit, damage, or destroy the enemy.¹³ The AGM is the blueprint that sets the conditions for tactical, operational and/or strategic success on the battlefield.

The next phase of the targeting methodology is the *detect* function. The targeting team's focus, with the S2 or G2 taking the lead, is directing efforts to find the targets identified in the *decide* function. This part of the process entails the synchronization of intelligence collection resources, regardless the level of unit or operations. The art involved with this is the ability to meld the technical with the operational, to craft a collection plan that encompasses all the resources necessary, addresses the commander's critical and priority information requirements (CCIR and PIR), and can be translated to operational graphics.

On the surface, the *deliver* function appears very straightforward. On some levels its merely the execute phase, shooting some sort of ordnance at the targets decided upon and detected. At the operational and joint levels, this

function takes on critical complexity. It requires the targeting team to satisfy the attack guidance. That requires several considerations, not the least of which is the optimum attack system; air launched versus surface; lethal versus non-lethal. The more complex the operation, the more complicated the *deliver* function becomes. In addition to addressing increasing degrees of risk, there is the possibility of having to coordinate multiple attack systems, different desired effects on different targets, and the synchronization of lethal *and* non-lethal resources on multiple targets. This always takes place in a resource-constrained environment and the plan must always remain flexible enough to handle changes to target location and makeup and targets of opportunity.

Finally, the assess function has the targeting team making a determination of the effectiveness of the attack systems, in essence, the entire targeting process. This combat assessment includes battle damage assessment, an assessment of munitions effectiveness, and perhaps most importantly, a re-attack recommendation. This function, too, is extremely resource intensive and requires careful synchronization. Performing combat assessment will likely require involvement of multiple combat and combat support systems that are already heavily committed. If the commander and his S3 or G3 are not intimately involved, then the distinct possibility exists that heavily committed assets will quickly become over committed. If the assess function is not adequately addressed in the plan the result could be wasted resources, missed opportunities, increased casualties, and ultimately, failure to achieve the objective.

What is there in joint doctrine to guide the JFC with joint fires and the complexity of joint targeting methodology? The answer, as previously alluded to, is that there is surprisingly and disturbingly little doctrine on these subjects. The joint community has obviously recognized the need for doctrine as indicated by the listing of Joint Pub 3-09, *Doctrine for Joint Fire Support*, found in Joint Pub 1-01.1, *Compendium of Joint Document Publications*. The scope:

Will encompass the concept of "Joint Fire Support" and establish doctrine and procedures for the planning and execution of all fires, to include common fire support coordination measures. It will also link intelligence and allocation of fire support efforts to assure that all forces are coordinated in their efforts.¹⁴

The problem is that this document is yet to be published.

Joint Pub 3-0, *Doctrine for Joint Operations*, contains a detailed description of the JTCB, highlighting its multiple functions, the most important of which is to assist the JFC with accomplishing broad targeting oversight functions. When addressing the targeting process, however, the reader is directed to Joint Pub 2-01.1, *Joint Tactics, Techniques, and Procedures for Intelligence Support to Targeting*, which unfortunately, is also yet to be published.

JP 3-0 opens the doors to several crucial fire support issues such as air apportionment and fire support coordination measures. With respect to apportionment, the necessity of considering the total effort is stressed, as well as an indication as to the role of the Joint Force Air Component Commander (JFACC) in the joint fire support effort. Regarding fire support coordination measures, as in FM 6-20-10, several pages are dedicated to the FSCL. Again,

this is because of the contentious nature of this particular measure between the Army and the Air Force.

Other references to fire support and its attendant methodologies, processes, activities and personnel are peripheral in nature. There are no other discussions that could be used as substantive guidance for the JFC or J3 to maximize the effectiveness this critical element of combat power.

DISCUSSION

The issue at hand is more philosophical than technical, though the technical aspects do have significant bearing on the problem. The lengthy discussion of doctrine is necessary to adequately frame the synchronization problem and lay the foundation for possible solutions. The Army and Marine Corps have excellent doctrine regarding the technical aspects of fire support and the targeting process, specifically FM 6-20-10/MCRP 3-1.6.14. Even with this great doctrine, however, there are significant problems with execution. They stem from the fact that, at least regarding the Army, all of the substantive fires doctrine is found in fire support documents. The reality is that fire supporters read this doctrine, not maneuver commanders or S3/G3s.

The sweeping language found in the 100-series FMs that repeatedly reminds the commander of his responsibility to coordinate and synchronize fires is understood. It is equally understood that fire support and targeting details are matters to be handled by fire supporters and intelligence personnel. This is a cultural terminology problem in that targeting = fire support. What is at stake is

operational synchronization, so perhaps there needs to be a paradigm shift to targeting = synchronization. The targeting team can execute the doctrine perfectly, but unless the commander and S3/G3 embrace the essence of the product and complete the process by assigning tasks to subordinate units, synchronization of the fight will not be realized.

Typically, what occurs is the HPTL and AGM are found in the Fire Support Annex and the CCIR, PIR, and Collection Plan are found in the Intelligence Annex. Subordinate commanders and S3/G3s do not routinely read these annexes and consequently, synergistic opportunity is lost. Additionally, combat power is not maximized nor is the effective use of resources.

If this occurs in the face of good doctrine and a single component, it is not difficult to envision the potential problems that can occur by moving to a joint environment with a paucity of doctrine. Unlike the problem that exists in the Army, good doctrine in the wrong place, the joint community simply does not have sufficient doctrine to assist the JFC in synchronizing his fight.

One explanation might be that the Joint Chiefs of Staff have decided that it is necessary to respect the sovereignty of the CINC/JFCs' turf, to allow them freedom of action and not over regulate or constrain them. This is probably not the answer however, because joint doctrine contains tactics, techniques, and procedures documents for many other joint disciplines. Additionally, JP 3-09, *Doctrine for Joint Fire Support*, and JP 2-01.1, *Joint Tactics, Techniques, and Procedures for Intelligence Support of Targeting*, are both pending publication. This indicates that the Joint Chiefs have recognized that there is a necessity to

provide guidance to aid the JFC in synchronizing the fight and maximizing combat power.

Perhaps the reason that there is little substantive doctrine for joint fires and targeting is that it is just too hard. Several of the elements of joint fires are disputatious in nature. The inability of the services, particularly Army and Air Force, to come to consensus may explain why two years after the publication of JP 3-0, *Doctrine for Joint Operations*, and six years after the end of Operation Desert Storm JP 3-09 and JP2-01.1 are yet to be published.

The one element of the targeting process that is discussed in any detail, the JTCB, loses its impact because joint doctrine makes its formation and composition an optional choice of the JFC. The logic of forming a structured activity whose purpose is to conduct the joint targeting process is difficult to dispute. The optional nature of this activity, both in formation and composition, may indicate the Joint Staff's willingness to accept lessons learned from Operation Desert Storm (ODS).

In ODS, there was a Joint Targeting Board (JTB) formed but it was ad hoc and not directed by the JFC. It did not function as a coordination and synchronization activity. Instigated by the head of the BCE because of perceived problems with the flow of targeting data, the JTB was merely an information clearing house. In theory, the BCE is the Joint Force Land Component Commander's (JFLCC) interface with the Air Operations Center (AOC). It is where the land battle is monitored and analyzed, and land component operational fires are coordinated and integrated with those of the air component.

The BCE is intended to be a critical linkage in the joint targeting process. If there is a problem with the target data flow between the BCE and the JFACC/AOC then there is fundamental problem with the joint targeting process.

In this case, several non-standard conditions existed. The most significant was that GEN Schwartzkopf, the CINC/JFC, chose to retain control of the land component as the JFLCC instead of designating that role to the ARCENT Commander.¹⁵ The main reason for this decision was apparently that the CINC anticipated complications in command and control of the combined land components, (coalition). Difficulties arose when the CINC/JFLCC issued targeting guidance directly to the JFACC. ARCENT was ostensibly cut out of the targeting process. ARCENT frustrations were only partially alleviated when the DCINC was designated as the head of the ad hoc JTB because the CINC continually made changes to the targeting process. ARCENT was just not capable of reacting quickly enough to keep up with those changes.¹⁶

This situation, coupled with the lack of joint targeting doctrine, served to exacerbate the philosophical differences between the Army, Air Force, and Marine Corps views on targeting and apportionment. The Air Force was singularly focused on the prosecution of a strategic air campaign. The CINC was directly involved in the development of target sets, which would have been good, if it had been done jointly. There was little or no consideration for the operational needs of the other components.

The JFACC, responding to CINC pressure, did not want to limit the strategic air campaign by apportioning aircraft to attack Iraqi Army targets. The

Air Force view was that by cutting off the proverbial head, the limbs would wither and die in time. The Army had a different view. ARCENT wanted a say in what targets were to be attacked south of the Euphrates River so the corps commanders could operationally shape their battlefields. Large numbers of targets were continually nominated for inclusion in the ATO by ARCENT but few were ever attacked and then it was only by coincidence that they happened to overlap with Air Force priorities.¹⁷

Without a disciplined joint targeting effort, grounded in coherent doctrine, ODS became an individual component fight instead of a synchronized effort that maximized the elements of combat power. It is the commander's responsibility to ensure that the results of the targeting process get into operational channels. In ODS, the JFACC controlled the strategic/operational fire support assets, fixed-wing air and the targeting process never got out of the air/fire support channels.

Joint doctrine writers must be very careful with the interpretation of ODS lessons learned. The decisive, overall success enjoyed by joint coalition forces masked the serious targeting controversy that existed. The issues concerned inefficiency, the inability to maximize and synchronize combat power, and the loss of synergy caused by components working individually.

RECOMMENDATIONS

Fixing the Army's targeting problem is a twofold process. The Army has good doctrine; the issue is where it is located. The Army's doctrine is contained in Field Manuals which are, for the most part, grouped by branch or functional

area, e.g. 3-series, NBC; 6-series, Field Artillery; 7-series, Infantry; 35-series, Intelligence. Targeting doctrine must get into the 100-series FMs, more specifically, into FM 100-5, *Operations*. The tactics, techniques, procedures, and details of the process should still reside in the 6-series and 35-series manuals. However, the discussion of fires, the operational fundamentals of the targeting process, and how the two are synonymous with the synchronization of combat power are important enough to warrant a separate chapter in FM 100-5. Title it *Synchronizing the Fight* and leave out the terms fire support and the technical, field artillery sounding, targeting.

It is important that the commander understands his responsibility to synchronize the fight by coordinating the elements of combat power. It is equally important that he be given the doctrinal tools to execute his responsibility. Without fundamental targeting doctrine located in the Army's primary operations doctrine manual, discussions of synchronization are merely rhetorical.

The second step of the process requires doctrinal discipline. It requires education and training. The resources are already available to provide the realistic, feedback oriented training for commanders and their staffs. The Combat Training Centers, the National Training Center for heavy forces, the Joint Readiness Training Center for light forces and the Combat Maneuver Training Center for heavy forces in Europe, must continue to ruthlessly stress adherence to the doctrine because the doctrine works. In the training centers, failure to coordinate and synchronize usually means failure to accomplish the mission.

The Battle Command Training Program, which trains division and corps commanders and staffs, must continually force them to take responsibility for the synchronization of the elements of combat power. Synchronization (nee targeting) meetings must become an institutionalized part of the organizations' battle rhythm. Commanders and their G3s cannot be allowed to let that responsibility slip, de facto, from their grasp.

Regarding joint doctrine, the first step is to get this critical doctrine in print. As with Army doctrine, joint doctrine must specifically address synchronization of the fight. The commander and his staff must be given the doctrinal tools that allow them to reap the synergy of synchronized operations that maximize all of the components. This synchronization doctrine must appear in JP 3-0, *Doctrine for Joint Operations*. Publication of JP 3-09, *Doctrine for Joint Fire Support*, is still necessary, but unless the fundamental targeting process is placed prominently in JP 3-0, the right people will not be reading it.

The Services must move beyond their differences in interpretation of fire support doctrine if there is ever any hope of truly being joint. The Army and Air Force Chiefs of Staff have recently come to consensus concerning the most contentious issues in fire support doctrine.¹⁸ This agreement must be formalized by immediately incorporating it into joint doctrine.

There is no reference in joint doctrine to a joint force fires coordinator (JFFC). This is a serious omission caused by Army/Air Force arguments over terminology. Consequently, there is no doctrine that addresses the fire support interfaces between the components. If the JFC chooses not to form a JTCCB and

there is no JFFC then there is no single activity or person to coordinate targeting and fires for the JFC.¹⁹ It is not important who the JFFC is or what he is called only that there is someone designated for that function. Several options regarding who the JFFC should be have been studied, with the conclusion being that the JFACC is the right individual.²⁰ However, this is a case where a situational option in the doctrine should be acceptable. In most large-scale joint operations the JFACC will play a major role and control the majority of the operational fire support assets, at least in the initial stages of the operation. There will be situations where this is not the case. In those situations, the JFFC should be the component commander who controls the majority of the operational fire support assets.

Another activity that should be addressed in joint doctrine is the JTSG. It is conceptualized as an entity to assist the JFC in apportioning theater-wide resources. By being involved in the joint targeting process, the JTSG is another tool to assist the JFC in maximizing combat power.

Finally, there is a strong temptation to recommend that the word targeting be stricken from the operational lexicon, at least as it refers to the process and elements of combat power. It should be replaced with the word synchronization, a term that all commanders and S3/G3/J3s understand and can relate too.

CONCLUSION

The discussion of commander's responsibilities regarding synchronizing the fight is moot unless he is provided the doctrine to help him execute those

responsibilities. The Army has excellent, albeit misplaced, targeting doctrine. The joint staff should use the Army's targeting process and methodology as the basis for joint targeting doctrine.

The Army must work towards a cultural change. The targeting process must be equated with synchronization. As long as commanders and S3/G3s continue to view the process as a technical fire support and intelligence function, there will never be complete synchronization of the fight.

The bottom line is the doctrine. We must get it out there in the right place so the warfighters can read, embrace, internalize it.

Targeting Process=Synchronization=Maximum Combat Power=Victory.

NOTES

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- ¹ Department of the Army, FM 100-5, *Operations*, (Washington, DC: 1993), 2-10.
 - ² *Ibid*, 2-12.
 - ³ *Ibid*, 2-13.
 - ⁴ Department of the Army, FM 100-6, *Coordinating Draft, Large Unit Operations*, (Ft Leavenworth: 1993).
 - ⁵ Department of the Army, FM 6-20, *Fire Support in the AirLand Battle*, (Washington, DC: 1988), 2-2.
 - ⁶ *Ibid*, 2-4.
 - ⁷ Department of the Army, United States Marine Corps, FM 6-20-10/MCRP 3-1.6.14, *Tactics, Techniques, and Procedures for The Targeting Process*, (Washington, DC: 1996), 3-1.
 - ⁸ *Ibid*, 3-4.
 - ⁹ *Ibid*, 3-5.
 - ¹⁰ *Ibid*, 1-3.
 - ¹¹ *Ibid*, 1-2.
 - ¹² *Ibid*, 2-1.
 - ¹³ *Ibid*, 2-8.
 - ¹⁴ Joint Chiefs of Staff, JP 1-01.1, *Compendium of Joint Document Publications*, (Washington, DC: 1995), III-11.
 - ¹⁵ Scales, Robert Jr., *Certain Victory: The US Army in the Gulf War* (Washington, DC: Simon and Schuster, 1993), 140.
 - ¹⁶ *Ibid*, 180, 181.
 - ¹⁷ Atkinson, Rick, *Crusade, The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin, 1993), 218, 219.
 - ¹⁸ *Fogelman, Reimer Reach Consensus on Counter Air, Fire Support Doctrine, Inside the Air Force*, 17, January 1997, 5.
 - ¹⁹ FM 6-20-10, 3-5.
 - ²⁰ Frederick S. Gisler, *Joint Force Fire Support: Who is the Coordinator?* Unpublished Master's Thesis, US Army Command and General Staff College, Ft Leavenworth, KS: 1991, 67.

GLOSSORY

AGM	Attack Guidance Matrix
AOC	Air Operations Center
ARCENT	Army Central Command also Third US Army
ATO	Air Tasking Order
BCE	Battlefield Coordination Element
BCTP	Battle Command Training Program
CCIR	Commander's Critical Information Requirements
CINC	Commander in Chief
CMTC	Combat Maneuver Training Center
CTC	Combat Training Centers
DCINC	Deputy Commander in Chief
FM	Field Manual
FSCL	Fire Support Coordination Line
FSCoord	Fire Support Coordinator
HPT	High Payoff Target
HPTL	High Payoff Target List
HVT	High Value Target
JCS	Joint Chiefs of Staff
JFACC	Joint Force Air Component Commander
JFC	Joint Force Commander
JFFC	Joint Force Fires Coordinator
JIC	Joint Intelligence Center
JLCC	Joint Land Component Commander
JMCC	Joint Marine Component Commander
JP	Joint Publication
JRTC	Joint Readiness Training Center
JTCB	Joint Targeting Coordination Board
JTSG	Joint Targeting Steering Committee
NBC	Nuclear, Biological, and Chemical
NTC	National Training Center
ODS	Operation Desert Storm
PIR	Priority Intelligence Requirements
TTP	Tactics, Techniques, and Procedures

BIBLIOGRAPHY

- Atkinson, Rick. *Crusade: The Untold Story of the Persian Gulf*. New York: Houghton Mifflin, 1993.
- Dade, Stephen W. *Adventures in Targeting*. Marine Corps Gazette, June 1992, 34-37.
- Bond, William L. *Targeting for Army Deep Attack*. Ft McNair, Washington: Industrial College of the Armed Forces, 1992.
- Fogelman, Reimer Reach *Consensus on Counter Air, Fire Support Doctrine*. Inside the Air Force, 17 January 1997, 5.
- Gisler, Frederick S. *Joint Force Fire Support: Who is the Coordinator?* Ft Leavenworth, KS: Command and General Staff College, 1991.
- Harvey, Harold T. *Division Targeting Cell Meetings - Are Yours Productive?* Field Artillery Journal, June 1994, 27-29.
- Herbert, Paul H. *Targeting - A Force XXI Combined Arms Concept*. Field Artillery Journal, January-February 1996, 8-10.
- Hood, Jay W. *Operational Fires and the Joint Force Commander*. Newport, RI: Naval War College, 1995.
- Johnson, Charles W. *Joint Targeting and the Joint Target Coordination Board: Let's Fix the Current Doctrine!* Ft Leavenworth, KS: School of Advanced Military Studies, 1996.
- Kluba, Robert F. *De-mystifying Joint Targeting*. Field Artillery Journal, January-February 1996, 4-7.
- Roberts, Jerry A. *Ocean Venture 93 and the Joint Targeting Board*. Field Artillery Journal, October 1993, 20-21.
- Powers, Christopher L. *Joint Warfighting without Joint Bureaucracy*. Newport, RI: Naval War College, 1993.
- Scales, Robert H. *Certain Victory: The US Army in the Gulf War*. Washington: Simon and Schuster, 1993.
- Schwartzkopf, Norman H. *It Doesn't Take A Hero*. New York: Bantam Books, 1992.

US Army. FM 6-20, *Fire Support in the AirLand Battle*. Washington: Department of the Army, 1988.

US Army. FM 6-20-30, *Fire Support at Corps and Division*. Washington: Department of the Army, 1988.

US Army. FM 100-5, *Operations*. Washington: Department of the Army, 1993.

US Army. FM 100-6, *Large Unit Operations (Coordinating Draft)*. Washington: Department of the Army, 1987.

US Department of Defense. Joint Pub 2-0, *Joint Doctrine for Intelligence Support to Operations*. Washington: Office of the Joint Chiefs of Staff, 1995.

US Army/US Marine Corps. FM 6-20-10/MCRP 3-1.6.14, *Tactics, Techniques, and Procedures for The Targeting Process*. Washington: Department of the Army, 1990.

US Department of Defense. Joint Pub 3-0, *Doctrine for Joint Operations*. Washington: Office of the Joint Chiefs of Staff, 1995.

US Department of Defense. Joint Pub 5-0, *Doctrine for Planning Joint Operations*. Washington: Office of the Joint Chiefs of Staff, 1995.

Veit, Rudy T. *Joint Targeting: Improving the Playbook, Communications and Teamwork*. Carlisle Barracks, PA: Army War College, 1996.

Walstrom, Terry L. *Coalition Targeting for Operational Fires: A Hit or a Miss?* Newport, RI, 1996.