

THIS FILE IS MADE AVAILABLE THROUGH THE DECLASSIFICATION EFFORTS AND RESEARCH OF:

THE BLACK VAULT

THE BLACK VAULT IS THE LARGEST ONLINE FREEDOM OF INFORMATION ACT / GOVERNMENT RECORD CLEARING HOUSE IN THE WORLD. THE RESEARCH EFFORTS HERE ARE RESPONSIBLE FOR THE DECLASSIFICATION OF THOUSANDS OF DOCUMENTS THROUGHOUT THE U.S. GOVERNMENT, AND ALL CAN BE DOWNLOADED BY VISITING:

[HTTP://WWW.BLACKVAULT.COM](http://www.blackvault.com)

YOU ARE ENCOURAGED TO FORWARD THIS DOCUMENT TO YOUR FRIENDS, BUT PLEASE KEEP THIS IDENTIFYING IMAGE AT THE TOP OF THE .PDF SO OTHERS CAN DOWNLOAD MORE!

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA, 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

1. REPORT DATE (DD-MM-YYYY) 02-02-2004		2. REPORT TYPE FINAL		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE "Why Won't You Drop, Damn You!?" - An Examination of the Targeting Process in Operation Enduring Freedom and its Implications				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) David D. Kindley, Lieutenant Commander, USN Paper Advisor (if Any): Professor H. Lynch				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Joint Military Operations Department Naval War College 686 Cushing Road Newport, RI 02841-1207				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Distribution Statement A: Approved for public release; Distribution is unlimited.					
13. SUPPLEMENTARY NOTES 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. ABSTRACT As the American way of war is evolving to emphasize maneuver, speed of execution and the extensive use of air power to support ground schemes of maneuver, the need for effective rapid targeting through decentralized execution is becoming more critical than ever. What are the lessons learned from Operation Enduring Freedom and how effectively have US forces implemented them in Operation Iraqi Freedom? This paper will examine the decision making process for rapid targeting in OEF from the strike fighter pilot through the watch officer at the Combined Air Operations Center in Prince Sultan Air Base to the operational commander. It will draw some conclusions on the effectiveness on the process in OEF and how lessons learned were applied in OIF. The three virtues of an effective operational commander called for in this paper are: (1) A clarity in communicating his intent, ROE and acceptable risk; (2) Foresight in designing his joint staff to handle crises quickly and correctly; and (3) An understanding of the capabilities and limitations in the new weapons systems at his disposal. The best environment to hone these skills is the training environment, long before actual combat. It is also apparent that the unexpectedness of combat in Afghanistan required a hasty command structure that allowed some confusion at all levels, from the operational commander to the trigger-pullers. At first impression, it appears that US Central Command learned the lessons from OEF and applied them with extreme effectiveness in OIF. One question that will have to be addressed as more data is available is whether CENTCOM over-reacted to challenges in OEF and allowed too much autonomy at the tactical level.					
15. SUBJECT TERMS Decentralized Control, TST, CAS, Rapid Targeting					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON Chairman, JMO Dept
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED			19b. TELEPHONE NUMBER (include area code) 401-841-3556

NAVAL WAR COLLEGE
Newport, R.I.

“WHY WON’T YOU DROP, DAMN YOU!?”

An examination of the targeting process in Operation Enduring Freedom and its implications

David D. Kindley
Lieutenant Commander, U. S. Navy

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

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

Signature: _____

2 February 2003

CAPT C. Helms, USN
Mr. Bob Reilly

Prof H. Lynch
Faculty Advisor

TABLE OF CONTENTS

Introduction
The Problem.....
Rules of Engagement.....
 The Reality of ROE
 Time Sensitive Targets
Taking Decentralized Execution to the Extreme: OIF.....7
 Command Structure.....
 Location, Location, Location 9
 The CNN Effect
 Technology.....
The Unexpected Theater15
 Training
 Conclusions

ABSTRACT

As the American way of war is evolving to emphasize maneuver, speed of execution and the extensive use of air power to support ground schemes of maneuver, the need for effective rapid targeting through decentralized execution is becoming more critical than ever. What are the lessons learned from Operation Enduring Freedom and how effectively have US forces implemented them in Operation Iraqi Freedom? This paper will examine the decision making process for rapid targeting in OEF from the strike fighter pilot through the watch officer in the Combined Air Operations Center at Prince Sultan Air Base to the operational commander. It will draw some conclusions on the effectiveness on the process in OEF and how lessons learned were applied in OIF.

The three virtues of an effective operational commander called for in this paper are: (1) A clarity in communicating his intent, ROE and acceptable risk; (2) Foresight in designing his joint staff to handle crises quickly and correctly; and (3) An understanding of the capabilities and limitations in the new weapons systems at his disposal. The best environment to hone these skills is the training environment, long before actual combat. It is also apparent that the unexpectedness of combat in Afghanistan required a hasty command structure that allowed some confusion at all levels, from the operational commander to the trigger-pullers.

At first impression, it appears that US Central Command learned the lessons from OEF and applied them with extreme effectiveness in OIF. One question that will have to be addressed as more data is available is whether CENTCOM over-reacted to challenges in OEF and allowed too much autonomy at the tactical level.

INTRODUCTION

In the last half of November, 2001, the Northern Alliance, supported by American Forward Air Controllers (FACs) on the ground and carrier based tactical air support, was making the final push into the Taliban-held city of Mazer e Sharif, located near Afghanistan's northern border. A section of F/A-18 Hornets, loaded with Joint Direct Attack Munitions (JDAMs), were holding overhead. The ground forces, receiving significant resistance from a building in clear view of their position, called for air support. The FAC read the coordinates to the waiting F/A-18s, received a positive read back and cleared the F/A-18s to employ their weapons. Nothing happened – no bombs fell. As the FAC was himself coming under fire from the structure, he radioed the aircraft overhead to find out what the problem was. "No problem" was the reply, "we are waiting for confirmation of the coordinates from the AWACS," the controllers in the large Air Force airborne command and control post orbiting over Afghanistan.

The F/A-18 pilot had passed the coordinates on to the AWACS, who was reading them to the Joint Forces Air Component Commander (JFACC) in Prince Sultan Airbase (PSAB), who was in turn checking the coordinates with the theater commander, U.S. Central Command (CENTCOM), in Tampa, Florida. The F/A-18 had been ordered to wait for confirmation of the coordinates and a collateral damage estimate (CDE) which would be completed in Tampa before the F/A-18 pilot was permitted to drop his weapon. This was standard procedure for employment of the GPS guided JDAM¹. *It typically could take up to two hours to get the go ahead.*

¹ The Joint Direct Attack Munition (JDAM) will be referenced often in this paper. It is a standard "dumb bomb" body, fitted with a guidance package that uses Global Positioning System (GPS) satellites for guidance. The pilot enters the target coordinates in the cockpit and drops the weapon when it is kinetically able to reach the target. It is important to understand that the bomb is designed to guide to the entered coordinates, with no provision to recall the bomb once released and no inherent capability to verify that the coordinates correspond to the actual aimpoint. A great advantage to the weapon is that it can be employed with precision through

Meanwhile, in Mazer e Sharif, the FAC's perspective was quite different: "I am receiving fire from this target and NEED your ordnance! Why won't you drop, damn you!"ⁱ

As the American way of war is evolving to emphasize maneuver, speed of execution and the extensive use of air power to support ground schemes of maneuver, the need for effective rapid targeting through decentralized execution is becoming more critical than ever. In the words of Joint Pub 3-30, "Decentralized execution is the delegation of execution authority to subordinate commanders. This makes it possible to generate the tempo of operations required and to cope with the uncertainty, disorder, and fluidity of combat."ⁱⁱ What are the lessons learned from Operation Enduring Freedom (OEF) and how effectively have US forces implemented them in Operation Iraqi Freedom (OIF)? This paper will examine the decision making process for rapid targeting in OEF from the strike fighter pilot through the watch officer in PSAB to the operational commander. It will draw some conclusions on the effectiveness on the process in OEF and how lessons learned were applied in OIF. It must be acknowledged that published data for OIF is presently limited, but some initial conclusions can be reached based on interviews with personnel involved in the operation.

THE PROBLEM

This paper will limit itself to three areas that not only had a significant effect on rapid targeting in OEF but offer real opportunities for improvement in the future. First, the Rules of Engagement (ROE) for OEF were poorly understood by both the trigger pullers themselves (both FACs and strike fighter pilots) and the commanders in PSAB. A better understanding of the

weather that would otherwise preclude air support. At the time of OEF, it was available only in the 2000 pound variant, which is the

system at the command level and a more effective dissemination to the operators can ensure immensely more effective decision making when time is of the essence. Second, the command structure from CENTCOM through the JFACC to the operators was not optimally designed for rapid, effective decision making. It is undeniable that this stemmed largely from political considerations and the ubiquitous presence of the media, yet there will always be hard decisions to make – such as choosing between unwanted collateral damage and desired effects. This will require the operational commander to lay the groundwork for effective decision making before the conflict takes place. Last, while the new group of “smart” weapons represents a significant jump in combat capability, it brings with it some new challenges as well. Relevant to this discussion is that operational and tactical fires can now easily be called for by ground units distant from the point of impact and attacked by air units not in sight of the objective. Many targets were designated in the Tora Bora region of Afghanistan, for example, with coordinates called in from FACs miles from the target area and attacked by aircraft 40,000 feet over the objective and above the weather. The operational commander must understand these new weapons with their attendant limitations and considerations if he hopes to employ them effectively.

For the purposes of this paper, the term “rapid targeting” will be used in reference to both Close Air Support (CAS) and Time Sensitive Targeting (TST)². There are significant differences between the two, of course, and where relevant, the two missions will be considered separately.

largest of the standard family of dumb bombs. OIF saw the introduction of the 1000 pound variant.

² Close Air Support (CAS) is defined in Joint Pub 3-09.3 as “Air action by fixed- and rotary-wing aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces.” Joint Pub 3-09.3 goes on to point out that the defining aspect of CAS is the need for detailed integration. An example of CAS would be a Forward Air Controller being engaged by enemy forces and calling for air support to suppress those forces. By contrast, TST deals with the broad subset of targets that are “of such high priority to friendly forces that the [Joint Forces Commander] JFC [or Combined Forces Commander (CFC)] designates [them] as requiring immediate response because [they] pose (or will soon pose) a danger to friendly forces, or [they are] a highly lucrative, fleeting target of opportunity,” using the Joint Pub 3-60 definition. Thus, CAS could be considered a subset of TST, differing only in the need for detailed integration.

The chief concern of this paper is the effective use of air power to deal with emergent targets that require screening and approval by higher authority in order to avoid excessive collateral damage or unforgiving political fallout and for these purposes, the two missions are certainly related.

RULES OF ENGAGEMENT

The Rules of Engagement (ROE) for a conflict govern the use of combat power and are intended to be clearly understood from the strategic level through the operational level and down to the tactical level “trigger puller.” Because Americans are trained to fight with a relatively high degree of autonomy, a firm grasp of the ROE ensures that the “strategic Corporal”ⁱⁱⁱ does not inadvertently compromise national policy through his tactical combat actions. While the standing ROE are never intended to compromise a unit’s inherent right to self defense^{iv}, they are necessarily restrictive in nature and tend more to limit the options available to the trigger puller.

In the event described in the introduction to this paper, the FAC’s right to self defense was clearly at issue and, within the limits of proportionality, he was well within the ROE to ask for friendly fires to suppress the enemy. Had the F/A-18 employed his JDAM on the FAC’s call, he would also have been within the ROE as published from CENTCOM well before the conflict commenced.^v Yet there was a clear consensus, from the F/A-18 pilot through the AWACS controllers and the watch officer at the JFACC’s Air Operations Center, that there was a requirement to confirm the coordinates before the JDAM could be employed. This incorrect understanding of the ROE was common to the strike fighters aboard both the USS Carl Vinson and USS Theodore Roosevelt.^{vi} How could this be?

The Reality of ROE

The ROE for the 5th Fleet Area of Responsibility (AOR) as applicable to the strike fighter pilots aboard USS Carl Vinson and USS Theodore Roosevelt was communicated in what has become a fairly standard procedure. The Judge Advocate General attached to the Carrier Group Commander disseminated written ROE, along with Special Instructions (SPINs) and each squadron was responsible for learning them. The JAG was available for face to face briefings, and many squadrons took advantage of it. Aviator knowledge was further developed via “what if” sessions and comprehension was evaluated via an ROE quiz. It was mandatory for all aviators to satisfactorily complete the quiz before going “feet dry” over Afghanistan.

In reality, the squadrons appointed an ROE Subject Matter Expert who was responsible for the material. He immediately made an effort to get whatever testing data was available (the “gouge”) from the JAG, and oversaw the testing process. Most of the squadrons took the test in a corporate fashion, discussing the questions as they were taking it. Most of the ROE focused on the Air to Air problem, with little attention paid to the employment of Air to Ground ordnance.^{vii} Prior to OEF, the prime concern of ROE was air-to-air, intended to ensure a fighter did not shoot down a friendly aircraft, mistaking it for an enemy. What discussion there was of Air to Ground (A/G) ROE fell into two broad categories: First, those involving targeting data obtained during pre-flight briefings by intelligence officers. The target data contained in the “target folders” distributed to the aircrew on the strike had been confirmed via a rigorous vetting process and data for such targets had been designated as valid via the JFACC’s Joint Targeting Control Board (JTCCB) in the Air Tasking Order (ATO). The origin of this target selection process was unimportant to the strike fighter, as arguably it should be. For the pilots, if the target was in a target folder and called for on

the ATO, it was a valid target by that very fact. The second category consists of those involving a FAC where, when he clears the aircraft to employ its weapon, he “buys the bomb”, ensuring he has proper target identification and is himself free from the frag pattern.³ From a strike fighter pilot’s perspective, if a FAC cleared him to drop on a target, that target was valid by definition.

The first category exists today, largely unchanged from pre-OEF characteristics. The Joint Targeting Control Board (JTTCB) allocates targets via the ATO and the targeteers perform a Collateral Damage Estimate before the strike fighters ever see it. This target set is outside the scope of this paper.

The second category is undergoing significant change today, however. With respect to Close Air Support, it is possible, even likely, that many targets will be engaged by units that are unable to verify they are targeting the same thing the FAC wants destroyed. The delivery of the Joint Direct Attack Munition (JDAM) is one example, in that it is typically employed from extremely high altitude and can be employed through cloud cover. Further, it is possible now for a FAC to call for fire on a target he cannot see himself. Systems that target the origin of enemy artillery fire, for example, can supply the FAC with sufficiently precise targeting information for him to call for fire from aircraft in his vicinity while he remains out of sight.

Time Sensitive Targets

Time Sensitive Targets (TSTs) are in a new category altogether and Joint Pubs have only recently even defined the concept. A very promising document intended to standardize TST

³ The effect from the explosion of a bomb is both from the blast and from the pieces of the bombs case, called “fragments” being blown away from the point of impact. The size of the affected area varies by warhead size and composition and is referred to as a “frag

procedures across the joint force has been developed by the US Army Training and Doctrine Command, US Marine Corps Combat Development Command, Headquarters Air Force Doctrine Center and Navy Warfare Development Command entitled TST: Multi-Service Procedures for Targeting Time-Sensitive Targets, but is yet to be published. Excellent examples of real world TSTs are the SCUD missile launchers so highly sought after in both Gulf Wars (Figure 1). Despite a heavy emphasis on the SCUD threat in the first Gulf War, the successful engagement of these TSTs appears to have been limited at best. High priority targets such as these are often developed outside the Joint Targeting process and targeting data is typically passed to the strike fighter as quickly as possible in order to take advantage of a transient vulnerability.

For OEF, the majority of air sorties not devoted to CAS were in the TST category. The typical criteria for a target to be engaged are three: (1) The target must be “positively identified”; (2) The area must be clear of friendly units; and (3) The effect of the ordnance striking the target cannot have undesirable effects on other structures or people nearby. This last condition, called a collateral damage estimate, is performed by determining if any structures or people fall within a certain radius of the aimpoint. This radius is dependent on the type of ordnance used, of course, and changes dramatically from a 2000 pound JDAM, for example, to a 500 pound GBU-12.⁴

pattern.” A FAC calling for fire is very interested in ensuring he is far enough away from the desired impact point to be free from the lethal effect of the bomb.

⁴ The JDAM and GBU-12 500 pound laser guided bomb were by far the most common Air to Ground ordnance used in OEF. OIF saw the introduction of the 1000 pound JDAM, combining an excellent capability to meet probability of damage (Pd) requirements and a significantly smaller Collateral Damage radius.

Taking Decentralized Execution to the Extreme: OIF

For CAS, the FAC is expected to be responsible for all three of the above criteria, but for time sensitive targeting, the person responsible for this determination is poorly defined. An example taken from OIF is illuminating in this regard. An F-14, patrolling in Northern Iraq, found a column of tanks moving toward friendly positions. The tanks were beyond the Fire Support Coordination Line⁵ (FSCL), meaning that clearance from a ground or airborne FAC was not necessary for the target to be engaged. In graphic contrast to OEF, the F-14 performed *its own* Positive Target Identification (PID), friendly position and collateral damage estimates (from altitude) and engaged the tanks, all of which actions were within the framed ROE for OIF.^{viii} This particular F-14 was outfitted with a fairly capable Forward Looking InfraRed (FLIR) sensor and a talented Weapons Systems Officer (WSO) in the other seat of the Tomcat. But even given that, the capability of the system and aircrew to perform satisfactorily to the above criteria is problematic. A typical FLIR picture from high to moderate altitude is presented in Figure 2. Is it possible to make out the tank in the picture? If so, what type is it?⁶

⁵ The Fire Support Coordination Line is designed to prevent friendly fire incidents. It is a line in front of friendly troops behind which an aircraft needs to be under positive control from a FAC to attack a target on the ground. If a strike fighter found a target beyond the FSCL, it would be legal to attack it without clearance from a FAC assuming all other ROE were satisfied as well.

⁶ This is a trick question. As far as I can tell, there are no tanks in the picture, and that is precisely my point. How can a strike fighter pilot or WSO make a PID decision, not to mention a collateral damage estimate, in the cockpit using this type of display?



A typical FLIR picture as seen in the cockpit of a strike fighter

Figure 2^{ix}

There was a sense among OIF strike fighters that that they should not engage targets they were unsure of. While this goes without saying for any professional American warrior, a very clear understanding of Commander's Intent and ROE is necessary at the trigger puller's level for this level of autonomy to succeed.

The operational commander will determine the level of autonomy he wants his units to exercise in combat. One of his prime vehicles for communicating that determination is his ROE. This ROE must be understood by all players in the conflict, from the component commander to the AWACS crew to the strike fighters to the FACs on the ground. OEF provides some excellent lessons for this process. Perhaps the most important one is that the Air to Ground (A/G) section of the ROE is at least important as the Air to Air section and is at least as complex. In the dynamic battlefield of the future, the joint force will be well served to focus more intensely on the A/G portion.

COMMAND STRUCTURE

"Nothing is so important in war as an undivided command"
Napoleon I: Maxims of War

Location, Location, Location

While Napoleon's comment is undeniably valid in the advocacy of unity of command, the command structure at CENTCOM took this concept to the extreme. For OEF, the Combatant Commander (COCOM), operational commander and Commander Joint Task Force (CJTF) resided in the same person. A similar arrangement was made for OIF and in 1990-1991 for Desert Storm. In truth, the classic arrangement of an operational commander designating a separate CJTF for a major operation or campaign is nearly unheard of in modern history. Even so, according to Joint Doctrine, "Combatant Command should be exercised through the commanders of subordinate organizations."^x The purpose for delegation to subordinate commanders is to allow the COCOM to broaden his focus to his entire theater and not be confined to a specific Area of Operations (AO). In addition, this frees up subordinates to act quickly and decisively. Joint Pub 3-0 states, "The JFC may elect to centralize selected functions within the joint force, but should strive to avoid reducing the versatility, responsiveness, and initiative of subordinate forces."^{xi} As a result of the command structure for OEF, the JFACC reported directly to CENTCOM for guidance on the employment of air forces in theater. Further, if a decision needed to be made that was above the level of JFACC for the employment of forces, the next position in line was CENTCOM located at MacDill AFB, Florida.

The location of the JTF is relevant for two reasons. First, the Joint Task Force Staff was on Eastern Standard Time, eight hours ahead of the local time in Afghanistan. The JTF battle rhythm was driven more by the local time of day in the Eastern US than the pace of events in theater. When a time critical decision needed to be made, therefore, the authority of the senior

watchstander in Tampa was unpredictable. It is illuminating that CENTCOM, while retaining JTF status over OIF, moved his headquarters to the theater for the second conflict. It could be argued that the position of the headquarters was chosen for OEF based on its accessibility to Washington D.C. While proximity to the President or SECDEF is certainly desirable for the COCOM, it is not for the JTF and, had CENTCOM delegated that position for OEF, it is possible that the headquarters would have been moved to a position closer to the AOR. This critical nature of the relationship between commanders is expressed in Joint Pub 3-0, “Unified action resulting from clear command relationships and unity of effort is crucial to making [fighting as a team] possible.”^{xii}

The CNN Effect

While there was overwhelming support for OEF domestically and internationally, the US Government continues to be sensitive to its image. The inadvertent destruction of a mosque, for example, or an “errant” bomb falling in a residential neighborhood could have strategic and political implications, especially given the ubiquitous presence of news agencies such as CNN. Indeed, the first thing one saw upon entering the Combined Air Operations Center (CAOC) in PSAB during OEF was a massive projection of the current CNN broadcast, dead center in the JFACC’s view. As the US becomes more of a dominant force globally, this concern can be expected to grow stronger, requiring planners to deal with it as a constant condition for the conduct of combat operations. The practice of “embedding” reporters with forces in OIF is an example of the military planning for media presence from the beginning.

Realistically, the rapid targeting process will not get any easier. Operational commanders will need to be diligent to communicate clearly the levels of delegated authority in the clearest

possible terms. It can be argued that a matrix of potential targets and delegated authority should become a standard part of all Commander's Intent as expressed in the Operation Order (OPORD). In fact, such a matrix appears to be referenced in Joint Pub 3-60: "JFC guidance on TSTs to component commanders supports different phases of the joint targeting process and includes defining TST engagement authority based on a component commander's operational area, a component commander's assigned functional mission, or a combination thereof. The JFC should normally define those situations, if any, where immediate destruction of the imminent TST threat outweighs the potential for duplication of effort. The JFC should carefully balance the risk between the TST threat and the potential for fratricide."^{xiii} An example taken from the yet unpublished TST: Multi-Service Procedures for Targeting Time-Sensitive Targets is presented in Table 1.

Acknowledging that the scrutiny of the use of military power will continue, it must be admitted that it is not unusual for military necessity to be subordinate to political considerations. It will never be the case, therefore, that a tactical decision maker is given complete autonomy to act as he sees fit. The operational commander can streamline the process as much as possible, however, by making it clear the level of autonomy he is willing to delegate for rapid targeting. While, this matrix will be different for every conflict, theater and commander, this is all the more reason for this decision process to be as clear as possible. "The key to accomplishing the required steps quickly enough to be effective against TSTs is to do as much of the coordination and decision making as possible ahead of time. Successful prosecution of TSTs requires a well organized and well rehearsed process for sharing sensor data and targeting information, identifying suitable strike assets, *obtaining mission approval*, and rapidly deconflicting weapon employment."^{xiv} [Emphasis added]

Notional CFACC TST Decision Matrix						
CFC Priority	TST Target Type	Desired Effect	Approval Authority	Additional Restrictions ¹	Acceptable Risk Level	Other Requirements or Notes
1	Critical Weapon System A	Prevent Launch	On-scene Flight Leader	--	HI ²	Strike immediately with any asset. Package recommended, but will GO without if required.
2	Personnel or Groups meeting X criteria	Isolate, Capture or Kill	CFC or above		HI	Notify CFC immediately & maintain sensor track. Package recommended / threat dependent.
3	Critical Weapon System B	Prevent Movement or Use	CFC		MED	Plume Analysis Required. Package Required.
4	Critical Weapon System C	Neutralize for Campaign Duration	TST Cell Chief	--	LOW	SEAD Required

Table 1
Sample TST Decision Matrix^{xv}

TECHNOLOGY

The operational commander has a vast array of new weapons systems at his disposal, from blue force trackers⁷, designed to deconflict friendly forces automatically, to Unmanned Aerial Vehicles (UAVs), which provide real time threat data far beyond what was previously available to GPS guided bombs and missiles which are able to reach targets with great precision and through adverse weather that would have precluded employment of other weapons in the inventory just five years ago.

⁷ The "Blue Force Tracker" is designed to provide all friendly combatants with the position of all other friendly combatants on the battlefield. It is intended to be used by the commander to better position his forces and by the trigger puller to avoid fratricide. It has many forms, most commonly as a small electronic device carried by the combatant that transmits his ID and status constantly.

But these new weapons bring new limitations with them as well. For example, a GPS-guided weapon will navigate itself to the coordinates it is given, whether those coordinates are valid or not. It is incumbent on the unit calling for fire to ensure those coordinates are, in fact, where the target is. In the past, strike fighters were able to verify a target with the FAC by radio, using a specific format to ensure that ambiguity was reduced as much as possible. As the weapon was employed, the FAC would get “eyes on” the employing aircraft, assessing his flight path and ensuring the aircraft was pointing in the right direction. In the days of GPS bombs, it is highly likely that the strike fighter pilot will never see the target and that the FAC will never see the aircraft. More than ever before, it is incumbent on the FAC to ensure he has positive target ID, that there will be no undesired collateral damage from the impact and that the coordinates he is relaying are accurate. In the words of the Joint Pub 3-09, “Though occasionally the result of malfunctioning weapons, air-to-ground fratricide has often resulted from confusion on the battlefield. Battlefield confusion contributes to misidentification of targets, location errors, target locations incorrectly transmitted or received, and loss of situational awareness by terminal controllers, aircrews, or requesters. It is critical for all participants in the air-to-ground process to realize that they can inadvertently cause friendly fire incidents.”^{xvi}

During OEF, the issue of target coordinates was poorly understood at several levels. There was a general conception that a JDAM required “mensurated” coordinates to be employed. Mensuration is a technical process used to ensure that, to a high degree of accuracy, the coordinates given are in fact where they are intended to be. Fielded forces were largely unable to mensurate their own coordinates. Indeed, for this conflict the ability to mensurate target coordinates resided mainly at CENTCOM with a less capable system available at the JFACC’s Combined Air Operations Center. The conception that JDAM “requires” mensurated coordinates

is manifestly false; it will guide to any form of coordinates given to it. Whether or not it will guide to the exact aimpoint is the chief concern. Here again, the JDAMs employed in OEF were all of the 2000 pound variety, meaning that a slight inaccuracy in target coordinates would result in a negligible variation on the desired effect and on the level of collateral damage. The requirement for mensurated quality coordinates stemmed entirely from an Operational Requirements Document stipulation, intended to be used during the acquisition process and not in combat employment.

The guidance given to strike fighter pilots and FACs from the JFACC, however, was that all coordinates needed to be mensurated before a GPS bomb was employed on them. This resulted purely from a misunderstanding of the capabilities and limitations of the JDAM at the operational leadership level and is precisely what must be avoided in the future.

The example given above is specific to JDAM, but it has wide application. Weapons such as the Tomahawk Land Attack Missile (TLAM), Conventional Air Launched Cruise Missile (CALCM), Army Tactical Missile System (ATACMS) and many future planned systems such as the Naval based “rail gun” are more examples of systems that, while bringing immensely enhanced capability to the operational commander, likewise bring significant concerns as well.

THE UNEXPECTED THEATER

Three weeks after the events of September 11th, aircraft launched from the USS Carl Vinson and USS Theodore Roosevelt were flying missions into the OEF AO. Prior to 9/11, military action in Afghanistan was not considered, at least at the tactical level of command, much less planned for. By contrast, US forces had been refining procedures for operations in Iraq for

more than a decade. Indeed, the CAOC, located in Saudi Arabia, was established and designed for the Operation Southern Watch mission. With the commencement of US military action against the Taliban, the CAOC was forced to redefine its focus drastically. It is very likely that many of the challenges faced by command and control in OEF would have been significantly lessened had there been more time to prepare. Many of the comparisons drawn in this paper, therefore, might need to be considered in this light. OIF had two major advantages over OEF. The first advantage was the preparation time mentioned above. Second, there was sufficient time to incorporate lessons learned from OEF into the force structure and procedures that were to become common to both conflicts.

TRAINING

For most Naval Aviators, the first time fire was called for by the US Army was in the skies of Afghanistan with live weapons hanging from the wings. Likewise, many of the AWACS crews and real-time controllers at the CAOC had never dealt with carrier aviation. A graphic example of this was the evident surprise at the CAOC that the carriers worked in cycles, meaning aircraft launches and recoveries were at preset, very rigid times and sending a fighter back to the carrier in the middle of the launch-land-respot cycle⁸ could easily result in an aircraft flaming out due to fuel starvation. There were other examples of deficiencies in training, especially in the radio work between a USA or USAF FAC and a USN aircraft. No effort had been made, prior to OEF, to standardize procedures across the joint force, much less to train to these standards. The publishing

⁸ During “cyclic” operations, with a cycle being 1.5 to 1.8 hours in duration, the aircraft on the flight deck would be in a state of nearly constant reconfiguration, or “respotting”, from a landing arrangement to a quite dissimilar configuration for launching. As a result, it is nearly impossible to discontinue a respot process in order to land a low fuel state aircraft that arrives too early for its designated landing time.

of the Joint CAS publication, Joint Pub 3-09.3, has been a dramatic improvement in this regard, bearing fruit already over Iraq.

The basic problem remains, however. Carrier Strike Groups simply do not train with their joint counterparts. On an irregular basis, some Naval Aviators will work with USMC FACs during workup training and exercises; a few may get to train with the US Navy Special Forces, the SEALs, but almost never with US Army or Air Force units, much less allies.

The problem may be chiefly one of a mismatch in workup cycles. Because the USN, USA and USAF all deploy on different schedules, there may be little opportunity for the joint forces to train together. If the joint force is to be expected to work more effectively together, then joint training should be considered a requirement. This is a subject that merits a paper of its own and will not be considered in the depth it deserves here, but the benefits of joint training are almost infinite. The force that trains together could reasonably be expected to work in a more standardized manner, familiar with the terminology and procedures of the other services. Further, the compatibility of hardware would be evaluated in training vice combat.

Combining the different workup cycles to allow for joint training will not be a simple job but it is well worth the effort. Perhaps the newly formed NORTHCOM would be in a position to oversee joint training in units being reconstituted in CONUS.

CONCLUSIONS

Operation Enduring Freedom left US forces with many lessons learned. In fact, OEF might be described as a warm up for the subsequent effort in Iraq. The concept of the “strategic Corporal” became critical with embedded reporters and real time feeds back to the United States. The amazingly advanced capabilities provided to US forces by technology, such as a vastly more capable system of command and control and a dazzling array of extremely precise “smart” weapons, constitute a true Revolution in Military Affairs. While the nation was still reeling from the attacks of September 11th, the President and the entire National Security Organization acted quickly to punish those responsible. The military was forced to improvise procedures for operations in a theater never before imagined.

All conflicts will require the trigger pullers and chain of command to have a clear understanding of Rules of Engagement. The important lesson from OEF was that the Air to Ground portion is critical and deserves at least as much attention as the Air to Air portion. Further, the methods by which the ROE are disseminated need to be designed to ensure all players understand the Commander’s Intent.

As was so graphically demonstrated in OIF, Americans tend to leverage their technological and training advantages to get inside the enemy’s decision cycle, often called his OODA Loop (for Observe, Orient, Decide, Act). This method of conducting warfare can be extremely effective, but the command structure must facilitate, from the beginning, rapid, effective decision making. This is not to say that all decisions should be at the level of the tacticians, but rather the decision matrix

should be understood at all levels and decision making authority should be delegated as far down the chain as possible.

It is not necessarily a good idea for the operational commander to be involved at all levels in the employment of the new “smart” weapons, but it greatly enhances the joint force’s effectiveness if the operational commander understands the capabilities and limitations of the weapons he is calling for. In the same manner that an operational commander needs to understand the capabilities of a SOF force he intends to use, so should he understand the new weaponry.

The three virtues of an effective operational commander called for in this paper, then, are understanding, foresight and clarity. The best environment to hone these skills is the training environment. One should ask how much better it would be to learn these lessons in a training environment rather than in actual combat. At first impression, it appears that US Central Command learned these lessons from OEF and applied them with extreme effectiveness in OIF. As Americans have demonstrated through history, we positively excel at second guessing ourselves after the fact. It remains to be seen what lessons OIF has in store for us.

BIBLIOGRAPHY

U.S. Joint Chiefs of Staff. Unified Action Armed Services (UNAAF). Joint Pub 0-2. Washington, DC: 10 July 2001.

U.S. Joint Chiefs of Staff. Doctrine for Joint Operations. Joint Pub 3-0. Washington, DC: 10 September 2001.

U.S. Joint Chiefs of Staff. Doctrine for Joint Fire Support. Joint Pub 3-09. Washington, DC: 10 September 2001.

U.S. Joint Chiefs of Staff. Joint Tactics, Techniques and Procedures for Close Air Support. Joint Pub 3-09.3. Washington, DC: 3 September 2003.

U.S. Joint Chiefs of Staff. Joint Doctrine for Targeting. Joint Pub 3-60. Washington, DC: 17 January 2003.

Navy Warfare Development Command. TST: Multi-Service Procedures for Targeting Time-Sensitive Targets. Unpublished Draft, Newport, RI: 2003.

Alberts, David. The Unintended Consequences of Informational Age Technologies. Washington: National Defense University, 1996.

Barnett, Thomas, P.M. "The Seven Deadly Sins of Network Centric Warfare." U.S. Naval Institute Proceedings (January 1999).

Bingham, Price T. "Seeking Synergy: Joint Effects-Based Operations." Joint Force Quarterly, Spring 2002, p. 52-59.

Dahl, Erik J. "Network Centric Warfare and the Death of Operational Art." Unpublished JMO Faculty Paper, US Naval War College, September 2001.

Dumas, Russell. "Micromanagement and a Commander's Lack of Operational Vision: A Case Study of Operation Allied Force." Unpublished Research Paper, US Naval War College, May 2001.

Ricks, Thomas E. "Un-Central Command Criticized" Washington Post (3 June 2002): A01.

Roman, Gregory A. *The Command or Control Dilemma: When Technology and Organizational Orientation Collide*. Maxwell AFB, AL: Air University, 1997.

Vego, Milan...

ⁱ This was a personal experience. I was serving my department head tour in Strike Fighter Squadron Ninety-Four throughout the OEF conflict and this event was related to me by a junior officer seeking advice on what he "should have" done. His distress, coupled with the FAC's tone of voice from watching and listening to his tape, is what prompted me to write this paper.

-
- ii Joint Chiefs of Staff, Command and Control for Joint Air Operations, Joint Pub 3-30 (Washington, DC: 5 June 2003), viii.
- iii This term was coined by General Krulak, USMC, during the Bosnian conflict to describe the implications of a Marine Corporal conducting an on-camera interview with CNN. Statements made by this individual could easily have strategic implications as they would likely be viewed by an information starved public and influenced by a possibly slanted journalist. The Marine erecting an American flag in Basra in the early stages of OIF is one good example.
- iv Rules of Engagement always allow for a unit's self defense, but defining just what "self-defense" is falls into a very gray area that is constantly frustrating to trigger pullers. Issues like pursuit and the defense of allies or civilians, while fascinating to the lawyers, are difficult decisions that have to be made by junior officers and enlisted men and women with often no access to council and no time to think, with lethal ramifications. The investigation process into that decision, however, can involve many lawyers and can take lots of time.
- v Details of the ROE as published are classified, but can be viewed at the CENTCOM SIPRNET Website.
- vi This statement is derived from both my experiences as an air wing strike lead in Carrier Air Wing Eleven aboard the USS Carl Vinson and from interviews with strike fighter pilots from both ships since the conflict. Of interest, the USAF pilots I have spoken with appeared to be fairly evenly divided on the issue, with some believing the F/A-18 should have dropped and some thinking that he should have called for confirmation first. This data was not platform specific, as I spoke with B-1, B-2 and F-16 pilots with no apparent correlation between results and platform. Interestingly, when some USAF pilots common to one platform were interviewed together, they expressed surprise at the differing views of their counterparts. Clearly, there is a problem with misunderstanding a common message.
- vii This is my personal experience, but it has not changed through two sea tours, three combat deployments, three major operations and numerous training cycles.
- viii This event was related to me by a senior strike-lead qualified F-14 WSO of his own experience. Permission to engage targets using ownship PID, friendly and CDE determination was not specific to him or to the F-14 however.
- ix Joint Chiefs of Staff, Joint Doctrine for Targeting, Joint Pub 3-60 (Washington, DC: 17 January 2003), I-7.
- x Joint Chiefs of Staff, Unified Action Armed Forces (UNAAF), Joint Pub 0-2 (Washington, DC: 10 July 2001), III-4. This passage is in boldface.
- xi Joint Chiefs of Staff, Doctrine for Joint Operations, Joint Pub 3-0 (Washington, DC: 10 September 2001), II-12.
- xii Ibid, Chairman's Letter.
- xiii Joint Chiefs of Staff, Joint Doctrine for Targeting, Joint Pub 3-60 (Washington, DC: 17 January 2003), B-1.
- xiv Ibid, B-1.
- xv Navy Warfare Development Command, TST: Multi-service Procedures for Targeting Time-Sensitive Targets, (Unpublished Draft, Newport, RI: 2003), III-5.
- xvi Joint Chiefs of Staff, Doctrine for Joint Fire Support, Joint Pub 3-09 (Washington, DC: 10 September 2001), IV-13.