

AU/ACSC/036/1998-04

AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

JV 2010: HOW THE PRECISION ENGAGEMENT OF  
OFFENSIVE AIRPOWER APPLIES TO MILITARY  
OPERATIONS OTHER THAN WAR (MOOTW)

by

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A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

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Maxwell Air Force Base, Alabama

April 1998

# 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) 01-04-1998	2. REPORT TYPE Thesis	3. DATES COVERED (FROM - TO) xx-xx-1998 to xx-xx-1998
---	--------------------------	--

4. TITLE AND SUBTITLE JV 2010: How the Precision Engagement of Offensive Airpower Applies to Military Operations Other Than War (MOOTW) Unclassified	5a. CONTRACT NUMBER
	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S) Brown, Francis M. ;	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME AND ADDRESS Air Command and Staff College Maxwell AFB, AL36112	8. PERFORMING ORGANIZATION REPORT NUMBER
--	--

9. SPONSORING/MONITORING AGENCY NAME AND ADDRESS ,	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT APUBLIC RELEASE ,
---

13. SUPPLEMENTARY NOTES
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14. ABSTRACT JV 2010 defines four operational concepts, providing the services specific areas to concentrate efforts in order to achieve full spectrum dominance of the battlespace across the range of military operations. Precision engagement is both a JV 2010 operational concept and an Air Force core competency, denoting its importance to the use of airpower. If precision engagement applies across the spectrum of conflict, more detail is required to specifically apply this to military operations other than war (MOOTW). The basis of continued current and future military involvement in MOOTW begins at the strategic level, from the National Security Strategy through the National Military Strategy and joint and service doctrine. This doctrinal examination provides details of how the operational concept of precision engagement of offensive airpower is applicable to specific types of MOOTW. Analysis of the relevant doctrinal concepts from the operational level provides specific details on what the USAF can achieve with offensive airpower, combined with precision engagement in MOOTW. MOOTW require a high level of precision due to the political consequences that must be considered when using military might to coerce a political settlement in a conflict short of full scale war. The use of precision offensive airpower in MOOTW will provide the NCA with the leverage needed to achieve national objectives, while minimizing risks.
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15. SUBJECT TERMS
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16. SECURITY CLASSIFICATION OF:	17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19. NAME OF RESPONSIBLE PERSON
a. REPORT Unclassified	Public Release	44	Fenster, Lynn lfenster@dtic.mil
b. ABSTRACT Unclassified			
c. THIS PAGE Unclassified			

	19b. TELEPHONE NUMBER
	International Area Code
	Area Code Telephone Number
	703767-9007
	DSN
	427-9007

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### *Abstract*

*JV 2010* defines four operational concepts, providing the services specific areas to concentrate efforts in order to achieve full spectrum dominance of the battlespace across the range of military operations. Precision engagement is both a *JV 2010* operational concept and an Air Force core competency, denoting its importance to the use of airpower. If precision engagement applies across the spectrum of conflict, more detail is required to specifically apply this to military operations other than war (MOOTW).

The basis of continued current and future military involvement in MOOTW begins at the strategic level, from the *National Security Strategy* through the *National Military Strategy* and joint and service doctrine. This doctrinal examination provides details of how the operational concept of precision engagement of offensive airpower is applicable to specific types of MOOTW. Analysis of the relevant doctrinal concepts from the operational level provides specific details on what the USAF can achieve with offensive airpower, combined with precision engagement in MOOTW.

MOOTW require a high level of precision due to the political consequences that must be considered when using military might to coerce a political settlement in a conflict short of full scale war. The use of precision offensive airpower in MOOTW will provide the NCA with the leverage needed to achieve national objectives, while minimizing risks.

## Chapter 1

### Introduction

*Where there is no vision, the people perish.*

—*Proverbs 29:18*

The document that is defining the 21<sup>st</sup> century vision for the Department of Defense (DOD) is *Joint Vision 2010 (JV 2010) America's Military: Preparing for Tomorrow*. In broad brushstrokes *JV 2010* sets the stage for future military operations by defining four key operational concepts; precision engagement, dominant maneuver, focused logistics, and full dimensional protection. These operational concepts provide a template of the vision of the Chairman of the Joint Chiefs of Staff (CJCS) for the future. The implementation of these concepts will guide the services on where to focus their acquisition and training efforts. The results will be “full spectrum dominance” of the 21<sup>st</sup> Century battlespace, across the range of military operations.

The *National Security Strategy For A New Century (NSS)* states that US leadership and involvement in international crises and problems are essential to a more prosperous America. US military involvement in military operations other than war (MOOTW)<sup>1</sup> are becoming the predominant military missions today. Supporting this, the 1997 *Quadrennial Defense Review (QDR)* indicates that US military involvement in MOOTW is expected to remain high for the next 15 to 20 years.

If the National Command Authorities (NCA), and the military's visions of the future indicate that we are going to continue to be more involved in MOOTW, the relevance of the operational concepts contained in *JV 2010* regarding MOOTW warrant deliberate examination. An examination of how airpower relates to the concept of precision engagement covers a broad spectrum of applications. It could include the delivery of precision guided weapons to a target, to the precise air dropping of supplies to refugees, or the precise acquisition of aerial intelligence from various airborne sensors in a timely manner. However, the focus of this paper is to explain in more detail how the *JV 2010* operational concept of precision engagement applies to the use of "offensive airpower" in MOOTW.

One futurist, John L. Petersen, in *The Road to 2015* lays out his vision of future military roles:

"Military planners believe that wars will be primarily small and regional, stemming from local antagonisms and the ambitions of third world rulers. Peace will be restored by the joint effort of the entire world community as in the Gulf War. One indication of this trend is that developed countries are dramatically decreasing their military forces and defense budgets."<sup>2</sup>

This 1994 description of anticipated future conflicts lends itself towards MOOTW as a coalition, enforcing sanctions or coercing rogue nations into either peace with their neighbors or compliance with international rules. Recent MOOTW examples of NATO involvement in Bosnia and the continuing standoff with Iraq over weapons of mass destruction (WMD) seem to fit Petersen's description of military roles.

### **Offensive Airpower Defined**

For the purpose of this discussion, the term "offensive airpower" is defined in terms that relate to the use of airpower putting "bombs on target." The scope is not limited to

manned aircraft, or just fighters and bombers. Offensive airpower is any use of airborne platforms or weapons to put any type of munitions (lethal or non-lethal) on a target. The focus here is on those platforms or systems that can engage with precision. Precision means the ordinance is delivered with some type of guidance in order to ensure its impact on a specific point. This type of airpower can come in the form of fighters, bombers, helicopters, missiles, or unmanned aerial vehicles (UAV's) from any of the services.

This analysis of the use of offensive airpower in MOOTW is doctrine based and the tactical details of which type of platform delivers the precision munitions is not relevant to the discussion. Included is analysis on the degree of precision and methods used to attain precision as it relates to MOOTW. All of the military services currently have precision engagement capabilities using offensive airpower. They continue to develop and acquire newer systems and weapons to improve this ability for the future. This analysis focuses on Air Force doctrine and capabilities. This serves to limit the scope of the research, and focus on the service that has the dominant role for the precision engagement of offensive airpower. Air Force doctrine supports this assumption as follows:

The Air Force is clearly not the only Service capable of precise employment of its forces, but it is the Service with the greatest capacity to apply the technology and techniques of precision engagement anywhere on the face of the Earth in a matter of hours or minutes.<sup>3</sup>

The first areas of focus are the definition of MOOTW and the premise for US continued involvement in these operations. If future involvement is forecast, then we must define what types of MOOTW are best suited to the application of offensive airpower. Using joint doctrine as the basis, the specific types of MOOTW that support offensive airpower are defined. Next, the term precision engagement is explored in

relation to offensive airpower and Joint and USAF doctrine. The different types of precision engagement of offensive airpower are discussed and analyzed. Once a foundation is laid for the use of offensive airpower in MOOTW, we need an example of how to use this concept.

Operation Deliberate Force, the air campaign against the Bosnian Serbs in 1995 is an example of the how the precision engagement of offensive airpower was applied in MOOTW. Specifically, how was offensive airpower used? Was it effective? Is this something that we are going to see more of in the future? What can be learned from this to improve our future abilities? All of these concepts are relevant if precision engagement does indeed apply across the range of military operations.

In sum, this analysis covers the application of the relevant joint doctrine in relation to how the USAF is implementing the *JV 2010* operational concept of precision engagement in its own doctrine and operations. Also analyzed is how offensive airpower and precision engagement can be used within guiding doctrinal principals coercively to achieve national security objectives in specific types of MOOTW. This evaluation of *JV 2010*, as it relates to MOOTW, shows how the Air Force has implemented the concepts of *JV 2010* into it's own vision and doctrine. It also defines how the concept of precision engagement of offensive airpower relates to MOOTW. This provides an additional level of detail not contained in *JV 2010* or current doctrine.

## **JV 2010**

The Chairman of the Joint Chiefs of Staff describes *Joint Vision 2010* as “an operationally based template for the evolution of the Armed Forces for a challenging and uncertain future. It must become a benchmark for Service and Unified Command

visions.”<sup>4</sup> Since its publication in July 1996, *JV 2010* provides the services with a point of departure for guiding their own visions and the design of forces for the 21<sup>st</sup> century. All of the services have sought to use *JV 2010* as the basis for refining and focusing effort towards forces that will provide the NCA with “full spectrum dominance” in the 21<sup>st</sup> Century.

Precision engagement is one of the four operational concepts contained within *JV 2010* that focuses on specific future military capabilities. Precision engagement is defined as, “a system of systems that enables our forces to locate the objective or target, provide responsive command and control, generate the desired effect, access our level of success, and retain the flexibility to reengage with precision when required.”<sup>5</sup> These concepts are meant to guide the armed forces on their quest for full spectrum dominance of the future battlespace. However, *JV 2010* does not provide details of “how” we are going to achieve “full spectrum dominance.” Nor does it provide linkage to the many different uses for the military instrument of power (IOP), within operations doctrinally defined as MOOTW.

### **USAF and JV 2010**

General Ronald Fogleman, former Air Force Chief of Staff declares total support for *JV 2010*; “The Air Force fully embraces the *Joint Vision 2010* concept. Doing so will give us a better understanding of how and to what extent the Air Force is committed to integrating our capabilities into the joint environment and providing full-spectrum dominance for the joint warfighter.”<sup>6</sup> The Air Force integrated these concepts into its own doctrine. The latest version of *Air Force Doctrine Document 1 (AFDD-1)* lays out

the framework for how the USAF intends to dominate its part of the 21<sup>st</sup> century battlespace.

In response to *JV 2010* the Air Force developed doctrinal “core competencies” to compliment and refine how it will achieve full spectrum dominance of the battlespace. The Air Force adopted the operational concept of precision engagement as one of its core competencies. Offensive airpower provides flexible, accurate, and focused military might in support of national objectives. *AFDD 1* details the abilities of USAF precision engagement as “providing the scalpel of joint service operations—the ability to forgo the brute force-on-force tactics of previous wars and apply discriminate force precisely where required.”<sup>7</sup> But first, how do you use this scalpel to cut the very tough MOOTW problem?

### Notes

<sup>1</sup> MOOTW is the currently the accepted doctrinal term for military operations short of full scale interstate conflict or theater warfare. The current *National Security Strategy (NSS)*, *National Military Strategy (NMS)* and *The Quadrennial Defense Review (QDR)* uses the term “Smaller Scale Contingency Operations” (SSC) to define the same type of military operations. MOOTW is the term used in current joint and service doctrine and for clarity will be used throughout this paper. Smaller Scale Contingency Operations may become the new term to replace MOOTW in joint and service doctrine in the future.

<sup>2</sup> John L. Petersen, *The Road to 2015 Profiles of the Future*, (Waite Group Press, Corte Madera, CA. 1994), 274.

<sup>3</sup> Air Force Doctrine Document (AFDD) 1. *Air Force Basic Doctrine*. (Headquarters Air Force Doctrine Center, Maxwell AFB, AL. 1997), 30.

<sup>4</sup> Joint Vision 2010. *America’s Military: Preparing For Tomorrow*. (Fort Monroe Virginia: Joint Warfighting Center, 1996), i.

<sup>5</sup> *Concept for Future Joint Operations (CFJO)* Joint Electronic Library (JEL) J-7 Joint Staff, CD-ROM, May 1997, 17.

<sup>6</sup> General Ronald R. Fogleman. *The Air Force and Joint Vision 2010*. On-line, Internet, October 1997, available from <http://www.af.mil/lib/afissue/1997/issues22.html>

<sup>7</sup> Air Force Doctrine Document (AFDD)1, *Air Force Basic Doctrine*, (Headquarters Air Force Doctrine Center, Maxwell AFB, AL. 1997), 30.

## Chapter 2

### **Military Operations Other Than War (MOOTW)**

*I am committed to sustaining our active engagement abroad in pursuit of our cherished goal – a more secure and prosperous America in a more peaceful and prosperous world where democracy and free markets know no limits.*

—President William J. Clinton  
*A National Security Strategy For A New Century*

Continued active US involvement abroad responding to the changing strategic environment is outlined in the President’s May 1997 *NSS*. The President states his intentions to “remain engaged abroad and work with partners new and old to promote peace and prosperity. We can—and we must—use America’s leadership to harness global forces of integration, reshape existing security, economic and political structures, and build new ones that help create the conditions necessary for our interests and values to thrive.”<sup>1</sup> The protection of US interests worldwide and the continued leadership of the United States politically, economically and militarily are essential to the implementation of this guidance.

Continued and active involvement in MOOTW are clearly stated in the *NSS*. “These operations [MOOTW] will likely pose the most frequent challenges for US forces and cumulatively require significant commitments over time.”<sup>2</sup> The CJCS comes to the same conclusions in the *National Military Strategy (NMS)*. “Given the strategic environment, the US military undoubtedly will be called upon to respond to crises across the full range

of military operations, from humanitarian assistance to fighting and winning major theater wars (MTW's) and conducting concurrent smaller scale contingencies."<sup>3</sup> MOOTW are critical to the United States continuing to be a leader in shaping the strategic environment to promote our interests. As the world's only superpower, the US must remain engaged around the world. The US will continue to promote peace and ensure security, using military forces either as a show of force or in a coercive role to protect or promote US national interests. The ability of the military to successfully achieve these objectives is critical to ensuring our leadership and interests abroad.

### **Types of MOOTW**

*JP 3-07* depicts the range of military operations currently doctrinally defined as MOOTW. This range is defined along a spectrum from combat operations in a MTW, to operations that will definitely be non-combat. The non-combat, "promote peace" operations, can not benefit from the use of offensive airpower as I have defined it. By doctrinal definitions, promote peace operations will not require airpower to put bombs on target as a part of their missions. However, these operations can evolve, requiring offensive airpower, particularly the use of strikes or raids. If they do evolve, these operations will fall into the deter and resolve conflict category. Accordingly, promote peace operations do not require or include the stated definition of offensive airpower unless they evolve into another type of operation. Promote peace operations could also require a strike or raid separately to support their objectives but, this would also be outside their primary definitions.

Offensive airpower can be used unilaterally or in combination with other military forces in the following types of doctrinally defined MOOTW.

1. Peace Operations (Peace Enforcement Operations)
2. Combating Terrorism (Counter-terrorism)
3. Enforcing Exclusion Zones
4. Nation Assistance / Support to Counterinsurgency
5. Protection of Shipping
6. Show of Force Operations
7. Strikes and Raids

Peace Operations (PO) are defined in *JP 3-07* as “military operations to support diplomatic efforts to reach a long term political settlement and categorized as peacekeeping operations (PKO) and peace enforcement operations.”<sup>4</sup> During PKO military forces operate with the consent of all major parties to the conflict, during peace enforcement operations, this is not the case. PKO are usually accomplished under the authority of the United Nations (UN) and do not involve the use of offensive airpower. Peace enforcement operations however, are one of the categories of MOOTW that offensive airpower can play a significant role. Peace enforcement operations are defined as “the application of military force, or threat of its use, normally pursuant to international authorization, to compel compliance with resolutions or sanctions designed to maintain or restore peace and order.”<sup>5</sup>

During the fall of 1997 and early 1998, tensions increased between the United States and Iraq over the issue of Weapons of Mass Destruction (WMD). Iraq continued to defy UN resolutions governing the end of the gulf war. They were evasive during UN inspections of their ability to produce and deploy WMD. The US took an aggressive stance due to the failure of diplomacy and economic sanctions over the years to resolve the dispute.

The United States responded to this crisis with the movement of additional military forces into Southwest Asia, including an additional carrier battle group and F-117A

Stealth Fighters. As diplomats continued to try to resolve the dispute peacefully, the US publicly considered the use of offensive airpower in a peace enforcement role to force Iraqi compliance with UN resolutions. Precision strikes would be aimed at destroying Iraq's capability to produce WMD and known or suspected stocks of chemical and biological weapons, while minimizing collateral damage and civilian casualties.

There are two different types of MOOTW considered combating terrorism. The first is anti-terrorism, which is defensive in nature and does not involve the use of offensive airpower. The second is counter-terrorism and offensive airpower can be used in this role. Counter-terrorism is defined in *JP 3-07* as; "Offensive measures taken to prevent, deter, and respond to terrorism. [Counter-terrorism] provides response measures that include preemptive, retaliatory and rescue operations."<sup>6</sup> Offensive airpower can, and has been used in preemptive or retaliatory airstrikes in support of national security strategies or objectives against terrorism.

An example of the use of offensive airpower in this role is Operation El Dorado Canyon in 1986. The F-111F precision strike against Libya was a direct response to their state sponsored terrorist program. The raid was very successful in demonstrating US resolve not to tolerate state-sponsored terrorist acts and reducing the future threat of Libyan terrorism. The trigger event was a terrorist attack against a German nightclub frequented by US military personnel.

Offensive airpower has been used extensively since 1991 in the role of enforcing exclusion zones. *JP 3-07* defines this activity as "to prohibit specified activities in a specific geographic area—the purpose may be to persuade nations or groups to modify their behavior to meet the desires of the sanctioning body or face continued imposition of

sanctions or use or threat of force.”<sup>7</sup> Operation Provide Comfort began in 1991 to provide humanitarian assistance to the Kurdish people in Northern Iraq and prevent aggression from Iraq’s armed forces. Since its inception in 1991, the Iraqi’s have violated the northern no-fly zone numerous times. Armed coalition aircraft responded with actions that include, the downing of an Iraqi fighter in January 1992, and many separate instances of precision air to ground strikes in response to Iraqi aggressive acts and non-compliance with UN sanctions.

The use of offensive airpower in Nation Assistance / Support to Counterinsurgency is probably the most difficult to define. JP 3-07 defines nation assistance as “civil or military assistance (other than humanitarian assistance) rendered to a nation by US forces within that nation’s territory during peacetime, crises or emergencies, or war based on agreements mutually concluded between the United States and that nation.”<sup>8</sup> The three areas included within the category of Nation Assistance are security assistance, foreign internal defense (FID), and humanitarian and civic assistance.

The use of offensive airpower within these categories of Nation Assistance can only be addressed in the FID category. FID is defined as; “the total political, economic, informational, and military support provided to another nation to assist its fight against subversion and insurgency.”<sup>9</sup> JP 3-07 envisions that FID operations may be a role that the US armed forces may be more involved in, due to the increased threats to a host nations stability from civil disorder, illicit drug trafficking, and terrorism.<sup>10</sup> Taking these considerations into account, FID operations in the future could involve the use of offensive airpower. If US interests were important enough to warrant intervention, one scenario could have airpower supporting a friendly nation to defeat significant threats to

its sovereignty. FID operations can support a host nation when they do not have the resources or capabilities to engage threats with the fidelity of US forces.

Offensive airpower has been used in the protection of shipping since very early military aviation. General Billy Mitchell's aerial demonstrations against the Ostfriesland and other battleships in the early 1920's demonstrated the effectiveness of airpower versus battleships of the era. Naval airpower combined with the increasing capabilities of ships to launch missile strikes and protect themselves will continue to play a key role in the protection of shipping. Due to this, the continuing role of USAF offensive airpower in the protection of shipping role will most likely be reduced. JP 3-07 mentions that airpower can be part of a coordinated effort to protect shipping, but this role would most likely fall to Naval Aviation, which trains specifically for these operations.

Offensive airpower is the method of choice for the US to militarily respond to crises with precision and offensive punch. Since Operation El Dorado Canyon in 1986, offensive airpower provides the NCA with the ability to attain national security objectives with force, while minimizing threats to our own forces and collateral damage to the enemy.

### **Principals of MOOTW**

The doctrinal principals of war have long guided commanders in their planning and decision-making processes. Due to the unique nature of MOOTW, current joint doctrine provides an additional set of principals to guide MOOTW commanders. The principals of MOOTW provide guidance in operations that have unique characteristics when compared to normal combat operations. JP 3-0 defines the six MOOTW principals as objective, unity of effort, security, restraint, perseverance and legitimacy.

Three principals of MOOTW (objective, security, and unity of effort) are conceptually identical to corresponding principals of war. The applications of these principals in MOOTW do not differ significantly from their application in war.

The other three principals of MOOTW are unique. These principals specifically outline for the commander important considerations and demonstrate why MOOTW differ from war. Daniel Goure' outlines these differences and shows why precision is key to MOOTW; "US forces are confronted with the need to carefully tailor their use of force in so-called operations-other-than war. In the past constraints on the use of force existed because of the uncertainties about operation success and resulting effects. Precision strike capabilities increase the probability and predictability of success and decrease the prospects of casualties and collateral damage."<sup>11</sup> These three unique principals of MOOTW will be examined as they apply offensive airpower in MOOTW.

Legitimacy for offensive airpower in MOOTW can come from the United Nations in the form of a resolution that allows the use of force to achieve an objective. This avenue usually provides more global support and legitimacy than the use of offensive airpower by the United States unilaterally. The perceived legitimacy is critical to the lasting success of the operation. Legitimacy is necessary, especially for the US, because global public support is critical to any military action. The importance of legitimacy for the use of military force was played out on the world stage in the question of Iraqi compliance with UN resolutions governing WMD.

Offensive airpower combined with precision engagement can be used in very controlled doses, optimizing the principal of restraint. Comparing the amount of force required to achieve objectives to politically acceptable risks allows the US to choose

different offensive airpower applications. These options include limited missile attacks from ships, or precision air strikes from land and sea based aircraft. Both options minimizing the risk to US lives and collateral damage. This far exceeds the ability of ground forces to be used with restraint. They depend on overwhelming force to achieve objectives.

The innate ability of airpower to persevere is due mostly to basing of airpower assets. Offensive airpower is not required to be close to the fight. It can be withdrawn to areas which can be secured much better than engaged land forces. This allows offensive airpower a position to be involved, to strike, withdraw, and strike again quickly. Ground forces do not have this ability. This key ability is one of the flexible characteristics of airpower making it so attractive in MOOTW today.

### Notes

<sup>1</sup> William J. Clinton, *A National Security Strategy for a New Century*, (Washington D.C.: Government Printing Office, 1997), i.

<sup>2</sup> *Ibid.*, 12.

<sup>3</sup> Joint Chiefs of Staff. *National Military Strategy of the United States of America Shape, Respond, Prepare Now: A Military Strategy for a New Era*, (Washington D.C. 1997), 15.

<sup>4</sup> Joint Pub 3-07. *Joint Doctrine for Military Operations Other Than War*, (Fort Monroe Virginia: Joint Warfighting Center, 1995), III-12.

<sup>5</sup> *Ibid.*, III-13.

<sup>6</sup> *Ibid.*, III-2.

<sup>7</sup> *Ibid.*, III-4.

<sup>8</sup> *Ibid.*, III-9.

<sup>9</sup> *Ibid.*, III-10.

<sup>10</sup> *Ibid.*, III-10.

<sup>11</sup> Daniel Goure' and Stephen Cambone, "The Coming of Age of Air and Space Power," in *Air and Space Power in the New Millennium*, ed. Daniel Goure' and Christopher M. Szara (Washington D.C. The Center for Strategic and International Studies, 1997), 16.

## Chapter 3

### Precision Engagement

*In the 21<sup>st</sup> Century, it will be possible to find, fix or track and target anything that moves on the surface of the earth.*

—General Ronald R. Fogleman  
*Global Engagement: A Vision for the 21<sup>st</sup> Century Air Force*

Air Force doctrine adopted the *JV 2010* operational concept of precision engagement as a core competency. Core competencies “provide insight into the specific capabilities that the US Air Force must bring to activities across the range of military operations.”<sup>1</sup> Core competencies are the Air Force’s focus for its part in contributing to the *JV 2010* battlespace dominance goal. The direct application of the USAF core competency of precision engagement is critical to the success of any MOOTW where offensive airpower will be used in a coercive role to achieve objectives.

*AFDD 1* describes precision engagement as the ability to “apply discriminate force precisely where required.”<sup>2</sup> The ability of offensive airpower to precisely engage a variety of different centers of gravity (COG’s) with a high probability of success and a low probability of collateral damage will provide the core concept for the use of offensive airpower in MOOTW. The “discriminate force” will come from different current and future weapon systems that provide a variety of capabilities and effects.

The political sensitivities of MOOTW will routinely require a level of precision that may not be required in a MTW environment. The *Concept of Future Joint Operations*

amplifies this by stating “mindful of public concern and expectation to minimize the unnecessary risk of casualties, the National Command Authorities will continue to seek quick, focused, effective and decisive application of combat power when and where it is required.”<sup>3</sup> Colonel Phillip Meilinger narrows the scope of the importance of precision engagement even more.

Because precision is possible, it will be expected. Air warfare has thus become highly politicized. Air commanders must be extremely careful to minimize civilian casualties and collateral damage. All bombs are becoming political bombs, and air commanders must be aware of this emerging constraint—Hundreds of millions of people worldwide will judge [via CNN] the appropriateness of everything an air commander does. This reality must be factored into the decision process, because in the future airmen may be required to wage war bloodlessly and delicately.<sup>4</sup>

His premise concerning precision (engagement), as it relates to MOOTW takes on an even more important role, considering the importance of the principals of MOOTW (legitimacy, perseverance and restraint) and the repercussions should precision fail. The precise use of offensive airpower delivers the might of the military IOP within all of these constraints. These combined concepts minimize risk to the US and explain why offensive airpower is the primary weapon to coerce countries when diplomatic and economic efforts fail. Offensive airpower is quick, focused, and decisive. When combined with precision engagement it minimizes the risk for casualties and collateral damage. Offensive airpower is the answer for the NCA, providing the only way to wage war “bloodlessly and delicately.”

### **Tenets of Airpower**

The tenets of airpower provide commanders with the key concepts for the employment of airpower across the range of military operations. According to *AFDD 1*,

“these tenets are the fundamental guiding truths of air and space power employment.”<sup>5</sup>

Doctrinally, when combined with the overall principals of war, the tenets of airpower provide commanders guidance for the use of airpower to achieve dominance of the air. During MOOTW, the tenets of airpower are combined with the principals of war and principals of MOOTW. This provides MOOTW commanders with the guiding principals applicable to the situation politically and militarily. According to *AFDD I* the tenets of airpower are:

1. Centralized Control and Decentralized Execution
2. Flexible and Versatile
3. Produces Synergistic Effects
4. Uniquely Suited to Persistent Operations
5. Operations Must Achieve Concentration of Purpose
6. Operations Must Be Prioritized
7. Operations Must Be Balanced

Certain aspects of the tenets of airpower, when combined with the principals of MOOTW demonstrate how offensive airpower can be used effectively in a coercive role. For example, the MOOTW principal of perseverance is directly complimented by the airpower tenets of being uniquely suited to persistent operations. One of the unique properties of offensive airpower is the ability to strike directly at enemy COG's and then withdraw. To be out of close contact with the enemy and continue to affect COG's is unique to offensive airpower. The ability to deny an enemy resources or facilities combined with the flexibility and versatility of offensive airpower provide commanders with the perseverance critical to MOOTW.

The MOOTW principal of restraint is complimented by the tenet of balance. When the objectives of MOOTW require restraint in the amount of force needed to attain stated objectives, offensive airpower is the answer. Airpower achieves this task with a balanced

approach, precisely attacking enemy COG's, bypassing enemy strengths, and minimizing collateral damage. Some current (and future) systems allow the operator to be in a position to assess the situation prior to releasing weapons. Offensive airpower provides commanders with a unique balance between the application of decisive force and the ability to restrain from the use of this force should the situation dictate. *AFDD 1* states "An air commander should balance combat opportunity, necessity, effectiveness, efficiency and the impact on accomplishing assigned objectives against the risk associated to friendly air and space forces."<sup>6</sup> In MOOTW this applies to the risk of collateral damage or civilian casualties due to the inherent political nature of these operations.

Currently, the use of offensive airpower in MOOTW has a proven capability to deliver precision guided munitions (PGM's) with the accuracy needed to respond to the sensitivities and principals of MOOTW as well as the tenets of airpower. The original "smart" bomb is the laser guided bomb (LGB), guided to the target by an operator who designates the target with a laser. They are the most familiar and were the majority of weapons seen on media footage during the Gulf War. Other current types of guidance for smart weapons include TV guidance via data link and autonomous methods contained internally in the weapon (Global Positioning System [GPS] and Inertial Navigation System [INS] guidance).

The USAF and the other services are improving current abilities by procuring a new generation of smart weapons. The goal of these new "brilliant" systems is to attain a similar or better level of precision of current weapons, at a standoff range to increase the survivability in a high threat environment. Efforts are also underway to provide a more

robust all-weather precision capability. These weapons will add a new dimension to the ability of offensive air power to respond in a variety of future hostile environments, but do they offer the same amount of control needed during MOOTW?

### **Man in the Loop (MITL) Precision**

Man in the loop (MITL) precision is defined as the ability to guide a weapon to a specific target with an operator (of the weapon or weapons system) terminally guiding the weapon to its impact point. This is currently the most widely used method to obtain precision, although it has limitations. The most common type of sensor used for this is an infrared sensor. An infrared sensor uses heat contrasts to generate an image of the area being viewed resulting in what appears to be a black and white television picture. Once the target is acquired the operator “tracks” the target, releases the weapon, and guides the weapon with a laser designator to the precise target that has been “visually” acquired.

The USAF has been operating with laser guided bombs (LGB’s) since the Vietnam War. These weapons are guided by tracking the reflection of a laser beam aimed at the target. In the case of offensive airpower, the laser could be pointed from a sensor carried on board the attacking aircraft. The laser spot could also be generated from a ground support team or another aircraft.

MITL weapons offer commanders a high degree of precision, while minimizing the risk of collateral damage. One large advantage of these types of weapons is the ability to observe the target in real time and determine the situation in the target area prior to release. It also allows the operator to pinpoint exactly where the weapon should hit based on target intelligence and actually “seeing” the target. This results in the MITL ability of the operator “guiding” the weapon exactly to the desired impact point.

This “pinpoint” accuracy comes at a price. The attacking aircraft must get to within 2-3 miles of the target in order to acquire it and release a ballistic weapon. If the target is heavily defended, the attacking aircraft is subject to significant risk. Also, if weather is a factor in the target area an infrared sensor may not be able to acquire the target because they cannot “see” through clouds. The result may be the aircraft not being able to release its weapons and aborting the mission. Laser guided weapons are also subject to counter-measures. An enemy could mimic the laser spot and cause the weapon to miss the target, possibly causing unacceptable collateral damage.

### **Autonomous Standoff Precision (ASP)**

USAF acquisition of new systems supporting the precision engagement core competency is focused on the concept of autonomous standoff precision. This concept is driven by a number of factors including the density of the future threat environment and overcoming the limitations of the previous generation of weapon systems. Some of these new weapon systems will provide the ability to deliver precision weapons from longer range than current ballistic weapons. This provides additional survivability in a high threat environment. Some are being designed with an all weather capability, not having to rely on being able to “see” the target, while maintaining a comparable level of precision obtained with the classic LGB. These improvements are not mutually exclusive. ASP weapons may take advantage of combinations of capabilities depending on system requirements.

The basic difference between ASP and MITL is the “operator” as opposed to the “computer” providing the terminal guidance to the target. For example, GPS based ASP weapons rely on GPS satellites to guide them to the target’s geographic coordinates. If

everything works correctly, the weapon will impact those coordinates providing similar precision abilities to current MITL weapons. ASP weapons range from the Joint Air to Surface Standoff Missile (JASSM), which will be on the very high end of these new weapons to the Joint Direct Attack Munition (JDAM) which is currently operational in the B-2 fleet.

The *Concept for Future Joint Operations* states the importance of ASP; “Long-range precision engagement can play an increasingly prominent role in power projection at all levels across the range of military operations.”<sup>7</sup> In the high threat environment of future MTW’s, ASP will be critical to obtaining full spectrum dominance of the battlespace. During MTW’s collateral damage does not carry the political ramifications that it does during MOOTW. However, in the MOOTW environment, which should be a much lower threat scenario but more sensitive politically, will ASP be adequate? Will ASP provide the same pinpoint accuracy and the control that MITL weapons provide?

One example of the use of offensive airpower recently in the MOOTW environment is Operation Deliberate Force. This operation in Bosnia against the Serbs provides some insight to these questions. It is important to take into account both the political and military environmental considerations when answering these tough questions. Some of the lessons learned from Deliberate Force will provide the final linkage of how precision engagement of offensive airpower applies to MOOTW.

### Notes

<sup>1</sup> Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, September 1997, i.

<sup>2</sup> *Ibid.*, 30.

<sup>3</sup> *Concept for Future Joint Operations (CFJO)*, Joint Electronic Library (JEL), J-7 Joint Staff, CD-ROM, May 1997, 17.

## Notes

<sup>4</sup> Colonel Phillip S. Meilinger, *10 Propositions Regarding Air Power*, (Air Force History and Museums Program, 1995), 46-47.

<sup>5</sup> *CFJO.*, 22.

<sup>6</sup> *Ibid.*, 27.

<sup>7</sup> *Ibid.*, 30.

## Chapter 4

# Operation DELIBERATE FORCE: An Air Force Core Competency Applied

*Dumb bombs are dead.*

—General Michael E. Ryan  
*The Balkans Air Campaign Study*

Operation Deliberate Force was an offensive air operation planned and executed against the Bosnian Serbs in August and September 1995 and “was about diplomacy—getting the Bosnian Serbs to end their sieges on the safe areas and to enter into productive negotiations for peace.”<sup>1</sup> This use of offensive airpower in a coercive role required the judicious application of precision engagement. This operation achieved its desired results, forcing the Serbs to cease hostilities and eventually sign the Dayton Peace Accords ending the violence in Bosnia. The complexities of this operation demonstrate, both politically and militarily, why the precision engagement of offensive airpower is the answer for MOOTW. Airpower provides the precision required with a lot of “safety” for the political and diplomatic concerns to be addressed.

The “trigger event” initiating the response from NATO Air Forces was the Bosnian Serb mortar attack on a Sarajevo market on the morning of August 28, 1995. The eventual use of offensive airpower was a result of years of effort, both politically and militarily, to end the conflict in Bosnia Herzegovina without the coercive and forceful

involvement of NATO ground troops. However, “the operation is regarded as the prime modern example of how judicious use of airpower, coupled with hard-nosed diplomacy, can stop a ground force in its tracks and bring the worst of enemies to the bargaining table.”<sup>2</sup>

Another reason precision engagement was critical to the use of offensive airpower in Deliberate Force (or any MOOTW) is because “tactical events, namely the destruction of specific targets and the possibility of suffering casualties, potentially carried profound strategic implications.”<sup>3</sup> This is becoming more a “rule to live by” if the use of offensive airpower is being considered in any operation short of war. The importance attached to tactical events in MOOTW, heightened by the political sensitivities and the ever-present eye of the media, will subject every errant bomb or any collateral damage to intense scrutiny.

Modern precision strike assets provide the means to employ air power in support of other forces under rules of engagement that impose constraints where the prospects of collateral damage exist. During operations against Serbian forces in Bosnia, the United States engaged in its first precision strike operation. Approximately 70 percent of the munitions used by NATO forces were precision weapons. This ability to successfully use the overwhelming advantage that NATO forces had in air power may be instructive regarding the utility and usability of air power in future operations-other-than-war (OOTW).<sup>4</sup>

## **Precision Engagement**

Deliberate Force is the doctrinal example of “air and space power is providing the “scalpel” of joint service operations—the ability to forego the brute force-on-force tactics of previous wars and apply discriminate force precisely where required.”<sup>5</sup> The incredibly successful surgical application of the airpower scalpel is the only reason Deliberate Force was successful in achieving its desired end state. The diplomats and politicians relied on

estimates that the operation could be “pulled off” with minimum collateral damage. Had the desired results not been achieved in the opening strikes, the operation would not have been politically sustainable.<sup>6</sup> The authors of the Balkans Air Campaign Study (BACS) sum up the importance of precision engagement in MOOTW when they conclude “precision guided munitions made Deliberate Force possible.”<sup>7</sup>

### **Applied Principals of MOOTW and Tenets of Airpower**

An examination of the application of the principals of MOOTW, and the tenets of airpower directly relating to the operational concept of precision engagement of offensive airpower during Operation Deliberate Force demonstrates the concept’s decisiveness. Operation Deliberate Force was a peace enforcement operation. It was “the application of military force—normally pursuant to international authorization, to—maintain or restore peace and order.”<sup>8</sup>

The tenet of centralized control and decentralized execution warrants examination, as the control and execution during Deliberate Force appears to be contrary to this tenet. “General Ryan’s exceptional involvement in the tactical details of Deliberate Force reflected both his prerogatives as the commander and a appropriate response to the political and military circumstances of the operation.”<sup>9</sup> However, does his exceptional involvement and control support the premise of the tenet?

The use of close control of offensive airpower under a single commander is essential to the success of the coercive use of airpower in MOOTW because of the fact that in these operations “every bomb is a political bomb.”<sup>10</sup> General Ryan’s close centralized control led to the extremely effective employment of offensive airpower in a difficult MOOTW. His centralized control led to the successful application all of the principals of

MOOTW. General Ryan directed the forces and ensured that the operation was aimed “toward a clearly defined, decisive, and attainable objective.”<sup>11</sup> Ensuring unity of effort and restraint, “Ryan felt obliged to exercise such close control to minimize the risk of error and, if mistakes were made, to ensure that they would be attributable to him—and him alone.”<sup>12</sup> These actions may support a changed tenet of airpower of centralized control and centralized execution due to the politically charged environment of MOOTW.

The MOOTW principals of restraint and perseverance are greatly enhanced by the operational concept of precision engagement. Precision engagement of offensive airpower gives commanders the ability to attack COG’s for the particular operation with a level of precision that was not possible in the past. The use of the current inventory of PGM’s allowed the air commander to take into account tactical and political factors ensuring the precision attacks produced the desired effects without unacceptable collateral damage. General Ryan describes how he controlled the precise use of offensive airpower during Deliberate Force.

NATO and UN mandates limited the target set, then I further limited it to specific aimpoints in order to minimize collateral damage and, in fact minimize carnage. Bridges for example would be hit only at night, when it was assumed there would be no traffic on them. Ammo dumps would be hit but adjacent administration buildings would not. On some targets, the sequence of attacks was important. We’d start at the back end of the ammo dump and work our way forward to where the administration buildings were so anybody nearby would get the idea that it was probably not a real good place to be.<sup>13</sup>

This measured use of offensive airpower, centrally controlled (and executed), by an “airminded” commander allows the tenets of airpower to guide the use of force to get the desired effects. General Ryan applied the tenets of airpower during Deliberate Force and considered the principals of MOOTW to guide his actions. The core competency of precision engagement was critical in Deliberate Force. If offensive airpower under

General Ryan's command did not execute their precision capabilities so well, the results of Deliberate Force may have been very different.

### Notes

<sup>1</sup> Col Robert C. Owen, "The Balkans Air Campaign Study (BACS): Part 2," *Airpower Journal* XI, no. 3 (Fall 1997):13.

<sup>2</sup> John A. Tirpak, "Deliberate Force," *Air Force Magazine* 80, no. 10 (October 1997): 37-38.

<sup>3</sup> Col Robert C. Owen, "The Balkans Air Campaign Study (BACS): Part 2," *Airpower Journal* XI, no. 3 (Fall 1997): 10

<sup>4</sup> Daniel Goure' and Stephen Cambone, "The Coming of Age of Air and Space Power," in *Air and Space Power in the New Millennium*, ed. Daniel Goure' and Christopher M. Szara (Washington D.C. The Center for Strategic and International Studies, 1997), 17.

<sup>5</sup> Air Force Doctrine Document (AFDD) 1. *Air Force Basic Doctrine*. (Headquarters Air Force Doctrine Center, Maxwell AFB, AL. 1997),30.

<sup>6</sup> Col Robert C. Owen, "The Balkans Air Campaign Study (BACS): Part 2," *Airpower Journal* XI, no. 3 (Fall 1997): 20-21.

<sup>7</sup> *Ibid.*, 20.

<sup>8</sup> Joint Pub 3-07. *Joint Doctrine for Military Operations Other Than War*. (Fort Monroe Virginia: Joint Warfighting Center, 1995), III-13.

<sup>9</sup> *Ibid.*, 9.

<sup>10</sup> Col Robert C. Owen, "The Balkans Air Campaign Study (BACS): Part 2," *Airpower Journal* XI, no. 3 (Fall 1997): 9.

<sup>11</sup> JP 3-07, II-2.

<sup>12</sup> Col Robert C. Owen, "The Balkans Air Campaign Study (BACS): Part 2," *Airpower Journal* XI, no. 3 (Fall 1997): 9.

<sup>13</sup> John A. Tirpak, "Deliberate Force," *Air Force Magazine* 80, no. 10 (October 1997): 41.

## Chapter 5

### Conclusions

*Life is the art of drawing sufficient conclusions from insufficient premises.*

—Samuel Butler  
*Notebooks*

In adopting the operational concept of precision engagement as a core competency, the Air Force declares the importance of this concept to the effective employment of offensive airpower in the future. During Desert Storm less than 10% of the bombs dropped were precision weapons.<sup>1</sup> During Deliberate Force, (although a much smaller operation) approximately 70% of the bombs dropped were precision weapons.<sup>2</sup> This highlights the growing importance of precision engagement to offensive airpower and the difference between MTW's and MOOTW. The next time the United States is forced to use offensive airpower in MOOTW, the percentage of precision weapons used will eclipse the 70% used during Deliberate Force.

#### **Man in the Loop (MITL) vs. Autonomous Standoff Precision (ASP)**

With the demonstrated requirement for precision engagement in MOOTW, an analysis of the difference between MITL, ASP, and their respective situational effectiveness in MOOTW is warranted. Granted, if ASP weapons and systems can provide an identical or better level of precision with statistically equivalent risks of

failures and effects to countermeasures, the only difference becomes one of cost. However, the largest distinction between the two types of weapons comes down to the ability to terminally guide the weapon to a target that an operator can “see.”

With respect to the acquisition and use of future precision weapons, Jeffrey A. Jackson in his paper *Global Attack and Precision Strike*, makes a stand for MITL weapons.

The first [munitions] issue in this category is the robustness of planned smart weapons delivery capability. USAF [future] plans call for only five wings of aircraft with laser-guided munitions. All other aircraft will depend on near-precision weapons that may not perform well in a GPS-jamming environment. Low-cost terminal guidance all-weather systems, synthetic aperture radar, millimeter wave radar, laser radar terminal guidance, and GPS counter-jamming techniques are approaches that need to be explored, compared, and pursued to provide a cost-effective and comprehensive mix of air delivered munitions.<sup>3</sup>

With continued active involvement in MOOTW, the USAF must continue to pursue techniques to provide all weather MITL terminal guidance for precision weapons. Limiting laser-guided (or MITL terminal guidance) abilities to only 5 wings does not give the USAF the broad capabilities required for future battlespace dominance across the range of operations.

Mr. Jackson’s referencing ASP type weapons as “near-precision” also raises an interesting point. The advertised precision of these new weapons is an accuracy roughly equal to current laser-guided weapons, but their actual performance to date in combat and MOOTW has been less than perfect.<sup>4</sup> Iraqi gunners during the Gulf War shot down ASP tomahawk missiles inbound to their targets. ASP missile strikes against Iraqi positions in Southern Iraq missed some of their desired mean points of impact (DMPI’s). The only use of ASP weapons during Deliberate Force was on an airfield target where the collateral damage risks were greatly reduced.

ASP weapons are coming down in cost and some have the ability to strike targets in all weather, unlike current laser guided weapons. ASP weapons are also being designed for a higher threat environment, providing an additional degree of safety for the operator delivering the weapon. Future “brilliant” weapons will have the ability to discriminate a specific DMPI, but these weapons will be very costly. The need for a standoff capability in the operation must also be analyzed. If the threat does not dictate the use of standoff weapons then they should not be used. This reduces cost in the case of brilliant weapons and increases precision effectiveness for others. Also, in the case of ASP weapons a separate battle damage assessment (BDA) must be made with a different system or sensor. This complicates the task of assessing current effects and planning future strikes.<sup>5</sup>

During Deliberate Force, the vast majority of weapons used were MITL weapons. Less than 2 percent of the PGM’s used were ASP weapons.<sup>6</sup> Even with the LGB’s limited capabilities in the adverse weather conditions in Bosnia, they performed spectacularly. After the Gulf War, in testimony before Congress, former Chief of Staff General Merrill McPeak painted a dismal picture of offensive airpowers capabilities in the Balkans. “Imagine flying over the Blue Ridge Mountains at 600 miles an hour, in overcast, and picking out the right target somewhere down in the woods.”<sup>7</sup> Deliberate Force proved him wrong. It demonstrated that MITL precision could be effective in an area of very poor weather and produce outstanding results.

Finally, MITL offers capabilities that are complimentary to the principals of MOOTW. MITL offers a significantly higher degree of restraint than ASP. Having a man in the loop allows direct observation of the target and an ability to guide the weapon

to a precise DMPI versus an ASP weapon guiding to a “set of coordinates.” Having the man in the loop adds the additional level of restraint required in the politically charged MOOTW environment. MITL also compliments the legitimacy of US operations showing our dedication and willingness to go the “extra mile” ensuring the use of force does not have disastrous political consequences. General Ryan’s comments about the strategic effects of a single case of collateral damage shows that one errant bomb can undermine the legitimacy of the operation, forcing it to a halt. MITL is critical to the continued legitimacy of US operations, ensuring that we exercise the maximum amount of restraint while using force. This is why MITL precision must be pursued aggressively, ensuring this capability does not atrophy in the future.

### **Theory, Doctrine and MOOTW**

There is enough doctrine available to synthesize how to basically use offensive airpower in MOOTW. However, there is not a lot of theoretical information or detailed doctrine that directly relates to the use of offensive airpower when the political sensitivities weigh so heavily on the planning and execution of a coercive air strategy. There are many basic airpower theories available, ranging from Robert Pape’s denial strategy, to John Warden’s 5 rings. However, evidence shows that the planners of the Deliberate Force air campaign had no working knowledge of them.<sup>8</sup>

Regarding the use of doctrine, the BACS team found existing NATO doctrine had little guidance on the use of offensive airpower in MOOTW.<sup>9</sup> They also discovered that US doctrinal guidance wasn’t much better.<sup>10</sup> In researching Joint and USAF doctrine and its direct application to the coercive use of offensive airpower in MOOTW, it does provide some of the required “guiding principals.” However, the direct application or

“hands on” use for an air campaign planner in a politically charged, coalition MOOTW is virtually non-existent.

*JP 3-07* provides the basic doctrinal guidance for the MOOTW campaign planner but, the supporting doctrinal publications must be improved, especially concerning the use of offensive airpower. Joint Pub 3-07.3 *Joint Tactics, Techniques, and Procedures for Peacekeeping Operations* lacks any significant guidance for the use of airpower. The 1½ pages of this Joint Publication that discusses air operations in support of peacekeeping simply provides some of the same broad descriptions found in the parent *JP 3-07*. It adds no significant detail to the actual use of airpower. As for tactics and techniques for the use of airpower, it has none. This publication is in the revision process so there may be some significant change in the works.

The USAF has done a commendable job incorporating *JV 2010* into its vision and doctrine. The USAF is not doing its job when it comes to supporting the development of appropriate Joint Doctrine regarding airpower. Recognizing that service doctrine does provide an addition level of detail that Joint Doctrine will not have, there still is not enough detail in the parent Joint Publications that there should be. If the USAF is seriously interested in advocating the use of offensive airpower, we must become more involved in the review of appropriate Joint Doctrine. This will ensure Joint Force Commanders have easy access to the benefits that airpower can bring to the fight. It is obvious that the USAF has shirked this responsibility in the past. In the future we must become more active in the Joint Publication development and review process.

The first area that needs to be addressed is a JTTP covering MOOTW and offensive airpower. A JTTP must take into account all of the options available to the JFC

concerning offensive airpower application in MOOTW. This JTTP must include the assets available, the situations that may present themselves, the types of MOOTW that offensive airpower applies to and some references for theoretical targeting solutions.

A second recommendation on the application and actual use of theory during MOOTW planning is referencing some theoretical readings in the doctrine itself. This can be done as an appendix to the doctrine, with one or two pages of reference material concerning specific, relevant topics covered in the doctrine. The solution to this is publishing all future doctrine with a CD like the recently published *Joint Task Force Commander's Handbook for Peace Operations*. This CD contains relevant information for the planner in the field whose research time is limited. This will add significant value to a JTTP. This will provide operators and planners a single source, without requiring them to spend valuable time researching for theoretical background.

### **Bottom Line**

The use of offensive airpower has direct applications to a number of different doctrinally defined MOOTW. During these operations offensive airpower can be used coercively to achieve political and strategic objectives. The *JV 2010* operational concept of precision engagement is the key to the use of offensive airpower in MOOTW. The intense political nature of these operations, combined with the need for destroying precise targets while reducing the probability of collateral damage requires surgical precision. MITL is the answer to providing this precision while applying offensive airpower in MOOTW. It provides complimentary capabilities to the principals of MOOTW, while precisely engaging enemy COG's.

Joint doctrine describes how MOOTW can contribute to the attainment of national security objectives. The principals of MOOTW, principals of war, and the tenets of airpower provide the guiding principals for the use of offensive airpower in MOOTW. However, the USAF must increase its contribution to the development and review of appropriate Joint Doctrine. A JTTP must be developed now, to guide commanders on the application of offensive airpower in MOOTW. *JV 2010* operational concepts provides the CJCS vision for the services for the type of forces, systems and weapons that we need for future. The operational concept of precision engagement is critical for the success of US armed forces in future MOOTW and MTW's. This is particularly true given current budget constraints and force reductions. The US military is going to rely on technology to replace brute strength to give us the decisive advantage over the battlespace of the future.

### Notes

<sup>1</sup> Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey Summary Report*, (Washington D.C., 1993), 103.

<sup>2</sup> John A. Tirpak, "Deliberate Force," *Air Force Magazine* 80, no. 10 (October 1997): 40.

<sup>3</sup> Jeffrey A. Jackson, "Global Attack and Precision Strike in Air and Space Power in the New Millennium," in *Air and Space Power in the New Millennium*, ed. Daniel Goure' and Christopher M. Szara (Washington D.C. The Center for Strategic and International Studies, 1997), 115.

<sup>4</sup> Colonel Phillip S. Meilinger, *10 Propositions Regarding Air Power*, (Air Force History and Museums Program, 1995), 46.

<sup>5</sup> Battle damage assessment (BDA) is a very contentious issue currently within the Air Force. Although operator video of an attack is not routinely used as the only source of BDA, it is the "first look" that planners have used to determine priorities for follow on attacks and assess weapons effects. The timeliness of the operator video does make it an important element of BDA.

<sup>6</sup> John A. Tirpak, "Deliberate Force," *Air Force Magazine* 80, no. 10 (October 1997): 40

<sup>7</sup> *Ibid.*, 39.

<sup>8</sup> Col Robert C. Owen, "The Balkans Air Campaign Study (BACS): Part 1," *Airpower Journal* XI, no. 2 (Summer 1997): 11.

## Notes

<sup>9</sup> Ibid., 11.

<sup>10</sup> Ibid., 12. “NATO air planning doctrine focuses on coalition considerations but is largely silent on OOTW, while US joint doctrine, with heavier emphasis on OOTW, does not fully integrate coalition considerations. An additional issue that bedevils both sets of doctrine is the role of airpower in either OOTW or conventional war. These doctrinal shortfalls were glaring in relation to the unique and unprecedented relationship of NATO....acting in military support of the UN. Notably established doctrines were largely silent on how airmen could reconcile, in their plans and target lists, the conflicting objectives and restraints that would likely crop up between two powerful organizations in a peacemaking situation in which at least one combatant did not want to make peace. [With regards to] the issue of whether these [Deliberate Force] planners referred to the existing body of doctrine, or just winged it is largely moot—there was almost nothing for them to refer to.”

## *Glossary*

ACSC	Air Command and Staff College
AFDD	Air Force Doctrine Document
ASP	Autonomous Standoff Precision
AU	Air University
BACS	Balkans Air Campaign Study
CD	Compact Disk
CFJO	Concept for Future Joint Operations
CJCS	Chairman of the Joint Chiefs of Staff
COG	Center of Gravity
CSAF	Chief of Staff of the Air Force
DMPI	Desired Mean Point of Impact
DOD	Department of Defense
FID	Foreign Internal Defense
IOP	Instrument of Power (Political, Economic, Military, Information)
JASSM	Joint Air-To-Surface Standoff Missile
JDAM	Joint Direct Attack Munition
JP	Joint Publication (Pub)
JV 2010	Joint Vision 2010
LGB	Laser Guided Bomb
MITL	Man in the Loop (Precision)
MOOTW	Military Operations Other Than War
MTW	Major Theater War
NATO	North Atlantic Treaty Organization
NCA	National Command Authority
NMS	National Military Strategy
NSS	National Security Strategy
PGM	Precision Guided Munitions

PKO	Peace Keeping Operations
PO	Peace Operations
QDR	Quadrennial Defense Review
SSC	Smaller-Scale Contingencies
UAV	Unmanned Aerial Vehicle
UCAV	Unmanned Combat Aerial Vehicle
UN	United Nations
US	United States
USAF	United States Air Force
WMD	Weapons of Mass Destruction

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