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THE AIR POWER EXPEDITIONARY FORCE:  
A STRATEGY FOR AN UNCERTAIN FUTURE?

by

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## *Preface*

In the three years since General John Jumper initiated the Air Expeditionary Force (AEF) concept at Headquarters Central Command Air Forces (CENTAF) the expeditionary mindset has come to dominate current thoughts on the employment of air power. The volume of material written on AEF operations and proposed doctrine has been torrential and reflects the challenge I faced in writing this paper. Throughout the research phase of this project, I found that a specific thesis I intended to pursue had been “overcome by events” due to research at RAND or by a corporate Air Force organizational decision. This observation is meant in a positive light as it indicates the effort and priority the Air Force has placed in implementing the expeditionary approach.

I appreciate the assistance of my advisor Colonel Randy Honnet who provided guidance and gave me a fairly liberal leash in developing my topic. I also want to thank Major Tom Eannarino, HQ USAF/XOP, and Mr. Paul Killingsworth of RAND, who provided much of the current research materials I used in this report. Any errors in this research report are mine alone and do not reflect on the quality of the input I received from them.

*Abstract*

Contrary to initial expectations, the end of the Cold War has not resulted in a spontaneous outbreak of international peace and stability. While the nuclear threat has diminished, previously suppressed ethnic and nationalistic rivalries have boiled over and become additive to existing trouble spots in Korea and Southwest Asia. In spite of these challenges, defense spending and military forward presence have declined as the lack of a peer competitor has deprived national security strategy of a definable threat.

The Air Expeditionary Force (AEF) is an attempt to deal with the uncertainty of the current volatile world by improving the responsiveness of airpower. However, in terms of future security challenges, the AEF focus appears to be too narrow. Although current planning AEF operations in response to a major theater of war, the most probable use of an AEF will most in a non-combat role supporting humanitarian or peacekeeping operations. In both types of AEFs, the personnel and leadership skills, as well as composition of this type of AEF will be markedly different than a combat style AEF.

This paper begins by reviewing the international and domestic context that has caused the Air Force to focus on expeditionary operations. It then discusses the historical roots of the AEF and the current AEF employment philosophy. The paper concludes by identifying courses of action that should keep the AEF viable in an uncertain international environment.

## **Chapter 1**

### **Introduction**

Contrary to predictions, the end of the Cold War has not produced a stable international order or a dramatic reduction in the requirement for military forces. While the specter of global nuclear war has greatly diminished, it has been replaced by a host of regional, ethnic, and nationalistic conflicts.

In former republics and satellite nations of the now defunct Soviet Union, the United States military plays a key role in ensuring regional stability. Renewed ethnic violence between the republics of Serbia, Croatia, and Bosnia in the former nation of Yugoslavia has resulted in a United Nations mandated peacekeeping force with the United States military playing a principal role. Under Project Sapphire United States military forces are directly involved in the removal of fissile material from former Soviet republics to preclude them from falling into the wrong hands.<sup>1</sup> At the same time, national leaders draw upon military expertise and equipment to provide relief for natural disasters and humanitarian undertakings.

These “impromptu” deployments are additive to regional tensions remaining from past conflicts in Korea and Southwest Asia. Having lost the economic backing of its former patron and gripped by a deadly famine, United States forces maintain a watch on a North Korean society about to implode. Almost eight years after the end of the Gulf War, the United States continues to enforce United Nations sanctions against Iraq and Saddam Hussein. In these trouble

spots, North Korea has produced, and Iraq is attempting to produce, a nuclear weapon.<sup>2</sup> Both nations have the capability to deliver chemical and biological weapons.

While these contingencies continue, the United States finds itself trying to grapple with the focus of a national security policy and the role of the military in this policy. Gone is the Cold War clarity of George Kennan's containment policy and geopolitical concepts such as Nixon's Twin Pillars strategy. Without a peer competitor who can directly threaten the security of the United States, many question how large a military we need or can afford. As a consequence, defense spending as a percentage of Gross Domestic Product is at its lowest point since the end of World War II. Despite the reductions, military forces are increasingly called upon to support operations short of outright war.

The Air Expeditionary Force (AEF) represents the Air Force's strategy to adjust to the ambiguous post-Cold War environment, a declining defense budget, and reduced forward presence. The AEF capitalizes on the superior mobility, range, and lethality of air power. It provides regional CINCs with tailored force packages that can rapidly deploy to conduct operations ranging from presence to the employment of air power against a hostile force. Toward this goal, AEF literature is heavily weighted to responding to conventional state-to-state aggression. Within this concept, the emphasis has been on the deployment of airpower to conduct a halt phase style operation against an aggressor nation.

However, the demise of the Soviet Union and our recent performance in the Gulf War downplays the potential of this type of action. The United States does not currently face a peer competitor and, according to estimates, will most likely not face one until after 2010.<sup>3</sup> Further, the overwhelming performance of United States forces during Desert Storm will cause most adversaries to avoid challenging the United States in a conventional land war. As a result, air

power may be used in those areas short of war, also known as military operations other than war (MOOTW).

The purpose of this research report is look at the direction of AEF development and make recommendations as to how it might be better postured to handle future challenges. The paper will start by reviewing how the international climate has changed since the end of the Cold War. Next, we'll review the combat-style AEF from both historical and current perspectives. As will be seen, the AEF has many parallels with a Cold War counterpart known as the Composite Air Strike Force (CASF).

After reviewing the combat-oriented AEF, the paper will discuss the humanitarian AEF. Like the combat AEF, the humanitarian AEF is designed to provide the theater CINC with a rapid, responsive, and reliable force to confront humanitarian missions. However, the humanitarian AEF has not received the same level of attention as the combat style AEF. As will be shown this is unfortunate since the humanitarian AEF may be the most called upon AEF variant. Finally, the paper will make some recommendations to enhance the effectiveness of the AEF in an ambiguous future.

### **Notes**

<sup>1</sup> "Proliferation: Threat and Response," November 1997, n.p.; online, Internet, available from <http://www.defenselink.mil/pubs/prolif97/slides.html>

<sup>2</sup> Ibid

<sup>3</sup> Robert P. Fuchs, et al., *Report on United States Air Force Expeditionary Forces*, SAB-TR-97-01, Vol. II (Washington, D.C.: United States Air Force Scientific Advisory Board), p. E-6

## **Chapter 2**

### **International Environment**

The end of the Cold War complicated world events to an unexpected degree. Despite the terror of global nuclear war, the Cold War era of 1946 to 1991 was actually one of relative calm. During this period, nations found themselves divided into three basic camps: those countries aligned with the “free world” ideals of the United States, those aligned with the Soviet Union and its concept of world socialism, and a smattering of non-aligned countries who attempted to walk the tightrope between the two super powers. Within this framework of ideologies, nations conducted international trade while the United States and Soviet Union jockeyed for hegemony over their respective spheres of influence.

While relations between the “free world” and “socialist” camps oscillated at times between imminent hostility (i.e., Cuban Missile Crisis of 1962) to fairly cordial relations (i.e. period of détente during the Nixon Administration), the world as a whole was predominantly stable. Periods of conflict normally involved only one superpower in a direct role while competing superpowers supported the opposing side. Examples of this arrangement include the United States involvement in Korea and Vietnam during which time the Soviets and Chinese provided materiel and manpower support to the opposing side, and the Soviet Union’s conflict in Afghanistan where the United States provided

materiel support to Afghan rebels. Only during the Cuban Missile Crisis, where the United States felt its national survival threatened, did the superpowers come close to direct confrontation and war.

The Cold War also provided a focus to national security policy. The Twin Pillars strategy, NATO, and George Kennan's containment policy were strategies to counter attempts by the former Soviet Union to expand its sphere of influence. The American public had a defined enemy and perceived a threat to its survival as a nation. Military spending, although hotly debated, was never at serious risk and was more than adequate to pursue robust research and development and acquisition programs. National instruments of military, economic, political, and psychological power concentrated on preventing the expansion of communist ideology outside the communist controlled sphere. To implement this containment strategy, the United States' military relied on both a forward defense approach and a strong military force to deter and, if necessary, defeat a Soviet attack. At its height, the Air Force alone had nearly 40 fighter wing equivalents and over 500 bombers.<sup>1</sup> Faced with a potential ground war in Europe and the Pacific, the United States retained basing rights or options at numerous overseas facilities. For example, in 1989 341,000 military personnel from all services were stationed in Europe alone.<sup>2</sup>

Two related events helped change the Cold War paradigm of forward deployment and a large standing military. The first and most significant was the disintegration of the Soviet Empire. As the Soviet economic system collapsed under the weight of a bloated and inefficient bureaucracy, it was replaced with a nascent market economy. President Gorbachev's more moderate tone combined with the inability of the Soviet economy to

field a military force comparable to the United States' produced a significant reduction in tensions.

The second event that impacted the post-Cold War order was Operation Desert Storm. Operation Desert Storm represented the first time since the Korean War that United Nations had used military force to contend with aggression. With the United States as the lead nation of a multinational coalition, the world received a first hand account of the capability and lethality of United States military power.

The end result of these two events is that the United States stands as the sole remaining superpower in the world both economically and militarily. As Russia has limited economic ability to intercede in regional upheavals, and since the United States retains the only credible force to handle large-scale military-style operations, it will increasingly fall to the United States to assist in these endeavors. In addition, our Desert Storm performance has, most likely, placed a damper on any adversary's dreams of successfully challenging the United States on a conventional battlefield.

The implications of this superiority and lack of a peer competitor are that the nation has lost a common focus for its defense strategy. Without this focus the public questions the size and cost of the current military force. Seeking a "Peace Dividend," and with the support of the American Public, Congress has initiated the largest dismantling of American military capability since the end of World War II. From a mid-1980s budget high, the Air Force budget declined 40% in a ten-year period.<sup>3</sup> Active duty personnel have shrunk from 600,000 to a projected 370,000 by 2003. Meanwhile, fighter wings have decreased to 13 active wings and 7 Air National Guard/Reserve Wings while bomber assets now have a total of 187 airframes.<sup>4</sup> Similarly, military forward presence

has decreased in response to arguments by domestic critics that defense dollars should be spent at home. As an example, in 1995 European assigned forces had declined to 109,000 from the previously mentioned 1989 level of 341,000.<sup>5</sup> Overall, overseas forward basing has been reduced by two-thirds – from 39 major military installations to 13.<sup>6</sup>

Ironically, despite these reductions, operations involving United States forces have actually increased in number since the end of the Cold War. Eight years after the successful allied effort to eject the Iraqis from Kuwait, American forces still find themselves still in Kuwait, Saudi Arabia, Turkey. The tide of nationalism and ethnic violence in former Yugoslavian republics has resulted in United Nations imposition of peacekeeping forces. Although multinational in composition, the United States continues to provide a significant presence of air and ground assets in support of this operation. As opposed to previous Cold War operations like Grenada and Panama, these contingencies appear to have no near-term end.

Existing Cold War tensions continue to demand engagement. North Korea continues to pour approximately 25% of its Gross Domestic Product into the military.<sup>7</sup> The continued economic problems of former Soviet Republics brings with it two concerns. One is that financially strapped and unscrupulous military personnel may attempt to sell one or more of these weapons to parties hostile to United States or its allies. The second concern is one of proliferation of knowledge. Unemployed scientists of the Soviet Union's NBC design and production industry are looking for work and nations eager to develop their own nuclear, biological, or ballistic missile capability are willing to pay. In either case, the consequences of a weapon of mass destruction in the hands of a terrorist are of considerable consequence.

At the same time, the United States must remain prepared to engage in regions of the world that are not necessarily a threat to the well being of American citizens, but are still in our national interest. Many of these engagements fall under the heading of Military Operations Other Than War (MOOTW).

According to the self-titled Joint Publication 3-07, “MOOTW encompasses the use of military capabilities across the range of military operations short of war. These operations can be applied to complement any combination of the other instruments of national power.”<sup>8</sup> MOOTW includes both traditional military activities just short of sustained, large-scale combat operations such as sanctions enforcement, exclusion zone enforcement, and strikes and raids. At the other end of the spectrum it includes those types of operations traditionally viewed as humanitarian or “show the flag” type activities. In the middle are some new types of activities to include peacemaking, peacekeeping, counterdrug, and anti-terrorist operations, as well as noncombatant evacuations and freedom of navigation demonstrations.<sup>9</sup>

Since the end of Desert Storm the predominant number of military operations the United States has undertaken have been of a MOOTW variety. In Southwest Asia, United States forces continue to enforce United Nations sanctions against Iraq, while in Bosnia forces strive to preserve the fragile peace agreed to by warring factions from former Yugoslavian republics. These activities along with nation building in Haiti, relief operations in Central America, counterdrug operations in the Caribbean, and domestic support for hurricane and forest fire victims continue to displace the traditional view of the military as an organization that “fights our nations wars.”

Internationally, humanitarian and MOOTW missions are the beginning of a shift in security challenges. The 1997 Quadrennial Defense Review (QDR) attempts to provide a roadmap of where the defense establishment needs to go in its strategy and modernization to meet these challenges. The QDR recognizes the fact that while the Cold War is over and the United States has no peer competitor, there are a variety of regional dangers security challenges the United States will face between now and 2015. Despite these challenges, the American public continues to remain apathetic to the military. The decline in defense spending and desire to reduce a fixed forward presence reflect an attitude that we “won” the Cold War and there are no direct threats to our security.

It is within these challenges that the AEF was born. The AEF is an attempt to balance reductions in force structure and forward presence with the ambiguity of the post-Cold War world by capitalizing on the attributes of airpower to quickly and precisely provide air power anywhere in the world. However, as we’ll see, the AEF concept is strongly rooted in Cold War history.

### Notes

<sup>1</sup> According to the ACC Internet Web page, 744 B-52 bombers were delivered to the Air Force. Existing B-52H models were the last version delivered in October 1962

<sup>2</sup> David S. Yost, “The Future of U.S. Overseas Presence,” *Joint Forces Quarterly*, Summer 1995, p. 7.

<sup>3</sup> Honorable Sheila Widnall, Secretary of the Air Force, address to the Young Presidents’ and World Presidents’ Organizations, Pentagon, Washington, D.C., 2 May 95

<sup>4</sup> Thomas S. Moorman, Jr., US Air Force Vice Chief of Staff, Remarks to the 75th Royal Australian Air Force Anniversary Air Power Conference, 14 June 1996

<sup>5</sup> Yost, p. 72

<sup>6</sup> David A. Fulghum, “Tough Schedules Thin U.S. Ranks,” *Aviation Week and Space Technology*, 15 September 1997, p. 79

<sup>7</sup> “CIA Factbook: North Korea” on-line, Internet, no date, n.p.; available from <http://www.odci.gov/cia/publications/factbook/country-frame.html>

<sup>8</sup> Joint Publication (JP) 3-07, *Military Operations Other Than War*, 16 June 1995, p. I-1

## Notes

<sup>9</sup> Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, September 1997, p. 8

## Chapter 3

### Roots of the Air Expeditionary Force

*I have heard the lament that, “The Air Force is not what it used to be during the Cold War,” and I must tell you that it is absolutely true; this “ain’t” our fathers’ Air Force. As the world around us changes, so must all the services, including the Air Force.*

General Michael E. Ryan, U.S. Air Force Chief of Staff<sup>1</sup>

Despite the Chief of Staff’s statement, the Air Expeditionary Force (AEF) is not a radically new concept and is one that many of our fathers would be familiar with. At its core, the AEF is a reincarnation of the Composite Air Strike Force (CASF). Tactical Air Command (TAC) formed the CASF in response to the Air Force’s slow response to the outbreak of the Korean War. At the end of the Korean War, TAC began testing a quick response force that could deploy to bases with minimal facilities. The CASF was a small tactical force composed of a command element, fighter, reconnaissance, troop carrier (airlift), and communications support units.<sup>2</sup> To ensure a readily available air refueling capability, TAC acquired KB-50J tanker aircraft.

Like the current AEF concept, the CSAF emphasized rapid deployment of decisive air power anywhere in the world in minimal time. The CASF was as self sufficient as possible. Upon arrival in-theater, units were to sustain operations for 30 days on minimum logistics support with the addition of required food, fuel, and munitions. Timing was also stringent. CASF units destined for the Middle East were tasked to arrive

in place within 16 hours of notification with the total force in-place and ready for operations within 48 hours. CASF units deploying to the Far East had to get lead elements in place and begin combat operations at 36 and 72 hours respectively.<sup>3</sup> In light of the lack of air refueling capability and limited range and speed of 1950s era transport aircraft, these numbers are remarkable.

Similarly, emphasis for personnel assigned to the CASF was light and rapid. TAC created Nineteenth Air Force, nicknamed “The Suitcase Air Force,” as a headquarters command to provide the command element for CASF operations. With only 85 military and 6 civilian personnel assigned, this small staff prepared contingency plans and provided the command structure for a CASF deployment anywhere in the world.

The CASF had its first serious test during the Lebanon crisis of 1958. At the request of the Lebanese government, President Eisenhower deployed Marines to Beirut to help stabilize the Lebanese regime in the face of a wave of discontent that had already toppled governments in Iraq and Syria. To support the Marine deployment, the national command authority tasked the CASF to deploy to Adana, Turkey, “an under-utilized” Turkish Air Force gunnery base. The deployment consisted of RF-101, F-100, KB-50J, RB-66 aircraft and 60 C-130s of equipment and personnel. Thirteen hours after the alert, F-100s were in-place at Adana, approximately 15 minutes flying time from Beirut. Within two days the base at Adana had a full-up Operations Center manned by Nineteenth Air Force personnel.<sup>4</sup>

Simultaneous with this crisis, Chinese Communists announced their intentions to retake the Nationalist Chinese (Taiwan) islands of Quemoy and Matsu. In response to this contingency, TAC stood up another CASF command element under Ninth Air Force.

Ordered to deploy on 29 August 1958, F-100 aircraft deployed to Clark Air Base in the Philippines enroute to Taiwan. They arrived at Clark Air Base on 2 September after being delayed at Guam for a typhoon. Follow on aircraft arrived soon after. By September 5th, seven days after the initial order, aircraft were at a Nationalist Chinese base under the control of a joint operations center.<sup>5</sup>

Capitalizing on the responsiveness of the CASF, the Department of Defense activated U.S. Strike Command (STRICOM) in 1961 as a unified command composed of elite Army Strategic Command (STRACOM) and Air Force Tactical Air Command units. Under the command of General Paul D. Adams, Strike Command was designed to “send a small package of forces immediately to the area, subject, of course, to the political acceptability by the existing Government of such a move.”<sup>6</sup> This force was to be stationed in the continental United States and trained in joint operations and had a two-fold mission of either augmenting in-place American forces or operating as a task force in isolated areas.<sup>7</sup> In a 1965 interview General Adams colorfully described STRICOM as a flexible response option capable of conducting operations throughout the spectrum of warfare, “from a silent attack in night with bayonets or knives, through the entire range of conventional warfare to the full play of nuclear weapons.”<sup>8</sup>

The beginning of the Vietnam conflict spelled the end of the CASF. Most air assets not already involved in the nuclear deterrent mission were siphoned off to prosecute the air war. As a result, the United States began to lose its ability to intervene in other crisis areas. Ironically, the Air Force deactivated Nineteenth Air Force and CASF in July 1973, three months before the Yom Kippur War and the United States’ resupply mission to Israel known as *Nickel Grass*.<sup>9</sup>

## Notes

<sup>1</sup> Richard G. Davis, *Immediate Reach, Immediate Power: The AEF and American Power projection in the Post Cold War Era*. Maxwell AFB, AL.: USAF History and Museums Program, 1998

<sup>2</sup> *Ibid.*, p. 13

<sup>3</sup> *Ibid.*

<sup>4</sup> *Ibid.*, p. 15

<sup>5</sup> *Ibid.*, p. 16

<sup>6</sup> Frank Harvey, *Strike Command*, (New York: Meredith Press, 1962), p. 4

<sup>7</sup> *Ibid.*, p. 4

<sup>8</sup> "Can Strike Command Really Strike?" *Airman*, January 1965, p. 7

<sup>9</sup> Davis, p. 17

## Chapter 4

### The Modern Combat AEF

Like the CASF, the AEF had its inception as a result of conflict. The genesis of the modern AEF was a result of continuing Southwest Asian operations in support of Operation Southern Watch and reductions in defense spending and force structure placed strains on the defense establishment. As Brigadier General William Looney, former commander of the 1<sup>st</sup> Fighter Wing, Langley AFB and AEF II, stated, “the United States does not possess enough of any one particular type of airpower, land or sea-based, to fulfill the many requirements placed on the military. The AEF concept is just one more option in addition to carriers to reinforce air power capabilities, not an attempt to replace one another.”<sup>1</sup> Initial views of the AEF were towards reducing forward presence while maintaining a means to rapidly project air power in Southwest Asia in the event of increased tensions.

The purpose of the AEF is to give regional Commanders in Chief (CINCs) an air power package that is tailorable to the task at hand and, most importantly, rapid, responsive, and reliable. In the current incarnation of the AEF, tasked units are expected to prepare (generate) aircraft, deploy, and launch combat sorties in-theater within forty-eight hours after an “Execute Order” is given. Further, with resupply, the AEF must sustain combat operations for the duration of the conflict or crisis.<sup>2</sup>

While there have been some AEF tests in PACAF, the majority of AEF deployments to date have focused on the Middle East and the mission of enforcing the United Nations' sanctions against Iraq. Beginning with the first AEF to Bahrain in October 1995, the Air Force has progressively increased the size and speed of subsequent deployments. From a Middle East perspective, Air Combat Command (ACC) units now have experience deploying to, and operating from, bases in Bahrain, Jordan, and Qatar.

There are two reasons for this emphasis on the Southwest Asia. First, the continuing requirement for forces in Southwest Asia has produced an operations tempo problem for combat units in ACC who receive the bulk of these taskings. ACC wants to improve the rapid reaction capability of the AEF with the goal of reducing our forward presence. Second, deployments have helped bolster our presence in the region during periods of increased tensions with Iraq. The deployments have also demonstrated an increasing ability to achieve the goal of "bombs on target" within forty-eight hours of tasking.

As the AEF concept has evolved, it has grown to include a scheduling aspect. In an effort to inculcate an Expeditionary Air Force mindset in the Air Force and to address the operational pace (ops tempo), the Air Force is organizing around ten AEF wings. Two of these wings will be placed on a modified alert status for a three-month period. In the event of a contingency these "alert" units would be the first to deploy.<sup>3</sup>

As mentioned previously, the size and composition of an AEF is dictated by the assigned task. An AEF designed to halt an armored advance would look remarkably different than one designed to support a humanitarian operation. Initial AEFs supporting Operation Southern Watch were designed to provide precision guided munitions delivery, air superiority, and suppression of enemy air defenses (SEAD) capabilities. Originally

consisting of 30 aircraft, these AEFs have been expanded to include tanker aircraft as well as B-52 and B-1 bombers. The more recent evolution of the AEF now includes elements of high-demand, low-density assets such as the E-3 AWACS, U-2, and E-8 JSTARS.

Despite the mobile nature inherent in airpower, numerous constraints must be resolved before deploying an AEF. Among these are access to the host country, airfield infrastructure, airlift availability, and munitions.<sup>4</sup>

Host nation access is the most constraining requisite for any AEF deployment. While most nations will accede to the deployment of air power to their country in a crisis situation, there may be situations where the host nation may not view the threat to United States interests with the same sense of urgency.

In a similar vein, overflight of, and landing rights at, enroute nations also play into the speed or ability of the AEF to deploy. While the AEF is a rapid reaction endeavor, many countries require advanced notification to obtain “diplomatic clearances” for overflight. Further, some principal mobility bases, like RAF Mildenhall, routinely observe “quiet hours” or reduced operating periods.<sup>5</sup> These restrictions decrease the speed and/or throughput of the mobility effort.

Due to deployment timelines, a combat AEF requires a modicum of existing support and infrastructure to support air operations. As a minimum, AEFs require access to an adequate weight-bearing runway, ample ramp space to park deployed aircraft, room for a tent city or billeting, and access to fuel and water. The parking requirements for fighter aircraft must be great enough to permit safe separation of weapons loaded fighter aircraft to preclude “sympathetic detonation” of munitions on adjacent aircraft in the event of a

weapons mishap. Granted, distance requirements may be waived or eased, but this can only be done with the increased risk of a catastrophic accident. Further, strategic airlift aircraft must have sufficient space to offload materiel and to preclude ramp closure in the event an airlifter breaks after landing. The ramp space issue usually becomes one of the main constraints in airfield selection. While there are many runways with adequate runway and weight bearing capacity, most airports in third world regions do not have the ramp space available to accommodate parking for an AEF-sized force.

Aside from infrastructure concerns, deploying Air Force wings still rely on a heavy footprint of prepositioned materiel, equipment, and facilities at the forward operating location. Aircraft tugs (towing equipment), munitions trailers, and aerospace ground equipment such as power carts, fuel trucks, and cryogenic carts are all indispensable to sustained combat operations. They are also bulky and heavy, consuming valuable space on airlift assets. Other safety items such as mobile aircraft arresting systems and crash/fire/rescue trucks can be delayed or dispensed with in emergency situations, but only at the cost of increased risk to aircrews and aircraft.<sup>6</sup>

Perhaps the most challenging aspect of the AEF is the logistics tail associated with sustained operations. Currently AEF units are expected to arrive at their forward operating base prepared to conduct operations for three to seven days.<sup>7</sup> Theater or strategic airlift assets that are already heavily tasked under competing contingency plans must cover the time between Deployment Day 3 (D+3) and D+30. After D+30, sealift assets should begin to arrive in theater.

A quick calculation of munition requirements for a Southwest Asia (SWA) AEF provides an illuminating example of the magnitude of the munitions sustainment effort.

The current SWA AEF consists of 12 air-to-air aircraft (F-15C), 12 precision guided munition (PGM) capable aircraft (F-16CG or F-15E) and 6 suppression of enemy air defenses (SEAD) aircraft (F-16CJ). If one assumes a 2.5 sortie rate per aircraft per day, the delivery of 2 PGMs per F-16CG sortie, an expenditure rate of 2 AMRAAM missiles per F-15C sortie, and the employment of two HARM missiles per F-16CJ sortie, munition requirements for three days of combat are 180 PGMs, 180 AMRAAMS, and 90 HARM missiles.<sup>8</sup> Granted, the mere presence of F-15C aircraft may deter an aggressor from employing his air force thereby reducing the AMRAAM requirement. Similarly, the employment of HARM missiles would be expected to drop after the first few days as the enemy becomes sensitized to the HARM threat and enemy radar threats are destroyed. However, unless weather is a factor, PGM expenditure totals are reasonable and, for an equivalent size F-15E unit, slightly low.

In terms of lift, the Air Force Scientific Advisory Board estimates that up to 80 per cent of available lift will be consumed by bomb bodies. For example, 12 fighters dropping 8000 pounds per day PGMs (equivalent to 2 sorties per day per deployed F-16 CG aircraft) requires 96 short tons of bomb bodies per day. This translates into 10C-130, 5 C-141, or 2 C-17 sorties per day. For a fully armed B-52 or B-1, one sortie's worth of munitions will require either one C-5 or 2 C-17s to load it.<sup>9</sup> In short, munitions support will be the long pole in any combat type AEF.

For the present time, prepositioning of munitions in regional or theater stockpiles remains a feasible option. There are adequate munitions prepositioned to support current operations in Southwest Asia, Korea, and Bosnia (Italy). To offset logistics problems, the Scientific Advisory Board has recommended that the Air Force establish regional

Control Centers (RCCs) within 1500 to 2000 miles of potential trouble spots. In addition, they propose setting up two “super” RCCs in Spain and Diego Garcia. The idea is that RCCs should be close enough to be supported by in-theater C-130 or C-17 assets.<sup>10</sup>

Aside from munitions, the main challenge to the AEF will remain the availability of tanker and airlift assets. Airlift assets, in particular, have not received the attention they warrant. C-141 aircraft have decreased from an inventory of approximately 400 to a current level of 161.<sup>11</sup> By 2006 the last C-141 will exit the inventory. In its place will be the highly capable C-17, of which the Air Force only intends to purchase 120. While the C-17 has 2.5 times the capacity of the C-141, the total available lift is still less than the original C-141 fleet.

Despite these issues, the combat oriented AEF represents a pragmatic response to conflicts in major theaters for the foreseeable future. Lacking a peer competitor for the foreseeable future, and with three mature theaters in republics of the former Yugoslavia (Bosnia), Korea and Southwest Asia, the AEF provides theater CINCs with an airpower capability that is timely and responsive. It is of value in deploying to a theater where adequate provisions have made to rapidly beddown forces and where bulky items such as munitions are prepositioned.

The AEF, however, is not as adaptable to an immature theater where necessary infrastructure is lacking if the requisite 48-hour timeline is to be maintained. Absent the ability to preposition some assets near the deployment base, deploying units will be forced to bring the materials with them at the expense of additional airlift and time.

Fortunately, many of the deployability issues of the AEF are being addressed. The development of small, “smart” bombs that retain the firepower effects of current

munitions with a 60% reduction in weight will reduce lift requirements. A mini “tent city” for 1100 personnel that previously required 24 C-141 loads is moving to 8 loads, while electronic tags and scanners improve the ability to precisely track the movement of cargo through the logistics pipeline.<sup>12</sup>

However, as theater ballistic missiles continue to proliferate, forward-deployed forces like the AEF offer an increasingly lucrative and attainable target. Lacking a viable theater ballistic missile capability, the introduction of an AEF type force may have to be coincident with an attack on the enemy’s ability to threaten our forces. In this regard, long range, heavy payload bomber assets on global strike type missions might provide the initial punch necessary to keep an adversary’s head down while an AEF arrives in theater and begins to generate combat sorties.

As can be seen, the combat AEF provides a credible response for a mature theater. While there are still unresolved issues, the Air Force is working hard to address these issues. Unfortunately, this emphasis seems to be lacking in the humanitarian version of the AEF.

### Notes

<sup>1</sup> Tam T. Vo, 1st Lt., “Exploratory Analysis of the Deployment Feasibility of United States Air Force Expeditionary Forces”, Air Force Institute of Technology (AFIT) Graduate School of Logistics and Acquisition Management Thesis. Wright-Patterson AFB, OH, 1997, p. 11

<sup>2</sup> Brig. Gen. William Looney, “The Air Expeditionary Force: Taking the Air Force into the Twenty-First Century.” *Airpower Journal*, Vol. X, no. 4 (Winter 1996), p. 6

<sup>3</sup> “USAF Concept of Operations for Expeditionary Aerospace Force Implementation – Draft,” 2 Dec 98

<sup>4</sup> Robert P. Fuchs, et al., *Report on United States Air Force Expeditionary Forces*, SAB-TR-97-01, Vol. I (Washington, D.C.: United States Air Force Scientific Advisory Board), p. 12

<sup>5</sup> Robert S. Trip, et al., *Enhancing the Effectiveness of Air Expeditionary Forces*. RAND Report, Santa Monica, CA.: RAND May 1997, p.20

<sup>6</sup> Fuchs, Vol. I, p. 13

## Notes

<sup>7</sup> This figure is from two sources. The first figure if three days sustainment is based on the author's work on the AEF while assigned to HQ CENTAF/DOXP. The seven day figure is from a November 1997 Scientific Advisory Board study on USAF Expeditionary Forces.

<sup>8</sup> According to unpublished notes from AEF I, a sortie rate of 2.5 sorties per day per aircraft was used for planning.

<sup>9</sup> Fuchs, Vol 1, p. 41

<sup>10</sup> Ibid., p. 5-6

<sup>11</sup> Telecom with HQ AMC/XPPF, 16 December 1998. 161 figure reflects inventory in FY 99/4.

<sup>12</sup> Tom Kuhn, "Ideas that Lift the Air Force," *Airman Magazine*, Vol. 42, April 1998, p. 9

## Chapter 5

### HUMANITARIAN AEF

*“For the Armed Forces, troubled states and transnational threats will probably occupy an increasing amount of their time in the future, further complicating existing OPTEMPO problems. The ethnic, tribal, and religious extremism revived by the end of the Cold War gives no indication of abating. Even if United States interests are limited, humanitarian motivations fueled by media and public attention are likely to encourage our participation in some of these tragedies.”*

Hans Binnendijk<sup>1</sup>

Joint and service doctrinal publications recognize a number of military operations short of war. While some of them such as strikes, raids, and the evacuation of noncombatants lend themselves to the previously described combat-oriented AEF concept, the majority of current military operations require a unique set of skills and a differently tailored force structure, strategy and training. However, current AEF literature pays scant attention to the AEF's use in non-traditional military operations. This is unfortunate, as employment of military aerospace forces will be most likely in support of non-traditional military operations.

Differences between a combat and non-combat, or humanitarian, AEF begin in the planning phase. In a combat oriented AEF, the most probable threat can be discerned before hostilities begin and the force package can be tailored appropriately. In addition, since the AEF must operate out of an established base in a host country in order to meet

the combat sortie timeline requirements, theater commanders can identify deployment locations before they are required.<sup>2</sup>

Humanitarian or non-combat AEFs are the antithesis of this notion. Humanitarian AEFs usually strike with little warning and run the gamut from famine to natural disaster. As such, the design of a humanitarian AEF force may be more of an ad hoc process based on the scale of the contingency and the ability of the affected region to absorb aid due to limited or damaged infrastructure. Further, deployment locations can only be roughly guessed at. Even then, the infrastructure for airlift and operations may be degraded or non-functioning. In addition, MOOTWs normally involve civil engineers, medical, and airlift elements to a much larger scale than seen in a conventional combat AEF. Finally, while combat oriented AEFs are quick reaction events to preserve initiative and demonstrate resolve, humanitarian or peacekeeping AEFs do not necessarily have the same timeline requirements.

After forces arrive in theater, on scene commanders face different worlds. A combat AEF commander will normally receive direction through traditional chains of command and interact with familiar allies and or military organizations. The combat AEF commander is also focused on a mission he is comfortable with.

Conversely, the humanitarian AEF commander may be working as part of a coalition of nations with which he has never worked, or be operating under the aegis of the United Nations. As a result, the leadership and managerial skills of on-scene commanders require as much of a persuasive aptitude as command abilities.

A significant complicating effect may be the presence of non-military entities such as Private Voluntary Organizations attempting to provide parallel relief services. Private

Voluntary Organizations (PVOs) as defined by USAID are tax-exempt, non-profit organizations working in international development that receive some portion of their annual revenue from the private sector and receive voluntary contributions of money, staff time, or in-kind support from the general public. While the term PVO ends to be a United States usage, the term NGO is used internationally and increasingly is the generic reference term for the community as a whole.<sup>3</sup> PVOs include such well known organizations as CARE, World Vision International, OXFAM Federation, the MSF (Medicin sans Frontieres) group, Save the Children Foundation, CIDSE (Cooperation Internationale pour le Developpement et la Solidarite), APDOVE (Association of Protestant Development Organizations in Europe), and EUROSTEP.<sup>4</sup>

The international political and economic power of these organizations should not be underestimated. For example, the United Nations General Assembly granted the International Committee of the Red Cross (ICRC) observer status in 1990 and the President of the U.N. Security Council and the New York delegate of the (ICRC) confer on a weekly basis.<sup>5</sup> As a result, NGOs are now increasingly assuming state-type functions, such as the provision of public services, in areas like health and education to an extent that was unimaginable a decade ago.<sup>6</sup>

The cultural characteristics of NGOs often clash with the more traditional roles of intervening military organizations in a number of ways. In the first place, disaster relief services are a significant industry and tend to solicit media attention. Economically, eight disaster relief agencies control half of the \$8 billion disaster relief market and media attention is one of the primary means used to request contributions from the public.<sup>7</sup> Research has shown that income increases significantly when purchased advertisements

are combined with coverage of the PVOs work on national television and radio programs.<sup>8</sup> PVO desires for media coverage may conflict security concerns of on-scene commanders.

Secondly, NGOS are normally independent entities that tend to develop their own plans and programs. They are not accustomed to working with other organizations nor are they arranged along hierarchical lines like a military organization. Instead greater autonomy is given to individuals working in the field. Finally, NGOs are normally committed to a long-term presence in the region. In many cases aid workers may have been in place well before the introduction of military personnel and tend to work toward an end state instead of an exit strategy.

Perhaps the most unique aspect of a PVO is its apolitical stance. Most relief organizations gain access to nations based on the fact that they espouse no political affiliation and are viewed as a neutral form of assistance. However, military forces represent both the positive and negative perceptions of their parent country. As a result, some relief organizations may refuse to work with deployed military forces out of concern of losing their neutrality in the eyes of the host nation.<sup>9</sup>

PVO criticism of military relief operations extend beyond the organizational differences cited above to include cultural differences. The military's concept of the final objective and the tools they have to reach that objective may be inadequate for the task at hand. For example, military engineers concentrate on the speed of the construction rather than permanence since they do not need roads and bridges to last for generations.<sup>10</sup> Along the same lines, medical units are trained to perform surgery on battlefield casualties. However, what is usually required is a local health staff and provisions for

food, clean water, and sanitation.<sup>11</sup> Similarly, PVOs tend to embrace the media to a much greater degree than their military counterparts.

In short, the humanitarian AEF is a unique leadership challenge that the Air Force has yet to fully address.

### Notes

<sup>1</sup> Hans Binnendijk, “A Strategic Assessment of the 21<sup>st</sup> Century”, *Joint Forces Quarterly*, Autumn 1996, p. 68

<sup>2</sup> Brig. Gen. William Looney, “The Air Expeditionary Force: Taking the Air Force into the Twenty-First Century.” *Airpower Journal*, Vol. X, no. 4 (Winter 1996), p. 7

<sup>3</sup> Lisa W. Davidson, et al., *Humanitarian and Peace Operations: NGOs and the Military in the Interagency Process*. Washington, D.C.: Center for Advanced Concepts, Technologies, and Information Strategies, National Defense Universities, p. 10

<sup>4</sup> Thomas G. Weiss and Leon Gordenker, *NGOs, The U.N., and Global Governance*. (Boulder CO.: Lynne Rienner Publishers), p. 91

<sup>5</sup> *Ibid.*, p. 86

<sup>6</sup> *Ibid.*, p.89

<sup>7</sup> *Ibid.*, p. 91

<sup>8</sup> Andrew S. Nastios, “The International Humanitarian Response System,” *Parameters*, Spring 95, Vol. 25, No. 1, p. 71

<sup>9</sup> Davidson, p. 14

<sup>10</sup> Peter Walker, “Foreign Military Resources for Disaster Relief: An NGO Perspective.” *Disasters: The Journal of Disaster Studies and Management*, Vol. 16, No. 2, (June 1992), p. 155

<sup>11</sup> *Ibid.*, p. 156

## **Chapter 6**

### **Conclusions**

The AEF represents a pragmatic attempt to balance a CONUS-based, declining force structure with the uncertainty of the post-Cold War world. However, it continues to use a conventional world model for the employment of forces. Current AEF planning emphasizes the deployment of combat forces in support of a major theater of war to provide a theater CINC with a quick reaction “halt phase” type forces. While the AEF concept discusses the flexibility of an AEF to support the gamut of military operations, most of the emphasis has been on the conventional Southwest Asia model.

In reality, AEF employment in support of a major regional contingency may be the least likely scenario. As mentioned previously, capabilities demonstrated by United States forces during the Gulf War have highlighted the fallacy of challenging the United States on a conventional battlefield.

On the other hand, United States involvement in humanitarian and disaster relief operations is almost certain to increase. As the sole remaining power with the military capability and economic resources to influence world events, the United States will be increasingly called upon to participate or lead international relief operations. It is probably safe to say that the military’s focus has shifted from one of nuclear deterrence

with a peripheral interest in regional conflicts, to a current focus that requires equal proficiency in operations short of war and major theater war.

With this background in mind I offer the following recommendations for continued AEF development.

### **Increase Emphasis on Humanitarian AEF Planning and Education**

In forming the AEF, Air Force leaders are trying to make air power more responsive to national security leaders. To remain viable and useful in the future the Air Force needs to adapt to a world where the threat may not be a nation-state in search of territory, but a mass of people fleeing an epidemic or a tyrannical despot. In this environment proficiency at rapid and global humanitarian and peacekeeping operations will be as equally important as combat operations.

While the logistics demands of combat style AEFs are more challenging, humanitarian AEFs have their own unique challenges that the military is not fully prepared for. In these deployments, emphasis switches from bombs on target to providing fresh water, food, and medical care. Deployment packages that support a combat unit may not be adequate for these types of events.

Culturally, military commands need to learn how to interact with PVOs in a contingency operation that optimizes the contribution of both the PVO and the military aspect. Establishing liaison offices at unified commands and developing a working relationship with PVOs during a period of calm would reap dividends in cooperation in the event a contingency occurs.

Along the same lines, the Air Force needs to develop a broad cadre of area specialists knowledgeable in regions of the world that are prone to disaster and least

capable of handling it. For fifty years our intelligence and cultural focus has been on the European and Korean theaters in the context of a Soviet incursion to the exclusion of other volatile areas of the world.

In the current era, commanders must be as culturally adept at dealing with a humanitarian operation in Rwanda as they are with combat operations in Southwest Asia or Korea. The emphasis on Europe and Korea has to be balanced with our increasing involvement in other regions of the world. NATO experienced commanders may be well versed on European cultural and political issues, they are usually not as knowledgeable in Middle Eastern customs or on the history of developing African nations. An Air Force sponsored degree plan might be one means to improve the overall international sophistication of its officer corps.

Currently, the Air Force pays for its members to obtain Masters degrees in topics such as Aeronautical Sciences from Embrey-Riddle University. In many cases, these degrees are merely “square fillers,” have limited to no applicability to the Air Force mission, and are of questionable repute as graduate level work. At the same time, a major complaint of Air Force officers is that in many instances course work towards a master’s degree is not universally transferable from one base (university) to another.

One possible solution is for Air University to work with other academic institutions to offer an International Relations Masters’ program through base education offices. The program should be a political science based course with an opportunity to specialize in a particular region. It also needs to be 100% transferable from one duty location to another. Ideally, AU could develop the curriculum in concert with other academic institutions, but allow base education offices and extension campuses to administer the

program. Since schools such as the University of Southern California (USC), Embrey-Riddle, and Troy State Universities are virtually ubiquitous throughout the Air Force, these institutions would be prime candidates to implement the program.

The overall benefit of this suggestion is that Air Force members would obtain a degree in something that is of use to the member in the field and is helpful in promoting the Expeditionary Air Force culture.

### **Look for Alternatives to Forward Presence Style AEFs**

While the current AEF strategy involves deploying air power to a trouble spot in a rapid manner, the proliferation of ballistic missile, chemical, biological, and nuclear technologies to numerous third-world and non-state actors has created a new threat to this approach of forward deployment. By the turn of the century it is estimated that 20 countries will have roughly 12,000 short and medium range ballistic missiles.<sup>1</sup> Although nuclear technology is still a significant stretch for many non-state actors, crude chemical and biological weapons delivered by non-traditional means pose a danger to forward-deployed forces.

AEFs need to include theater ballistic missile defensive systems in their planning. Prepositioning Patriot units or deploying the future airborne laser should provide a near-term capability, however, a more prudent long-term approach would be to re-look at our current acquisition strategy which is heavily slanted toward expensive and relatively short range fighters.

Long range bombers equipped with cruise missiles take advantage of the global reach and precision of air power while offering the enemy a fleeting opportunity to retaliate. In addition, they offer the option of conducting global strike missions from the

United States or from in-theater locations removed from the front. The acquisition of future deep strike type platforms should emphasize long range and endurance bomber assets over shorter range fighters.

### **Reinvest in Strategic Airlift**

Every discussion of AEF employment assumes airlift is an available commodity. By its very nature, an AEF cannot rely on slower surface transport for anything other than those materials that are in close proximity to the AEF location. However, the current airlift acquisition strategy places this assumption in doubt for two reasons.

First, while the Air Force is in the process of acquiring 120 C-17 type aircraft to replace the C-141 and augment the aging and increasingly unreliable C-5, this acquisition represents a decrease in overall airlift assets from Desert Storm. This creates a larger penalty on the airlift system when an aircraft breaks. In addition, C-17s will become the preferred lift option as they are specifically designed to provide a small “footprint” and decrease constraints as to the number of aircraft that can be handled at any one time.<sup>2</sup> As a result, demand will most likely far outstrip supply.

Second, AEF discussions do not include the impact of other services vying for airlift assets in a contingency. While some airpower advocates might view air power as single-handedly prevailing in a contingency, in all likelihood Army and Marine assets would also be deployed, while naval assets would self-deploy.

Except for Korea, Air Force units are postured to fight their Cold War adversary, the Soviet Union. Based upon recent history, some of our more likely areas of involvement will include regions of Central and South America, Africa, and the Middle East that have limited existing basing options. In Central America the closure of Howard AFB in

Panama will take away a valuable staging base for air assets. Similarly, while United States forces will have some level of access to Saudi and Kuwaiti bases for the foreseeable future, long-term, unfettered access to these bases is unlikely. Air power will have to move great distances and cannot assume the existence of luxuries such as prepared fields with modern infrastructure and facilities, especially in MOOTW operations. Airlift assets like the C-17 will become as critical as air superiority in ensuring mission success.

### **Rediscover Our Expeditionary Roots**

The Air Force needs to instill an expeditionary mindset into its culture by rediscovering its history. During the Cold War the major commands of Strategic Air Command (SAC), Tactical Air Command (TAC), and Military Airlift Command (MAC) displayed the gamut of mindsets from garrison to expeditionary. Of the three commands, SAC was the most garrison-like in its psychology and culture in that its units were stationed at fixed bases and rarely deployed. At the opposite extreme, MAC deployed around the world. In fact, former C-130 MAC aircrews might find the “new-found” emphasis on expeditionary operations somewhat comical. TAC had a somewhat mixed experience with expeditionary operations. While combatant commands in USAFE and PACAF planned to fight from their home base, CONUS-based TAC units were prepared to deploy to augment combatant commands in the event of a contingency as part of the Composite Air Strike Force. In short, the Air Force already has an expeditionary history that it should tap into.

Ironically, Air Force mid and senior level leaders with assignments in these pre-Cold War institutions may be the ones who require the most education. Nearly half an Air

Force career has elapsed since the end of the Gulf War. A growing majority of the Air Force populace has “grown up” with the turmoil of frequent deployments. It is those individuals with ten or more years of experience who can contrast the current era of frequent deployments with the “good old days” of the Cold War.

Recent attempts at using the AEF to reduce ops tempo strains are laudable, but in the final analysis ops tempo will be driven by the uncertainties of the changing world and the American public’s willingness to remain engaged in world events.

### **Notes**

<sup>1</sup> Thomas S. Moorman, Jr., US Air Force Vice Chief of Staff, Remarks to the 75th Royal Australian Air Force Anniversary Air Power Conference, 14 June 1996

<sup>2</sup> Robert P. Fuchs, et al., *Report on United States Air Force Expeditionary Forces*, SAB-TR-97-01, Vol. I (Washington, D.C.: United States Air Force Scientific Advisory Board), p. 40

## *Bibliography*

- Trip, Robert S., et al. *Enhancing the Effectiveness of Air Expeditionary Forces*. RAND Report, Santa Monica, CA.: RAND May 1997
- Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, September 1997
- Air Force Doctrine Document (AFDD) 2-3, *Military Operations Other Than War*, October 1996
- Atkins, Lt. Col. Sheryl Giusto. "The Air Expeditionary Force: What You Need, When You Need It", Newport, R.I., Naval War College, June 1997
- Berry, Nicholas O. *War and the Red Cross: The Unspoken Mission*. New York: St. Martin's Press, 1997
- Binnendijk, Hans. "A Strategic Assessment of the 21<sup>st</sup> Century", *Joint Forces Quarterly*, Autumn 1996: [67-68]
- "Can Strike Command Really Strike?" *Airman*, January 1965: [6-11]
- Davidson, Lisa W., et al. *Humanitarian and Peace Operations: NGOs and the Military in the Interagency Process*. Washington, D.C.: Center for Advanced Concepts, Technologies, and Information Strategies, National Defense Universities
- Davis, Paul K. and Finch, Lou. *Defense Planning for the Post Cold-War Era*. RAND National Defense Research Institute, Santa Monica, CA.: RAND 1993
- Davis, Richard G. *Immediate Reach, Immediate Power: The AEF and American Power projection in the Post Cold War Era*. Maxwell AFB, AL.: USAF History and Museums Program, 1998
- Fisher, John T. *Civil Military Operations in the New World Order*. Westport, CT: Praeger Publishers, 1997
- Fuchs, Robert P., et al. *Report on United States Air Force Expeditionary Forces*. Air Force Scientific Advisory Board SAB-TR-97-01. Washington, D.C.: United States Air Force, 1997
- Fulghum, David A. "Tough Schedules Thin USAF Ranks," *Aviation Week and Space Technology*, Vol. 147, no. 11, 15 Sep 97: [78-79]
- Greco, Thomas F., "Non-Military Agencies in Campaign Planning." Fort Leavenworth, Kansas, School of Advanced Military Studies, United States Army Command and General Staff College, 1996
- Green, Lt. Col. Michael A. and Tiberi, Lt. Col. Paul. "Contingency Planning: Time for a Change." *Parameters*, September 1987: [35-45]
- Harvey, Frank *Strike Command*. New York: Meredith Press, 1962
- Joint Publication (JP) 3-07. *Military Operations Other Than War*, 16 June 1995
- Kuhn, Tom "Ideas That Lift the Air Force." *Airman Magazine*, no. 42 (April 1998): [8-9]
- Looney, William Brig. Gen. "The Air Expeditionary Force: Taking the Air Force into the Twenty-First Century." *Airpower Journal*, Vol. X, no. 4 (Winter 1996): [4-9]

- Nastios, Andrew S. "The International Humanitarian Response System," *Parameters*, Vol. XXV, no. 1 (Spring 95): [68-81]
- "Proliferation: Threat and Response" November 1997, n.p. On-line. Internet. Available from <http://www.defenselink.mil/pubs/prolif97/slides.html>
- Toffler, Alvin and Heidi. *War and Anti-War*. New York: Little, Brown, and Company, 1993
- "USAF Concept of Operations for Expeditionary Aerospace Force Implementation – Draft," 2 Dec 98
- U.S. Department of Defense. *1997 Quadrennial Defense Review*. Washington, D.C.: Office of the Secretary of Defense, 1997
- Vo, 1st Lt. Tam T. "Exploratory Analysis of the Deployment Feasibility of United States Air Force Expeditionary Forces", Air Force Institute of Technology (AFIT) Graduate School of Logistics and Acquisition Management Thesis. Wright-Patterson AFB, OH, 1997
- Walker, Peter, "Foreign Military Resources for Disaster Relief: An NGO Perspective." *Disasters: The Journal of Disaster Studies and Management*, Vol. 16, No. 2, (June 1992): [152-159]
- Weiss, Thomas G. and Gordenker, Leon *NGOs, The U.N., and Global Governance*. Boulder, CO: Lynne Rienner Publishers, 1996
- Wenkovich, Maj Steven. "From Port Salines to Panama City: The Evolution of Command and Control in Contingency Operations." Fort Leavenworth, Kansas, US Army Command and General Staff College, 1990
- Yost, David S. "The Future of U.S. Overseas Presence," *Joint Forces Quarterly*, Summer 1995: [70-82]

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