

AU/ACSC/126/1999-04

AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

21ST CENTURY WARFARE: IS THE AEF READY TO PLAY?

By

Fredrick D. Shelton, LCDR, USNR
Russell T. McLachlan, LCDR, USN

A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

Advisor: CDR Robert Threlkeld

Maxwell Air Force Base, Alabama

April 1999

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) 01-04-1999		2. REPORT TYPE Thesis		3. DATES COVERED (FROM - TO) xx-xx-1999 to xx-xx-1999	
4. TITLE AND SUBTITLE 21st Century Warfare: Is the AEF Ready to Play? Unclassified				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Shelton, Fredrick D. ; McLachlan, Russell T. ;				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 A PUBLIC RELEASE ,					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT Nearly eight decades have passed since early aviators like Billy Mitchell and Guilio Douhet first advocated strategic air power theory. Their original ideas still permeate all aspects of U.S. Air Force basic doctrine. The Air Expeditionary Force (AEF) concept is based on this notion of rapid deployment of strike forces anywhere in the world, and single-handedly sustaining operations in that region. The basic flaw of the AEF plan is to be based in the continental U.S. (CONUS). With no access in theatre, how will the Air Force achieve sustained air superiority? This paper will prove the AEF's present configuration cannot support all theatres due to limited access, insufficient mobility assets, and logistical support problems. This paper compares the capabilities and limitations of the AEF and Carrier Battle Group (CVBG) with regards to expeditionary features. We then apply the Navy and Air Force capabilities to real world scenarios to analyze the validity of current force structures. With the end of the Cold War, collapse of the Russian economy, and a renewed push for global democratization, many question the need for a robust military. The effectiveness of both, the AEF and CVBG will be discussed. Lastly, we give recommendations for revisions to the AEF, enabling its effective participation in future joint operations.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:		17. LIMITATION OF ABSTRACT Public Release	18. NUMBER OF PAGES 46	19. NAME OF RESPONSIBLE PERSON Fenster, Lynn lfenster@dtic.mil	
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified		19b. TELEPHONE NUMBER International Area Code Area Code Telephone Number 703767-9007 DSN 427-9007	
				Standard Form 298 (Rev. 8-98) Prescribed by ANSI Std Z39.18	

Disclaimer

The views expressed in this academic research paper are those of the author(s) and do not reflect the official policy or position of the U.S. government or the Department of Defense. In accordance with Air Force Instruction 51-303, it is not copyrighted, but is the property of the United States government.

Contents

	Page
DISCLAIMER	ii
ABSTRACT	Error! Bookmark not defined.
INTRODUCTION: DEFINING THE MISSION	1
AEF CONCEPT	5
AEF LIMITATIONS	9
Overseas Bases and Host Nation Support.....	10
International Overflight Requirements	10
Logistics and Transport Aircraft Availability.....	11
Joint Airlift Requirements.....	12
Support Aircraft Availability	13
CVBG AND NAVAL AVIATION: A BETTER WAY?.....	15
CVBG Capabilities	16
Carrier Airwing Composition	17
Numbers and Limitations.....	17
Sortie Rates	18
AEF OPERATIONS	23
LESSONS LEARNED.....	24
Effective Beddown.....	26
Airlift.....	26
Guard and Reserve Participation	29
Heavy Bomber Sortie Rate	29
FUTURE OPERATIONS AND RECOMMENDATIONS	32
FUTURE OPERATIONS	32
RECOMMENDATIONS.....	33
The Future of Munitions	34
Rigid Deployment Schedule	34
Numbers and Lengths of AEFs.....	35
HVLD Aircraft.....	35
Logistics.....	36
Use of Familiar AORs	36
Restricting the Carrier and AEF AORs	37
CONCLUSION.....	37
BIBLIOGRAPHY	40

Abstract

Nearly eight decades have passed since early aviators like Billy Mitchell and Giulio Douhet first advocated strategic air power theory. Their original ideas still permeate all aspects of U.S. Air Force basic doctrine. The Air Expeditionary Force (AEF) concept is based on this notion of rapid deployment of strike forces anywhere in the world, and single-handedly sustaining operations in that region. The basic flaw of the AEF plan is to be based in the continental U.S. (CONUS). With no access in theatre, how will the Air Force achieve sustained air superiority? This paper will prove the AEF's present configuration cannot support all theatres due to limited access, insufficient mobility assets, and logistical support problems. This paper compares the capabilities and limitations of the AEF and Carrier Battle Group (CVBG) with regards to expeditionary features. We then apply the Navy and Air Force capabilities to real world scenarios to analyze the validity of current force structures. With the end of the Cold War, collapse of the Russian economy, and a renewed push for global democratization, many question the need for a robust military. The effectiveness of both, the AEF and CVBG will be discussed. Lastly, we give recommendations for revisions to the AEF, enabling its effective participation in future joint operations.

Chapter 1

Introduction: Defining the Mission

Both the Army and the Navy may well possess the aerial means to aid their respective military and naval operations; but that does not preclude the possibility, the practicability, even the necessity of having an air force capable of accomplishing war missions solely with its own means.

Giulio Douhet, 1921

Nearly eight decades have passed since General Douhet, the father of bomber aviation, first advocated this strategic air power theory. His original ideas still permeate all aspects of U.S. Air Force basic doctrine. Even the “Air Expeditionary Force” (AEF) concept is based on this notion of rapid deployment of strike forces anywhere in the world, and single-handedly sustaining operations in that region. While no one would dispute the fact that the United States has the premier Air Force in the world, the basic flaw of the AEF plan is that it is CONUS-based. With no access in theatre, how will the Air Force achieve sustained air superiority? This paper will prove the AEF’s present configuration does not support all theatres due to limited access, insufficient mobility assets, logistic support problems, and deployment costs.

The U.S. Navy Carrier Battle Group (CVBG) provides a unique instrument with which to compare capabilities to the AEF. The desire is not to pick one service over the other, but rather show the need for restructuring the AEF to make the Air Force a more

viable and offensive joint service. First, we review the hierarchy of strategic concepts for employing the AEF and CVBG by examining the U.S. National Security Strategy (NSS) and National Military Strategy (NMS). Second, we define the AEF and CVBG concepts, outlining unique warfighting capabilities and limitations each bring to the theatre. Third, we look at real world deployments of early AEFs to document lessons learned useful for proposed future applications of the AEF. Lastly, recommendations are given for changes in force structure for the USAF to meet future NSS and NMS objectives while maintaining morale and retention.

With the end of the Cold War, collapse of the Russian Communist ideology, and a renewed push for global democratization, many lawmakers and taxpayers question the future need for a robust and offensive military. After all, the United States is unarguably the last remaining superpower. However, even though our military might is unparalleled, it is not unchallenged. The dangers we face now and in the future are very complex and unorthodox. As stated in the NSS, “Ethnic conflict and outlaw states threaten regional stability; terrorism, drugs, organized crime and proliferation of weapons of mass destruction (WMD) are global concerns that transcend national borders.”¹ Although the U.S. is doing great economically, the U.S. economic strategy of enlargement does not allow a passive position in international conflict. As it has been said, “To whomsoever much is given, of him shall be much required.”² Our government realizes the only way to really achieve a “New World order” is by sharing our prosperity and democratic ideals with the rest of the world. This is clearly stated as the NSS’s three core objectives:³

- Enhance security with effective diplomacy and military forces.
- Bolster U.S. economic prosperity.
- Promote Democracy abroad.

The priorities President Clinton has presented to achieve these core objectives all include the underlying theme of constructing international ties through democratic, political and economic means. However, the President's final guidance states: "We must have the diplomatic and military tools to meet all these challenges. We must maintain a strong and ready military. We will achieve this by selectively increasing funding for weapons modernization and taking care of our men and women in uniform."⁴ This becomes the root of our military's financial struggle. Each service continues to lobby to show the importance of desired weapons systems that are fiscally out of reach. We live in a world of "selectively increased funding." The Reagan military buildup of the 1980s is gone, and will not return for any conflict short of global war. The current military mindset is do more with less, and be ready to deploy at a moment's notice to any "hotspot" in the world with a lean and lethal force.

This is the driving force behind the USAF's plan to change the way they do business, and to become "expeditionary" in nature. However, this is not a new concept. In July 1955, the Air Force unveiled the Composite Air Strike Forces (CASF) concept.⁵ It was designed to be an integrated, self-supporting organization that could deploy to a crisis area and operate until normal operational forces deploy into the area.⁶ The CASF included all elements of a modern air force: fighters, ground attack aircraft, reconnaissance, bombers, and transports. The concept came as a result of the foreign policy shift during the Eisenhower administration from massive retaliation to flexible response.⁷ However, due to the Vietnam War and internal resistance within the Air Force, the CASF concept was formally inactivated in July 1973.⁸

The Navy and Marine Corps team has maintained this expeditionary mindset since its inception, and is forward-deployed 365 days a year. However, many of the USAF's forward bases have been closed in recent years, forcing the bulk of their aircraft to be CONUS-based. Overseas bases have dwindled from 50 down to 17 since the end of the Cold War.⁹ If forced to choose, the Air Force leadership would rather close bases in the U.S., but politicians find constituencies much more satisfied with the Base Realignment and Closure Committee (BRAC) targeting airfields far from home. As a result, AEFs will now have to deploy to relatively primitive bases in a short timeframe, bringing all necessary supplies and personnel with them - a difficult logistics and transportation task at best. This task is a necessity if the USAF is to meet the challenge of the NMS as set forth by the Secretary of Defense (SECDEF) and the Chairman of the Joint Chiefs of Staff (CJCS). The NMS strategic approach embodies the concepts of "Shape, Respond and Prepare now."¹⁰ We must **Shape** the international environment and create conditions favorable to U.S. interests and global security. Our Armed Forces must **Respond** to the full spectrum of crises in order to protect our national interest. We must also take steps to **Prepare now** for an uncertain future."¹¹ The AEF concept was designed specifically to meet these challenges in support of the NMS. Does it fit the bill?

AEF CONCEPT

The airplane is the only weapon, which can engage with equal facility, land, sea and other forces...

MGEN Frank M. Andrews, ACC, 1938

It is okay to believe MGEN Andrews if you have a plan to get them to the fight. General Billy Mitchell said “To develop anything, the underlying thought and reason must govern, and then the organization must be built up to meet it.” Well said. So what is the AEF anyway? What is the EAF? The EAF, or Expeditionary Aerospace Force, is General Mitchell’s “organization” of which he spoke. Although use of the AEF/composite wing concept has been explored for nearly a decade,¹² there is still much confusion even within Air Force ranks. According to General Dick Hawley, the EAF, or Expeditionary Aerospace Force, is an entire force culture change to help work the operations tempo (OPSTEMPO) problem for the Air Force.¹³ The entire aerospace “force” will eventually be broken down into ten AEFs (deploying forces).¹⁴ In many mission areas this will significantly improve the stability and predictability of deployments so people can manage both their professional and personal lives.¹⁵ If successful, the AEF concept would go a long way toward improving morale and retention within the Air Force.

The problem for the USAF in meeting their “tenets of air and space power”¹⁶ with the current force structure is that the organization is not geared to be expeditionary. It requires fully functional forward bases (including permanently deployed support personnel) from which to operate. This is a major fiscal dilemma. As mentioned earlier,

Congress would much rather accomplish a “draw-down” of overseas bases and facilities, which do not affect constituencies’ jobs back home. This equates to less and less forward-deployed bases. General M. E. Ryan, Chief of Staff of the USAF, states, “The USAF is no longer a Cold War garrison force focused on containment. The U.S. no longer has the massive preplanned “beddown”¹⁷ bases with the fixed infrastructure. The paradigm has shifted to a world that requires rapid and tailored engagement in many regions and many situations.”¹⁸ The AEF concept proposes to change the way the USAF does business and fulfill all tenets of air power.

The old method was to deploy single squadrons of like aircraft to bases solely tailored to their specific needs. With the AEF, the USAF now deploys a package of aircraft (usually between 30-40 F-15’s and F-16’s)¹⁹ to one forward base from geographically separated but operationally linked U.S. bases. The long-range bombers (such as B-52’s, B-1’s and B-2’s) will remain CONUS-based on dedicated alert as backup.²⁰ As mentioned, the current plan is to have ten of these separate AEF packages. Two of these would be on call to respond at any given time, and will remain on call for a 90-day period.²¹ This deployment rotation would be set up according to a predetermined schedule, so each AEF package will only have one 90-day alert every 15-18 months, similar to the rotational deployments of the Navy’s CVBG.²²

The current goal of the AEF alert packages is to be able to conduct combat sorties in theater, 48 hours after an execute order is issued and then sustain combat airpower for three to five days without resupply.²³ This timeline is a great capability considering an aircraft carrier would have to tether within 1500 nautical miles to reach a theater within two days.²⁴ Each AEF package should be able to generate only 40 and 60 combat sorties

a day in support of a Joint Force Commander's (JFC) campaign plan,²⁵ but this is a function of the 48-hour constraint. The current plan for actually deploying an AEF is to send four tankers attached to the package to get them to the theater in the quickest manner, nonstop direct. Approximately 50-60 (C-141 equivalent) cargo missions will also have to be scheduled for each AEF package in order to bring the 1200 personnel needed to support the aircraft and run the base.²⁶ Additional cargo missions will be required to bring in the ammunition, fuel and food requirements. If the long-range bombers are also going to accompany the AEF package, then additional tankers and cargo assets will also be required to sustain them. However the optimal plan is to keep the bombers home, launch and integrate them into the strike missions as needed from their CONUS bases, returning home after the strike. Regardless of the complexities and questions of feasibility, all of these AEF goals fully support the six Core Competencies that are at the heart of the USAF's strategic perspective:

- Air and Space Superiority.
- Precision Engagement.
- Information Superiority.
- Global Attack.
- Rapid Global mobility.
- Agile Combat Support.²⁷

Considering today's strategic environment, the question is whether or not the Air Force can turn theoretical capabilities into practice. Scheduled to be online in the year 2000, the USAF predicts two AEF packages should be able to support most small-scale contingencies anywhere in the world. Global attack with precision guided munitions (PGM) against specific enemy centers of gravity is the future of armed conflict. The days of massive 1,000 plane bomber raids are over. Dependent upon superior targeting information from space-based and ground-based electronic assets, the AEF asserts the

ability to rapidly destroy targets anywhere on the globe. Couple this with a combat support team that is ready to set up an airfield within 48 hours notice, and you have a credible force for the JFC.

U.S. forces certainly do enjoy a technological advantage, and is experienced in its employment. Major General Lance Smith, Commander of AEFs III and IV, says the problem has never been at the tactical level – “We know how to employ airpower.”²⁸ The question is how does the USAF plan to deploy (not employ) the packages? According to BGEN W. R. Looney (Commander, AEF II), the USAF envisions the AEF operating in one of three scenarios: as a deterrent, an additive force, or force-filler.²⁹ For the deterrent role, he says, “Perhaps a simple statement from Washington that an AEF has been put on alert would be enough to deter or deflate a potential crisis.”³⁰ If this virtual presence strategy doesn’t work, the AEF could actually deploy to the “hotspot” and be combat ready within 48 hours. As an additive force, Looney offered that an AEF could be deployed to increase the airpower available to any regional JFC in times of heightened tensions, such as Bosnia or Operation Northern Watch.³¹ Finally, as a force-filler, they could respond if a CVBG gap is projected for a certain Area of Responsibility (AOR).³² These gaps will now be a certainty. Based on Navy limitations, the Chief of Naval Operations (CNO) has signed up for only 270 days of Arabian Gulf coverage. If there are simultaneous crisis in the Mediterranean or in Southeast Asia (cf. - Straits of Taiwan incident of 1996), the carriers will be pulled out of the Arabian Gulf AOR and redeployed to the crisis areas. The AEFs could then be deployed to the Arabian Gulf to fill the gap until the carrier returned.

As mentioned, from a public relations standpoint, the successful application of the AEF concept addresses the ability to tackle the deployment and retention problems at the same time. With a known rotation schedule of 15-18 months, personnel can better plan for possible 90-day separations, and significantly reduce the total number of days deployed overseas. Keep in mind, the plan is to keep the AEFs CONUS-based, on call, but not actually deployed until time of crisis. “Certainly, being tied to a beeper at Langley AFB is a better option than being deployed to Southwest Asia [SWA] on 90-120 day stints.”³³

AEF LIMITATIONS

We enter the 21st century where our enemies are not known. With “pop-up” contingencies becoming a way of life, the flexibility that an AEF provides is in high demand. However, the cultural change within the service will not happen overnight. Leadership is going forth with the plan, knowing there are limitations and challenges. Major General Smith is confident of the ability to get there in 48 hours – it has been done several times now.³⁴ However, some of the current problems expose the need for further analysis: overseas bases and host nation support, foreign nation overflight requirements, logistics and transport aircraft availability, Army versus USAF deployment requirements, and support aircraft availability. The USAF will have to deal with all of the above challenges every time they plan on deploying to a crisis or in their “force-filler” mission.

Overseas Bases and Host Nation Support

Overseas bases and host nation support is the first challenge for the AEF. If our diplomats and regional CINC can't persuade a country to host our forces, then there are three options; 1) deploy to one of our remaining 17 overseas bases and hope it is close enough to the fight, 2) fly bomber missions only, from CONUS bases, and hope this deters the enemy, 3) send in a special forces team to take over an airport in enemy territory (requiring no prior permission); send in the army to hold it, then finally deploy an AEF for combat operations. Although this last option sounds a little facetious, the USAF and Army have affiliated two composite wings with airborne and ranger forces which are specifically trained for forced entry and airfield takedown missions.³⁵ This option is very risky, and the cost in dollars and lives could be exorbitant.

International Overflight Requirements

Assuming our diplomats are successful in acquiring host nation support for a deploying AEF, the next problem will be foreign nation overflight permission. To fly from CONUS to any AOR (except for possibly the Caribbean) will require U.S. aircraft to cross somebody's coastline on their way to the fight. If one or more nations deny these overflight requests, then deployment missions become much more circuitous and lengthy (or impossible). This can require additional tanker assets if a semi-direct flight to the AOR is desired. If the additional tankers aren't available, then additional host country support must be granted for intermediary stops for fuel. This further complicates the process. Pilot fatigue will also be a concern, as normal fighter missions are only one to three hours long. However, it can be done, as proven by the deployment from Langley AFB, Virginia direct to Jordan non-stop for AEF II in June 1996. The flight took over

thirteen hours.³⁶ Needless to say, these F-15 pilots were not combat ready upon their arrival.

Operation El Dorado Canyon conducted against Libya and Muammar Qaddafi in April 1986 is an example of the potential difficulties that lie ahead for the USAF. The fear of terrorist reprisals and loss of business caused France, Germany, Italy, and Spain to refuse to cooperate in a military strike against Libya.³⁷ Using USAF F-111s from RAF Lakenheath, England, the mission required a round-trip flight of 6,400 miles that lasted thirteen hours, requiring eight to twelve in-flight refuelings for each aircraft.³⁸

Logistics and Transport Aircraft Availability

Logistics and transport aircraft availability are currently the biggest question marks plaguing the AEF concept. Although the AEFs will be separated into ten separate packages of 30 fighter/strike aircraft, there is no dedicated transport aircraft attached to packages. Thus, even if the first two problems of host nation support and overflight rights are granted, our two AEF packages might arrive well ahead of their support personnel, fuel, weapons and essential maintenance supplies.

Of course, the logistics chain does not end once they arrive in theater. A continuous air bridge will have to be established to support these crews and aircraft in their primitive forward bases. Prepositioning supplies for anticipated contingencies around the world could partially solve the initial logistics crisis, but only if the right locations are chosen. General Smith identifies this as the number one problem facing the AEF that deploy outside of already established bases. “If you don’t go to the Gulf or Jordan, logistics will be the difficult task.”³⁹ If the logistics planners select the wrong sights for these forward-deployed stockpiles, then they further complicate the transport aircraft predicament.

Additional flights will be needed to move these stockpiles to the correct AEF airbases.

The following is BGEN Looney's attempt to counter this limitation:

"At first glance, one might think this [strategic and tanker asset availability] would create a severe constraint. However, the deployment of an AEF would most likely occur during periods with normal day-to-day airlift requirements, not, for example during a severe crisis, a major regional conflict about to erupt, or early in an isolated crisis situation."⁴⁰

This is contradicting to the entire AEF concept. After all, it is based on the notion of being able to rapidly deploy to any crisis situation, anywhere on the globe within 48 hours.

The "bare base" logistics issue is a known problem, but solutions are forthcoming. "Harvest Phoenix" is the Air Force's latest attempt in streamlining this mobility issue for the AEF. It addresses the temporary housing facilities needed for expeditionary deployments. Drawing from the lessons learned from Desert Storm and subsequent AEF deployments (cf. - Harvest Eagle). Harvest Phoenix demonstrates the reconfiguring of a "bare base" housekeeping package into a lightweight streamlined 275-person package that is transported on two C-141 aircraft.⁴¹ Current logistic requirements for Harvest Eagle require 24 (C-141 equivalent) aircraft to support 1,100 personnel, whereas the implementation of Harvest Phoenix requires only eight (C-141 equivalent) aircraft. The reduction in size and weight provides AEFs with a significant reduction in airlift, logistics, and deployment site set up time.⁴²

Joint Airlift Requirements

To further exacerbate the strategic airlift dilemma, the Army is anxious to know which service gets first priority for transport into a crisis situation. All the discussion heretofore has been about getting the AEF to the theater. Since the Army also had its

overseas bases slashed, they also brought the bulk of their forces home. In time of crisis, they also need to deploy from CONUS. For example, the mission statement for the Eighteenth Airborne Corps at Fort Bragg is to: *Maintain the XVIII Airborne Corps as a strategic crisis response force, manned and trained to deploy rapidly by air...anywhere in the world, prepared to fight upon arrival and win.*⁴³ However, the Air Force has already stated that “AMC cannot meet the Army’s Division Ready Brigade-Medium (DRB-M) airdrop requirement with today’s fleet. The number of C-141s is decreasing while the C-5 is not equipped or certified to fly the mission at this time.”⁴⁴

Since the USAF transport and tanker fleets are rapidly shrinking due to airframe fatigue of their aging KC-135s and C-141s, this transport dilemma will only get worse before it gets better. The production rate of the USAF’s newest transport aircraft, the C-17, cannot match the retirement rate of the C-141, and current plans are to retire the entire C-141 fleet by 2003, and only buy 120 C-17s by 2004. The Air Force currently owns only 35 of the 120 C-17s.⁴⁵ “The cargo airlift shortfall is based on AMC’s inability to meet the Mobility Requirements Study Bottom-Up Review Update (MRS BURU) requirement of 49.7 million ton-miles per day.”⁴⁶ These numbers are substantial and raise an important question. Should ground troops be sent in first to prevent the enemy from taking precious airfields, or is the AEF sent first to stop the enemy ground forces with airpower alone?

Support Aircraft Availability

The two AEFs that deploy to any given theater are certainly not going in without additional support aircraft to back them up, which necessitates further airlift and tanker flights. For example, the USAF fighter or strike aircraft typically do not fly without an

AWACS (Airborne Weapons and Control System) airborne to direct them. AWACS, bombers and other high value-low density (HVLD) aircraft do not neatly fit into the ten proposed AEFs. There are simply not enough to support the envisioned AEF schedule. Moreover, since the retirement of the EF-111, the sole electronic tactical jammer remaining in the inventory is the Navy's EA-6B Prowler.

The EA-6B joint venture between the Air Force and Navy is the result of a decision between the two services and the secretary of defense to consolidate the mission of airborne threat radar jamming.⁴⁷ In September 1995, the first combined squadron, Tactical Electronic Warfare Squadron (VAQ) 134, stood up and has recently deployed to Marine Corps Air Station, Iwakuni, Japan. The second squadron, VAQ-133 stood up in April of 1996 and deployed in 1997.⁴⁸

Despite the cost savings, others in Air Force leadership view this as a setback because of the Prowler's subsonic speed. Moreover, many are disappointed about the 1.4 billion dollars spent on an often-unavailable national asset.⁴⁹ These aircraft quickly become over-tasked supporting Suppression of Enemy Air Defense (SEAD), strike, counterair or air interdiction missions. The heavy bombers will also have to be brought into theater if the JFC is even considering any type of round the clock bombing campaign. (It is impossible to do this with 30+ hour roundtrip flights from CONUS bases). Since there are not ten squadrons of any of these HVLD aircraft to match the ten AEFs, they are going to be severely overtasked if required to deploy every 90 days with another AEF package. All of these HVLD aircraft will also require additional ramp space, fuel and weapons at these forward airbases. Housing, food and security must also

be provided for their support personnel. These additional issues have no near term solutions.

So why is the Air Force changing after fifty years of unequalled success among air forces? As mentioned, “expeditionary” and “flexible” is the way of the next century’s warfare. Many parallels are drawn from the Navy’s rich heritage of expeditionary operations. While the Navy is not a universal remedy for the 21st century, it offers comparable capabilities for the AEF. The next section provides an orientation in naval warfare to provide better understanding of this new Air Force direction.

CVBG AND NAVAL AVIATION: A BETTER WAY?

From the first post-Cold War strategic white paper, *From the Sea*, (1992) to today’s program guide for the U.S. Navy, *Vision...Presence...Power*, (1998), the Navy’s direction is clearly stated. Admiral Jay Johnson, Chief of Naval Operations (CNO), states, “These strategic and operational concepts serve two fundamental purposes: to sustain our Navy’s operational primacy and ensure our ability to influence events ashore, directly and decisively, from the sea.”⁵⁰ The Navy-Marine Corps team is certainly unique in its ability to position self-sustaining airpower and combat troops twelve miles off any coast and remain there for sustained operations. The other fundamental difference for the Navy-Marine Corps team is its capability to quickly shift missions from either a humanitarian effort, to a deterrent role, or to go on the offensive as an overwhelming attacking force “from the sea.”⁵¹ The following is an examination of CVBG capabilities, limitations, and airwing composition.

CVBG Capabilities

Forward presence is the key. “On any given day, approximately one-third of our naval forces are deployed overseas, with another twenty percent or so underway from home ports. Naval expeditionary forces are “on-scene,” operating day in and day out, in each of the major deployment regions - the Mediterranean Sea, Arabian Gulf, Indian Ocean, Western Pacific, and Caribbean.”⁵² As more and more overseas bases close, our ability to react to any given crisis with the Army or Air Force greatly decreases. The goal for all military forces is to support the President’s NSS core objectives as stated earlier. By maintaining a forward presence with CVBGs, the U.S. government is much closer to attaining those NSS core objectives. There is no greater diplomatic tool for deterrence than a 90,000-ton carrier sitting twelve miles off the coast. The number of distinguished visitors (DV) hosted by deployed carriers during recent deployments show this philosophy at work.

No host nation agreement or overflight permissions are required for the Navy, which certainly gives our leaders greater flexibility to react quickly to any global crisis. Remember, our National Military Strategy is based on three concepts – **Shape, Respond, and Prepare**. The flexible nature of the CVBG is shown by its ability to rapidly relocate itself to any global hotspot, and remain there indefinitely, while sustaining itself at sea. A CVBG does not have to enter port to re-fuel, re-arm, or re-supply itself, as this is all done while underway at sea by supply ships. No air bridge or strategic airlift assets are required to maintain the Navy’s combat capability. This flexibility and self sufficiency helps our country positively shape the world through peaceful diplomacy. Instead of “retrenching” forces back to the U.S., the Navy remains forward deployed, preparing

itself for any future conflict. The Air Force must mirror this capability to successfully meet the challenges of the 21st century.

If you look at any speech given by Admiral Johnson, you quickly discover the Navy is not immune from challenges, but an examination of what a CVBG gives the JFC, reinforces the need for “more of the same” flexibility and forward presence. The following paragraphs provide a snapshot of some of the advantages (and challenges) the CVBG possesses, making it a benchmark for AEF designers.

Carrier Airwing Composition

Each airwing embarked onboard a carrier is comprised of the following squadrons: three F/A-18 fighter/attack squadrons (twelve aircraft in each), and one F-14 fighter squadron (fourteen aircraft); there is one EA-6B electronic jamming squadron (four aircraft); one E-2C airborne early warning squadron (four aircraft, similar to an AWACS); one S-3B antisubmarine/tanker squadron (six to eight aircraft); one C-2 cargo/transport squadron (two aircraft); and one SH-60 helicopter squadron (six to eight aircraft).⁵³ Except for supplemental tankers required for long-range strikes, the carrier alone brings a very lethal self contained *Naval* Air Force to the fight. The JFCs want more of this capability. The AEF is the Air Force “ante” to stay in the game.

Numbers and Limitations

The U.S. Navy currently has twelve aircraft carriers and ten airwings, and will maintain this force structure through at least the year 2020.⁵⁴ Only three carriers are non-nuclear, with the last conventional carrier scheduled to retire by 2018.⁵⁵ Nuclear power enables our carriers to move rapidly through the seas, without the need to be refueled every five to seven days, greatly increasing their flexibility and endurance. However,

even the nuclear carriers are dependent on replenishment at sea for jet fuel, weapons, and food. Considering combat operations, the most important issue is the jet fuel. For normal flight operations, a nuclear carrier uses approximately seven percent of its jet fuel everyday. This necessitates the need for supply ships at a minimum of every two weeks. If the OPTEMPO increases, the need for replenishment increases. In this respect, sustained operations are a challenge to any service.

Another challenge facing the Navy and Air Force is the price of these sustained operations. As our force shrinks and our OPTEMPO increases, this endurance is taking a toll on people. “Real world operational experiences during the 1990s and numerous studies have confirmed a force of fifteen carriers is needed to satisfy the requirements for a full-time carrier presence in critical world regions. A force of twelve carriers enable presence and war-fighting needs to met at an acceptable level of risk.”⁵⁶ This risk comes because there are gaps in carrier presence if the Navy stays within the 180-day deployment schedule cycle. Each CVBG is on an 18-month rotation for these six-month cruises. All services are being forced to provide packages of capability that are actually becoming more and more alike.

Sortie Rates

Operationally, the Carrier’s airwing is roughly equal to two deployed AEFs, as it can easily support 100 strike and 20 support sorties per day.⁵⁷ However, in response to a crisis situation the carrier can “surge” its abilities and double these numbers. During a recent exercise, the Nimitz battle group and its airwing, CVW-9, participated in six days of intense scenario driven operations, which generated about 700 sorties.⁵⁸ Following this, operations paused for sixteen hours while the ship’s company and aircrews got ready

for a surge exercise, which simulated a crisis scenario. During the four-day surge exercise, CVW-9 flew 975 sorties.⁵⁹ This was only one carrier; the capabilities present during Desert Storm consolidated the assets of six carriers operating in the same theater. These CVBGs not only provided 24-hour continuous air attacks both at sea and ashore, but also directly supported our ground forces and protected Sea Lines of Communication (SLOC). This protection is essential. Free passage of supply ships transiting the Strait of Hormuz and Arabian Gulf to Saudi ports such as Ad Dammam and Ra's al Khafji, was critical to the build-up of army units and land-based air forces during Operation Desert Shield.

There are two major limitations to the Navy's capability. The first is Admiral Johnson's Arabian Gulf limitation of 270 days, based on a twelve-carrier force. Something will have to fill the gap, and the Air Force has proven it can do this in SWA. Secondly, no one would believe the Navy could be a stand-alone service, regardless of capability. Operation Desert Storm is a perfect example illustrating the need for the Air Force contribution. A forward-deployed Navy is only one small piece of the capability required. For example, in Desert Storm, the Navy provided only 18,303 combat sorties, compared to the USAF's 41,577 combat sorties. Moreover, the USAF flew 27,849 non-combat sorties (i.e. - airlift/tanker) raising their contribution to 58% of all sorties flown by the coalition. The Navy's numbers (all combat) represent only 15% of the coalition total.⁶⁰

Although the Desert Storm numbers are impressive, military planners cannot afford to forget the massive lodgment afforded coalition forces by Operation Desert Shield. Because a six-month buildup is a luxury not guaranteed in every conflict,

“expeditionary” has become the marquee for all services. The next chapter explores the evolutionary process the USAF has been using to become “expeditionary.” The research centers on the USAF successful deployments to the post Desert Storm SWA, and summarizes the major lessons learned.

Notes

¹ Clinton, William J., President of the United States of America, *A National Security Strategy for a New Century*, October 1998, pg. 6.

² Luke 12:48, New Testament, King James Version

³ Clinton, William J., President of the United States of America, *A National Security Strategy for a New Century*, October 1998, pg. i.

⁴ Ibid.

⁵ Krisinger, Chris J., MAJ, USAF, “A Carrier Airwing for the Air Force,” *Airpower Journal*, spring 1992, pg. 38.

⁶ Futrell, Robert Frank, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force*, vol. 1, 1907-1960, Maxwell AFB, AU Press, December 1989, pg. 450.

⁷ Krisinger, Chris J., MAJ, USAF, “A Carrier Airwing for the Air Force,” *Airpower Journal*, spring 1992, pg. 38.

⁸ Ibid.

⁹ Goodman, Glenn W., “An Expeditionary Aerospace Force,” *Armed Forces Journal International*, August 1998, pg. 18.

¹⁰ Shalikashvili, John M., Chairman of the Joint Chiefs of Staff, *National Military Strategy of the United States of America*, September 1997, pg. 1.

¹¹ Ibid.

¹² Goodman, Glenn W., “An Expeditionary Aerospace Force,” *Armed Forces Journal International*, August 1998, pg. 19.

¹³ Hawley, Dick, GEN, USAF, Commander, Air Combat Command, Langley AFB, Virginia, press release, 15 January 1999.

¹⁴ Goodman, Glenn W., “An Expeditionary Aerospace Force,” *Armed Forces Journal International*, August 1998, pg. 19.

¹⁵ Hawley, Dick, GEN, USAF, Commander, Air Combat Command, Langley AFB, Virginia, press release, 15 January 1999.

¹⁶ Ryan, Michael E., GEN, USAF, Chief of Staff of the Air Force, *Air Force Basic Doctrine (AFDD1)*, September 1997, pg. 21.

¹⁷ “Beddown” refers to the infrastructure and support features at forward-deployed bases, including runway facilities, tents, physical perimeter security measures, etc.

¹⁸ Goodman, Glenn W., “An Expeditionary Aerospace Force,” *Armed Forces Journal International*, August 1998, pg. 18.

¹⁹ Looney, William R., BGEN, USAF, “The Air Expeditionary Force: Taking the Air Force into the Twenty-first Century,” *Airpower Journal*, winter 1996, pg. 6.

²⁰ Goodman, Glenn W., “An Expeditionary Aerospace Force,” *Armed Forces Journal International*, August 1998, pg. 19.

Notes

²¹ Tirpak, John A., "Air Expeditionary Force Takes Shape," *Air Force Magazine*, vol. 80, no. 6, June 1997, pg. 31.

²² Goodman, Glenn W., "An Expeditionary Aerospace Force," *Armed Forces Journal International*, August 1998, pg. 19.

²³ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

²⁴ This is based on the ability inherent in modern carriers to maintain a transit speed in excess of 30 knots.

²⁵ Looney, William R., BGEN, USAF, "The Air Expeditionary Force: Taking the Air Force into the Twenty-first Century," *Airpower Journal*, winter 1996, pg. 6.

²⁶ Ibid., pg. 8.

²⁷ Ryan, Michael E., GEN, USAF, Chief of Staff of the Air Force, *Air Force Basic Doctrine (AFDD1)*, September 1997, pg. 27.

²⁸ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

²⁹ Looney, William R., BGEN, USAF, "The Air Expeditionary Force: Taking the Air Force into the Twenty-first Century," *Airpower Journal*, winter 1996, pg. 6.

³⁰ Ibid.

³¹ Ibid.

³² Ibid.

³³ Ibid., pg. 8

³⁴ Tirpak, John A., "Air Expeditionary Force Takes Shape," *Air Force Magazine*, vol. 80, no. 6, June 1997, pg. 30.

³⁵ Neubauer, John A., LTCOL, USAF, "Air Expeditionary Forces: Providing Operational Alternatives," Unpublished paper, Naval War College, Newport, Rhode Island, June 14, 1996, pg. 12.

³⁶ Looney, William R., BGEN, USAF, "The Air Expeditionary Force: Taking the Air Force into the Twenty-first Century," *Airpower Journal*, winter 1996, pg. 9.

³⁷ Boyne, Walter A., "El Dorado Canyon," *Air Force Magazine*, March 1999, pg. 59.

³⁸ Ibid.

³⁹ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

⁴⁰ Looney, William R., BGEN, USAF, "The Air Expeditionary Force: Taking the Air Force into the Twenty-first Century," *Airpower Journal*, winter 1996, pg. 7.

⁴¹ Davis, Joseph, TSgt, USAF, AEF Battlelab press release, Mt Home AFB, August 1997.

⁴² Ibid.

⁴³ Kernan, William F., LTGEN, USAF, Commanding General, XVIII Airborne Corps and Fort Bragg, <http://www.bragg.army.mil/18ABN/mission.htm>, March 1999.

⁴⁴ AMC Headquarters, <http://public.scott.af.mil/hqamc/about/98ammp.pdf>, "Air Mobility Master Plan," Scott AFB, pg. 5-22.

⁴⁵ Ibid.

⁴⁶ Ibid., pg. 5-1.

Notes

⁴⁷ Rivard, Ronald, LTCOL, USAF, Joint Operations Staff, NAS Whidbey Island, Washington, "EA-6B Combined Program Continues Successful Start," Air Force News Service, AF Link website, 1996.

⁴⁸ Ibid.

⁴⁹ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

⁵⁰ Johnson Jay, Chief of Naval Operations, ADM, USN, *Vision Presence Power*, 1998, pg. I.

⁵¹ Ibid., pg. 8.

⁵² Ibid., pg. 3.

⁵³ Polmar, Norman, "The U.S. Navy-Carrier Questions – and Some Answers," *Proceedings*, April 1998, pg. 104.

⁵⁴ Johnson Jay, Chief of Naval Operations, ADM, USN, *Vision Presence Power*, 1998, pg. 18.

⁵⁵ Ibid.

⁵⁶ Ibid., pg. 17.

⁵⁷ Starr, Barbara, "USN Seeks 24-hour 200-Strike Carrier," *Jane's Defence Weekly*, vol. 28, No. 3, July 23, 1997, pg. 22.

⁵⁸ Jewell, Angela, and Wigge, Maureen, "Surge 97: Demonstrating the Carrier's Firepower Potential," Research Analysts at the Center for Naval Analyses, *Proceedings*, September 1998, pg. 79.

⁵⁹ Ibid.

⁶⁰ Keaney, Thomas A., and Cohen, Eliot A., *Gulf War Air Power Survey Summary Report*, United States Department of the Air Force, Washington, D.C., 1993, pg. 184.

Chapter 2

AEF Operations

To date, the USAF has completed seven AEF test deployments.¹ Until the ten proposed AEFs are ready to go, lessons learned and battle lab simulations are used to provide relevant information on AEF capabilities and limitations.

The first AEF deployed to Bahrain as a test case using a reduced force of 18 aircraft and 600 people. It was a minimal deployment effort with little real world application, whose sole purpose was to build the requirements database for future deployments. However, AEF II and III deployed with 30 aircraft each to Jordan and Qatar in 1996. Each stayed for 90 days and participated in operation Southern Watch.² AEF IV was diverted and ended up in Qatar because Jordan denied base access prior to the deployment. MGEN Smith led this effort as the test of the no-notice deployment concept. Bombs on target in 48 hours – it worked! However, MGEN Smith contributed much of the success of the deployment due to established conditions he left in Doha the previous year.³ AEFs V, VI and VII were also successful redeployments to established bases, and supported operations in SWA and Bosnia in support of Operations Southern Watch and Deny flight. In 1996, President Clinton and the NSC required two carriers in the Arabian Gulf at all time. However, the limitation in numbers of CVBGs eventually

made this impossible. Consequently, AEFs were used to fill carrier gaps in support of NSC requirements.

All of these recent AEF deployments were sent to forward bases with established infrastructures, logistics support and prepositioned support gear. This made the deployments much easier as they only needed to bring their essential personnel and planes in order to meet the 48-hour tasking order. This would have been much more difficult to accomplish if the AEF had to build the entire base upon arrival. This is the crux of the problem for the USAF. Wargaming exercises have recently been designed to simulate a deployment where host nation support is lacking, or adequate infrastructure is not available. Future research could reveal solutions for the AEF by examining such exercises. The following lessons learned are limited to the experiences of AEFs deployed to SWA (post Desert Storm), but offer insights to the challenges that lie ahead.

LESSONS LEARNED

Putting bombs on target within 48 hours of being tasked takes a Herculean effort for even the best-equipped and most potent Air Force in the world. Advances in technology have greatly improved numerous areas, helping us to move men and equipment faster, hit targets more accurately and make living conditions more tolerable for those in the field. In fact, these are recognized strong points where the USAF has the edge over the Navy. Precision guided munitions have moved the military to a position where servicing targets is more important than counting strike sorties. Although our discussion on sortie rates pointed out a carrier can produce more strike sorties compared to a single AEF, MGEN Smith argues that the Air Force can support approximately the same amount of targets

with an AEF because of aircraft like the F-15 Strike Eagle which can service more targets per sortie compared to current carrier-based strike aircraft like the F-18 and F-14.⁴

The F-15 Strike Eagle's capabilities far outperform the Navy and Marine Corps' F/A-18C/D in armament delivery. The Strike Eagle is capable of carrying five PGMs. The number is based on carriage of two weapons on wing pylons (two on each conformal fuel tanks (CFTs)) and one on the centerline of the fuselage.⁵ In sharp contrast, the current carrier-based F/A-18C/D Hornets can only carry two PGMs. Assuming the argument of "one bomb – one target" is accurate, the USAF is far superior when measuring lethality per aircraft.

The new F/A-18E/F *Super Hornet* numbers are more encouraging, providing the ability to carry up to four of the currently used PGMs due to the addition of two more weapons stations.⁶ In designing the *Super Hornet*, the Navy blends low observable technology with state-of-the-art defensive electronic countermeasures, reduced areas of vulnerability, and high precision technology air-to-air and air-to-ground weapons.⁷ Technology has clearly leveled the playing field in the AEF versus carrier comparison, and will continue to drive both services toward more research and development of modern "smart" munitions.

Assuming the right "tools" are available to the AEF every time, the bulk of the lessons learned (read "challenges") center on logistics and airlift, vice technological aspects of the AEF. Remember what MGEN Smith said, "We in the Air Force know how to fly airplanes, take out targets, and move our forces at the tactical level; its what we practice on a daily basis."⁸ The problems affecting the USAF are the political tug-of-wars that occur between the joint service chiefs, host nations, Guard and Reserve units

and internal service leadership in deciding how best to employ our forces. His insight is reflected in the following areas identified as potential challenges for future AEF operations.

Effective Beddown

AEF III lacked a forward base in Qatar. As soon as the troops walked off the transports they immediately prepared for the arrival and turnaround of the arriving F-15s and F-16s. Only after taking care of aircraft could they devote time to building security perimeters, a tent city and hangar facilities.

During General Smith's AEF deployments, Kobar Towers in Saudi Arabia was bombed by terrorists, forcing the reconfiguration of the entire base, and a quadrupling of security personnel.⁹ Heavy equipment and engineers would now be required for all future AEF bases in order to build the protective berms, bunkers and security posts required by the Chief of the USAF. This requirement adds to the logistics train, and could severely delay the full deployment of an AEF if the base had to be built from scratch, as it was in Qatar.

Airlift

This is challenge number two after access and diplomatic clearances have been granted. Every USAF Leader including Generals Ryan, Cook, Jumper, Looney and Smith, have identified logistics as the biggest headache and detractor for the AEF concept. The following problem areas concerning logistics have been acknowledged:

- A) Currently, no AMC units are incorporated in the AEF deployment cycle plan. If an AEF is called upon to deploy, all of the necessary AMC assets will have to be rerouted from whatever mission they were assigned and proceed to the assigned

bases. Additionally, C-130s will be needed to pick up the required personnel and aircrews to be brought to a centralized airlift location. Lastly, General Smith also emphasized the unanticipated extra C-5s necessary to airlift advanced security and Office of Special Investigations (OSI) personnel to the theater.

- B) The current strategic airlift fleet is already task saturated due to a 61% mission capable rate for the C-5As and 71% for C-5Bs.¹⁰ Further complications come from a slower than anticipated procurement rate for the C-17's and an intensified retirement plan for the C-141's.¹¹ The C-17 production rate will never cover the retirement rate for the C-141. The loss is estimated to be approximately 1,000 pallets each day in capability.¹² Proponents argue that a "one for one" match will not be required, because the C-17 can carry 2.5 times the cargo that a C-141 can carry. However, using this same logic, one missed C-17 sortie loses 2.5 times the cargo. Assuming a 100% sortie rate, the 120 C-17s budgeted will still not come close to replacing the capability of 266 C-141s. Commercial carriers will probably fill this shortage of aircraft; however, they are limited by their inability to carry oversized or hazardous cargo such as aircraft engines.¹³
- C) The 48-hour AEF requirement can only be accomplished if the forward base is already established and has the necessary housing, fuel and weapons in place to support the combat aircraft. However, if these are not present, then additional airlift assets (approximately 2.5 times the normal flights) will be required to bring forward the "Harvest Eagle" logistics package.¹⁴ This will include all the necessary equipment and material needed to build a base to facilitate combat

operations. Alternative transportation lies with the Navy Strategic Sealift Command (SSC), and the tradeoff between speed and money must be balanced.

- D) Currently, an AEF deploys with enough weapons and supplies to sustain 3-5 days of consistent operations;¹⁵ requirements beyond this will require additional “inter” and “intra-theater” airlift missions. Since most of these missions arise around hazardous cargo needs (i.e. – weapons), they cannot be contracted out. This limitation lends credence to the argument for keeping the heavy bombers at home, near munitions depots, and flying them from CONUS in support of AEF operations.
- E) Proposed humanitarian relief missions for the AEF would mostly depend on strategic airlift assets, and only in recent months have there been plans to place a portion of the Air Mobility Command (AMC) forces in charge of AEFs. Will the new EAF take this type of mission in the future? Of course. But until a better plan is available, it will be the same ad hoc arrangement that keeps the schedulers (and the scheduled) in a state of uncertainty.
- F) The additional deployment costs for airlift assets is seven to ten million dollars above similar training requirements at home,¹⁶ and these costs are not currently included in the USAF annual budget.
- G) The USAF has no Depot level maintenance facilities in SWA, and has to rely on “Time-Definite Resupply” and “CONUS Reach Back” for mission critical parts and routine maintenance requirements.¹⁷ The reach back concept will require additional inter and intra-theater airlift assets, unless requirements can be contracted to companies such as DHL and FedEx (currently used in SWA).¹⁸

This concept works well for small parts, but as General Smith explained, you can't order an F-15 engine and expect DHL to get it to you the next day. Oversized cargo will certainly require separate USAF airlift missions to meet the AEF needs.

Guard and Reserve Participation

Adding the Guard and Reserve to the ten AEF schedule is a necessity, but remains a formidable limitation for deploying an AEF. Including a Guard or Reserve squadron complicates the schedule because the bulk of their personnel will be rotating in and out of theater on a regular basis. Short of a presidential order that mandates a partial mobilization of these reserves, the commander of a deploying AEF cannot keep these personnel in theater longer than their assigned tour. This might not be a problem if strategic airlift assets fly back and forth from CONUS and exchange crews [as the guard provides]. However, this does not address the readiness issue if personnel have to continually be retrained in theater. For example, consider a scenario where an AEF is deployed to SWA and has one of the fighter/attack squadrons provided from the reserve. Two week deployments (worst case) will severely limit the AEF in-theater readiness and mission effectiveness.¹⁹

Heavy Bomber Sortie Rate

As mentioned earlier, the amount of bombs and fuel required to support continuous B-52, B-1, or B-2 sorties would severely impact the logistics train if the bombers were to deploy in theater with the fighters.²⁰ As a result, the current plan is to allocate two B-1 bombers to each AEF, but to keep the rest CONUS-based.²¹ This limitation requires the CONUS-based bomber crews to fly nearly 36-hour (roundtrip) missions.²² Accordingly,

bombers account for only one strike sortie per aircraft, per day in contingency planning.²³ The quandary for AEF planners is to shorten these incredibly long missions. One suggestion is to forward deploy the bombers. As discussed, this starts up the vicious cycle of increased requirements for support personnel, maintenance facilities, and host nation access. Although access is a necessity, some leaders attempt to minimize this issue. For example, MGEN Smith's conviction on the "access" issue is, "The U.S. has never had an access problem...in fact, if we do have access issues, perhaps we should not be there in the first place."²⁴ A point well made; and an argument that has made overseas defense spending such a hotly-debated topic in Congress during the last decade. In our final chapter we discuss the future of the AEF, and give recommendations to resolve these issues.

Notes

¹ MGEN Smith commanded AEF III and IV. AEF IV was the first "no notice" test deployment to see if the 48 hour requirement could be met. It was a good opportunity to test AEF capability as they responded in support of Rugged Nautilus in the Arabian Gulf.

² Looney, William R., BGEN, USAF, "The Air Expeditionary Force: Taking the Air Force into the Twenty-first Century," *Airpower Journal*, winter 1996, pg. 8.

³ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

⁴ Ibid.

⁵ ACC Headquarters, <http://www.acc.af.mil/public/library/factsheets/f15e.html>, AF Link website, February 1998.

⁶ Chief of Naval Information, website, "Super Hornet" fact sheet, March 1999.

⁷ Ibid.

⁸ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

⁹ Ibid.

¹⁰ AMC Headquarters, <http://public.scott.af.mil/hqamc/about/98amp.pdf>, "Air Mobility Master Plan," Scott AFB, pg. 5-28.

¹¹ Ibid., pg. 5-2.

¹² Ibid.

¹³ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

Notes

¹⁴ Davis, Joseph, TSgt, USAF, AEF Battlelab press release, Mt Home AFB, August 1997.

¹⁵ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

¹⁶ Tirpak, John A., "Air Expeditionary Force Takes Shape," *Air Force Magazine*, vol. 80, no. 6, June 1997, pg. 33.

¹⁷ Hallin, William P., LTGEN, USAF, "Agile Combat Support," *U.S. Air Force Journal of Logistics*, vol. 21, no. 3-4, 1997, pg. 2.

¹⁸ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

¹⁹ Nowak, Michael, LTCOL, USAF, student at AWC, personal interview, Maxwell AFB, January 26, 1999.

²⁰ Krisinger, Chris J., MAJ, USAF, "A Carrier Airwing for the Air Force," *Airpower Journal*, spring 1992, pg. 37.

²¹ Catoe, Charles, MAJ, USAF, Pentagon, Strategy Concepts and Doctrine Division, personal interview, Maxwell AFB, 19 March 1999.

²² Ibid. This applies to a contingency deployment to SWA.

²³ Smith, Lance, MGEN, USAF, AWC Commandant, personal interview, Maxwell AFB, 25 January 1999.

²⁴ Ibid.

Chapter 3

Future Operations and Recommendations

FUTURE OPERATIONS

So far, the AEF concept has proven it can deploy and support combat operations within 48 hours of being tasked for SWA or Bosnia. However, what happens to this 48-hour time constraint if they have to deploy to Central Africa, South America or a dozen other places that lack the necessary air facilities? Most third world countries cannot support one squadron of aircraft for minimal operations, much less an entire AEF package. As General Looney states, “An AEF has got to go somewhere we’ve been before.”¹ Keeping this limitation in mind, it can be expected that AEF operations will deploy only to Europe, SWA, Korea or Japan where full base support is available. “As USAF veterans will recall, this resembles the old Cold War exercises called ‘Checkered Flag,’ in which tactical wings would pick up wholesale and deploy to sister bases in Europe.”² This is a good concept if the adversaries also limit themselves to these AORs, but what course of action is selected when a quick response to places like Pakistan, Nigeria or the Spratly Islands is needed? Without the diplomatic clearances, forward bases and necessary infrastructure, AEFs will be forced to deploy away from the AOR, but as close to the fight as possible.

Of course, this will require additional tankers, aircrews and fuel, as the mission times get drawn out due to longer and longer transit times. Assuming the additional assets can quickly be brought into theater, the next planning hurdle will be to effectively build your “Gorilla” (large strike package) using CONUS based assets mixed with the AEF strike assets. General McPeak foresaw this problem back in 1990 when he wrote, “The tougher the target is to attack, the more complex the planning problem. Longer ranges to the target means more tankers; modern defenses mean more CAP and sweep, more electronic warfare support, and so forth.”³ This problem is manageable if the Joint Force Air Component Commander (JFACC) only had to concern himself with the two AEF packages. However, most missions require the support of HVLD assets such as AWACS, EA-6B jammers, and F-117 stealth fighters. How many more tankers, AMC assets and bases will these aircraft require?

RECOMMENDATIONS

This is not a panacea, and it was never designed to replace the carrier battlegroup...

- LTCOL Michael Nowak, former executive to General Jumper⁴

While it is understood that every service is fighting for survival in the midst of fiscal restraints, the AEF is not intended as a replacement for the carrier. They both have their respective part to play in National Military Strategy. Given that, let us look strictly at the AEF, and offer tangible changes that will enable the AEF (and EAF) to succeed.

The Future of Munitions

As MGEN Smith stated, this is all about servicing targets. The latest technological advances in munitions have been revolutionary. Small, precision-guided weapons is exactly what both the USAF and the Navy need to enable a smaller “footprint” in other nations. These miniature munitions are currently being developed in conjunction with the future joint strike/fighter aircraft design requirements. All “smart” bombs will be small (250 pounds or less) standoff weapons that are inertial or GPS-guided, wind corrected, with smart warheads able to penetrate hard and deep buried targets.⁵ This will reduce the number of bombs needed to service each target, and ensure a higher probability/kill ratio on the first pass.

“Smart” munitions make warfighting more precise, shrinks the numbers of aircraft and aircrew required, and simplifies logistics. If the EAF philosophy is to work, this nation will continue to be dependent on revolutions in technology. This is on the shelf right now. Senior leaders need to get behind these programs and understand how they will affect U.S. military success in the next century.

Rigid Deployment Schedule

There seems to be a battle among senior leadership over the marketing for this new force structure. As pointed out earlier, many have pitched this as a way to improve morale and retention among all service members, because it will be in part, more predictable.⁶ Others say it is a warfighting concept to make a “leaner” yet still lethal Air Force. Both have to be correct. However, the CONUS-based concept is not going to get the job done.

We propose a rigid forward-deployed schedule of two AEFs at all times. Not just during contingencies, but at all times. Few really believe the AEF will be a deterrent force when it is not visible. Not even the combatant commanders (CINC) in theater. In fact, no CINC has been satisfied with the notion of “call us if you need us.” Since its inception, AEFs apportioned to Central Command have been deployed. Not because there was a crisis, but because they were simply apportioned. Why not just get in the routine? The Navy has been doing it for fifty years. This is not to say schedules are not flexible. In fact, a CVBG deployment may get moved up to assist in a crisis operation, but it will never be the norm.

Numbers and Lengths of AEFs

Has the leadership looked at a smaller number of AEFs? The proposed EAF looks more like a mirror image of the carrier airwing structure found in the Navy. This is not to say it is a simple replication of the Navy’s philosophy, but it may be the right direction. Now juxtapose an EAF with eight instead of ten, and 120-day deployments instead of 90-day deployments. If the USAF desires to seriously consider saving money, it must stop moving people and equipment back and forth with such frequency.

HVLD Aircraft

By cutting the number of AEFs from ten to eight, the USAF can better utilize their HVLDs and avoid the burnout syndrome affecting their over-deployed and over-utilized silver bullets. The Navy experienced this very same problem with our helicopter detachments deploying in “ones” and “twos” aboard small surface ships, such as cruisers, destroyers and frigates. The Navy solution was making one huge squadron on each coast, and creating rigid deployment schedules with specific crews, including maintenance

personnel and equipment. This solved numerous logistics and personnel manning issues, and gave leadership positions to more junior officers as they were tasked to be the officers-in-charge (OIC) of these two aircraft deployments for the entire six months.

Logistics

Routine deployments for the Air Force will make airmen and logisticians more familiar with the requirements for standard routes and enable budgeters to budget AEF deployments from year to year. Materials, parts, and services required all become a known entity. Regularly scheduled shipments can now come in fast Sealift ships saving millions of dollars each year, reducing the strain on the AMC community. Intermediate maintenance facilities can be built to eliminate the wasted airlift assets required to haul hazardous or large items back to the states. Some say this goes against the expeditionary mindset because it makes a larger footprint in the theater. However, regional facilities at established bases will go a long way in cost savings. While there is a tradeoff between size of footprint and airlift costs, permanent housing and munitions depots can also make things easier.

Use of Familiar AORs

The AEF cannot rapidly deploy anywhere in the world. Unless the AEF is going to a fully supported base in an AOR, they will require an inordinate amount of preparatory time to create a secure base and build up their supply, ammunition and fuel storage facilities. The CONUS-based plan severely limits their 48-hour reaction time. Global strike is possible, although at a very minimal sortie rate. Each service obviously has different capabilities, and should concentrate on what each can realistically do, rather than what sounds politically acceptable. The Cold War “Checkered Flag” concept was

devised to rapidly deploy sufficient assets to a familiar AOR in order to defeat a known threat. Revisit this plan, make the necessary logistical adjustments, and apply it to SWA, Kosovo and Korea. Use the USAF where it can be most effective, and let the Navy handle contingency operations where host nation support or permission is not required.

Restricting the Carrier and AEF AORs

By giving USAF AEFs strict forward-deployed AORs, the carriers could be similarly limited by restricting their AOR to the Mediterranean and Southeast Asia. The boundaries could be the Suez Canal for the former, and Singapore for the latter. The USAF is the very best at what it does, but with the current AEF concept, it is destined for failure. Virtual presence and the threat of deploying, deter no one. Forward presence with actual hardware capable of destroying targets within hours is deterrence. The United States Air Force has this capability. The critical question is whether or not it is structured to use it.

CONCLUSION

The AEF concept is a good one, and in the words of Admiral Johnson, “It is a very courageous decision.” Changing the entire structure of the USAF culture is no small feat. To meet the challenges of the 21st century by being “expeditionary,” the mindset of every airman must be changed.

Fully stocked and supported overseas bases are a thing of the past. The only way to meet the national strategy with ever shrinking budgets is to build smaller, less expensive, yet more lethal weapons packages that can swiftly react to an ever-changing world. The

Navy has seen its share of “culture change” during its 223-year history, and can share the USAF’s pain. Sail to steam, battleship to carrier fleet dominance, propeller to jet aircraft, and now, all male to mix gender shipboard crews are just a few examples. The other service chiefs have a proven history in expeditionary warfare, and will be critical in providing insight to help solve the Air Force re-configuration issues.

The most recent AEF deployments have proven it is a viable concept, but only if it deploys to a previously established base. The lessons learned from these deployments show that without host nation support, forward-deployed supplies, and a very intensive airlift armada to keep the supplies flowing, the AEF cannot achieve its 48-hour requirement. The aircraft carrier is a great platform that avoids most of the problems associated with land based forces, but is limited in numbers and speed. It cannot be the sole crisis response force available to the National Command Authority. The AEF is needed.

In review of the recommendations presented, the first step will be to actually deploy the AEFs on a routine basis. This will alleviate the air bridge and transport aircraft dilemma, as the personnel and material could routinely be supplied via fast sealift ships or commercial aircraft. These routine deployments would also help morale and retention, as personnel would now be able to better plan their lives. Second, decreasing the number of AEFs to eight and extending the deployments would save dollars by moving people and aircraft less between theaters. Third, leadership should include the HVLD aircraft in the AEF packages, and push hard for the future budgets that integrate them into the necessary forces.

Lastly, using bases in familiar AORs and moving away from the CONUS-based mindset is of utmost importance. After all, expeditionary is by definition, “*a sending or setting forth.*” General Napoleon Bonaparte stated, “*If I always appear prepared, it is because before entering an undertaking, I have meditated for long and have foreseen what may occur. It is not genius which reveals to me suddenly and secretly what I should do in circumstances unexpected by others; it is thought and preparation.*” Make a plan to get there now, prepared to fight and win.

Notes

¹ Tirpak, John A., “Air Expeditionary Force Takes Shape,” *Air Force Magazine*, vol. 80, no. 6, June 1997, pg. 31.

² Ibid.

³ McPeak, Merrill A., GEN, USAF, “For the Composite Wing,” *Airpower Journal*, Fall 1990, pg. 5.

⁴ Nowak, Michael, LTCOL, USAF, student at AWC, personal interview, Maxwell AFB, January 26, 1999.

⁵ Burda, James, Deputy Armament Product Group Manager, Air Armament Center, Eglin AFB, lecture, ACSC, March 5, 1999.

⁶ Hawley, Dick, GEN, USAF, Commander, Air Combat Command, Langley AFB, Virginia, press release, 15 January 1999.

Bibliography

ACC Headquarters, <http://www.acc.af.mil/public/library/factsheets/f15e.html>, AF Link website, February 1999.

AMC Headquarters, <http://public.scott.af.mil/hqamc/about/98ammp.pdf>, "Air Mobility Master Plan," Scott AFB.

Boyne, Walter A., "El Dorado Canyon," *Air Force Magazine*, March 1999.

Burda, James, Deputy Armament Product Group Manager, Air Armament Center, Eglin AFB, lecture, ACSC, March 5, 1999

Callander, Bruce D., "The New Expeditionary Force," *Air Force Magazine*, September 1998.

Chief of Naval Information, website, "Super Hornet" fact sheet, March 1999, <http://www.chinfo.navy.mil/navpalib/aircraft/fa18/shorner.html>.

Clinton, William J., President of the United States of America, *A National Security Strategy for a New Century*, October 1998.

Cohen, Michael, "Carrier Battle Group: Potent Weapon or Paper Tiger," *Proceedings*, June 1998.

Davis, Joseph, TSgt, USAF, AEF Battlelab, Mt Home AFB, August 1997, <http://www.mountainhome.af.mil/aeft/initatives/KBIs/HP%20for%20BOA.doc>.

Downer, Lee A., BGEN, USAF, "The Composite Wing In Combat," *Airpower Journal*, Winter 1991.

Futrell, Robert Frank, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force*, vol. 1, 1907-1960, Maxwell AFB, AU Press, December 1989.

Goodman, Glenn W., "An Expeditionary Aerospace Force," *Armed Forces Journal International*, August 1998.

Hallin, William P., LTGEN, USAF, "Agile Combat Support," *U.S. Air Force Journal of Logistics*, vol. 21, no. 3-4, 1997.

Hawley, Dick, GEN, USAF, Commander, Air Combat Command, Langley AFB, Virginia, press release, 15 January 1999.

Jewell, Angela, and Wigge, Maureen, "Surge 97: Demonstrating the Carrier's Firepower Potential," Research Analysts at the Center for Naval Analyses, *Proceedings*, September 1998.

- Johnson Jay, Chief of Naval Operations, ADM, USN, *Vision Presence Power*, 1998.
- Keaney, Thomas A., and Cohen, Eliot A., *Gulf War Air Power Survey Summary Report*, United States Department of the Air Force, Washington, D.C., 1993.
- Krisinger, Chris J., MAJ, USAF, "A Carrier Airwing for the Air Force," *Airpower Journal*, Spring 1992.
- Looney, William R., BGEN, USAF, "The Air Expeditionary Force: Taking the Air Force into the Twenty-first Century," *Airpower Journal*, winter 1996.
- McPeak, Merrill A., GEN, USAF, "For the Composite Wing," *Airpower Journal*, Fall 1990.
- Neubauer, John A., LTCOL, USAF, "Air Expeditionary Forces: Providing Operational Alternatives," Unpublished paper, Naval War College, Newport, Rhode Island, June 14, 1996.
- Polmar, Norman, "The U.S. Navy-Carrier Questions – and Some Answers," *Proceedings*, April 1998.
- Rivard, Ronald, LTCOL, USAF, Joint Operations Staff, NAS Whidbey Island, Washington, "EA-6B Combined Program Continues Successful Start," Air Force News Service, AF Link website, 1996.
- Ryan, Michael E., GEN, USAF, Chief of Staff of the Air Force, *Air Force Basic Doctrine (AFDD1)*, September 1997.
- Ryan, Michael E., GEN, USAF, "Expeditionary Aerospace Force," *Chief of Staff of the Air Force*, lecture, ACSC, August 1998.
- Schulter, Thomas G., CAPT, USAF, "Composite Wing: Lessons Learned In The Gulf War," *USAF Fighter Weapons Review*, vol. 40, No. 2, summer 1992.
- Shalikashvili, John M., Chairman of the Joint Chiefs of Staff, *National Military Strategy of the United States of America*, September 1997.
- Starr, Barbara, "USN Seeks 24-hour 200-Strike Carrier," *Jane's Defence Weekly*, vol. 28, No. 3, July 23, 1997.
- Tirpak, John A., "Air Expeditionary Force Takes Shape," *Air Force Magazine*, vol. 80, no. 6, June 1997.

DISTRIBUTION A:

Approved for public release; distribution is unlimited.

Air Command and Staff College
Maxwell AFB, Al 36112