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TRANSFORMATION DILEMMA:

AIR FORCE SPECIAL OPERATIONS COMMAND AND THE ROLE IN THE FUTURE OF THE AIR FORCE AND SPECIAL OPERATIONS

by

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Preface

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Abstract

The National Security Strategy of the United States issued in September 2002 states "a military structured to deter massive Cold War-era armies must be transformed to focus more on how an adversary might fight rather than where and when a war might occur." To support this focus, the Secretary of Defense issued the final report of the 2001 Quadrennial Defense Review which provides a framework for the services and US Special Operations Command (USSOCOM) to establish material solutions, organizational constructs, and administrative procedures to effect transformation. Given that Air Force Special Operations Command (AFSOC) is both an Air Force major command as well as the air component to USSOCOM, the command has been put into a unique dilemma of trying to support some distinct differences in how the Air Force and USSOCOM plan to transform their organization. Using transformation road maps of both organizations as well as current doctrine and force structure, the paper analyzes congruencies and inconsistencies in both plans with reference to organizing, training, and equipping AFSOC forces. Based on those comparisons, this paper looks at how the current AFSOC long range plan is postured to support both strategies. Also, the Air Force's approach to transformation of Low Density/High Demand (LD/HD) assets will be reviewed with the goal to seek similar applications to AFSOC. Finally, this paper proposes transformation initiatives that the Air Force and USSOCOM could integrate into a joint strategy to meet the goals of DOD transformation.

Chapter 1

Introduction

> *There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things.*
>
> —Niccolo Machiavelli, 1513

Changes in military organizations and the nature of warfare have been occurring over centuries. A number of factors have driven change and innovation: rapid and significant technological breakthroughs, research and development in new ways of employment, and the integrated methods of learning from our successes and failures that spawns new ideas. In light of these factors, today's military is experiencing a revolutionary advancement that stands to totally transform the way the military conducts war in the future. Even recently, advances in technology have brought about dramatic changes: stealth technology has allowed aircraft to penetrate enemy defenses undetected; information technology has enabled extreme precision in weapons employment, sensing, and battlespace awareness; and space technology has vaulted the U.S. into an unmatched military force.

Yet, a debate exists over how far we are in terms of transformation and what it will cost to reach the next step. Some believe that we have reached such a turning point in military technology, tactics, and strategy that we must invest heavily to transform to the next level. Others believe that in a fiscally constrained environment the strategy should be more of an

investment in the improvement of existing weapon systems since we are already superior militarily to any other nation in the world. Essentially, this dilemma is the transformational strategy versus the incremental strategy of improving and modernizing the military.

In the 2001 Quadrennial Defense Review (QDR), the Secretary of Defense made his choice. The report identifies the changes in the nature of the enemy and what the U.S. military must do to "adapt quickly and decisively" to the new conditions of war.[1] Although the U.S. military is considered to have an asymmetric advantage over adversaries, the strikes on Sept 11, 2001 showed how they could use the seams of our defense to inflict damage. The lessons from this attack provide a new perspective on what the U.S. should invest in the transformation of defense.

For the U.S. Air Force and U.S. Special Operations Command (USSOCOM), the intent was clear. Articulate a new capabilities-based force that provides a broader set of military options across the operational spectrum.[2] Each organization was directed to develop transformation strategies that support the new priorities of DOD and to invest in new concepts of operation, technological innovation, and organizational changes that will preserve the current U.S. military advantage.

While both organizations develop their plans for transformation, Air Force Special Operations Command (AFSOC) is stuck in the middle. AFSOC is the primary air arm for special operations and the Air Force component to USSOCOM.[3] The command draws its resources from a shared relationship between the Air Force and USSOCOM. In procurement, for example, AFSOC will gain items that are common to the Air Force through regular Air Force funding. Special operations unique items will be funded by USSOCOM. In the case of both interests in one item, such as the CV-22, a joint funding agreement is normally reached. Because

of this relationship, AFSOC faces a potential dilemma when the Air Force and USSOCOM don't agree or elect to proceed down a different path of priorities.

Therefore, the challenges that USSOCOM and the Air Force transformation strategies pose for AFSOC require a coherent vision of where AFSOC should focus its transformational efforts. This paper will address the issues associated with AFSOC transformation and formulate ideas of where the command should be going. The future of warfare is changing and only through a thorough understanding of AFSOC's role will we be able to transform to meet the next challenge.

Notes

[1] Defense, D. o. (2001). Quadrennial Defense Review**:** 1-79.
, p. iii.

[2] Joint Processes Division, S.-S. (2001). United States Special Operations Command (USSOCOM) Transformation and the 2001 Quadrennial Defense Review (QDR), USSOCOM**:** 36.
, p. 2.

[3] The US Army also provides a large number of helicopters from the 160th Special Operations Aviation Regiment.

Chapter 2

Defining Transformation

> *"…it is important to emphasize that transformation is not an event—it is an ongoing process, a journey that begins with a transformed "leading edge" force, which, in turn, leads the U.S. Armed Forces into the future…all the high-tech weapons in the world won't transform the U.S. Armed Forces, unless we also transform the way we train, think and fight."*
>
> —Secretary Rumsfeld, 14 Feb 02

Over the course of the past few years, the U.S. military has been grappling with the definition of this "process" of transformation and what it means for individual organizations. To understand it better, some leaders have helped by defining what is not transformation. Maj. Gen. Leaf, for example, described "Unmanned aerial vehicles, just because they are unmanned, are not examples of transformation; they are just different." He goes on to say, however, "if you can use the unique capabilities or attributes of UAVs in a new way that changes the nature of the fight, then it's transformational."[1] From this description, one could see that transformation is not just about new weapons or technology. It is the end result that we are looking for. In this chapter I will review the various definitions of transformation and seek to find common ground as it applies to AFSOF.

Revolution in Military Affairs

Transformation of the military is not necessarily a new concept. History has shown several cases where technological changes such as the rifle or machine gun have changed the nature of

warfare forever. Napoleon in the 19th century, for example, incorporated such new features as citizen armies, long-range rifles and artillery, and mechanization to dominate the battlefield for many years.[2] In the 1990s, the Defense community labeled this change in the nature of war as a "revolution in military affairs", or RMA. The goal then, as it is now, was to seek changes in weapons, doctrines, and organizations that would affect an overall advantage in the way the U.S. fights wars. However, a specific definition and accountable metrics were ill-defined and the services found it difficult to reach a consensus. Today, the defense community is looking to bridge some of those gaps and further define our future military force with overarching guidance presented in the 2001 Quadrennial Defense Review (QDR). Accordingly, the DOD definition is "a sustained, iterative and dynamic process that: develops and integrates new concepts, processes, technologies, and organizational designs; rebalances capabilities and forces; and seeks to ensure a substantial margin of advantage over potential enemies, while minimizing the chances and consequences of surprise."[3]

Service/USSOCOM Definitions

Following the terrorist attacks of September 11th, the U.S. Air Force has stressed even more the necessity to transform. Our air and space capabilities have stood unmatched for the past decade, yet the emerging security threats, particularly in the area of weapons of mass destruction and rapidly advancing technologies, could quickly reduce our asymmetric advantage. The Air Force, therefore, has defined transformation as "a process by which the military achieves and maintains asymmetric advantage through changes in operational concepts, organizational structure, and/or technologies that significantly improve warfighting capabilities or ability to meet the demands of a changing security environment."[4] The Air Force goes on to mention that

transformation can include multiple technologies that enable new missions, significantly improved old systems and processes, or using existing capabilities or organizations in new ways. Obviously, the Air Force is looking at transformation in a pragmatic way realizing that certain processes and systems might not require change, or only minor changes might be necessary. However, the Air Force has been able to further define future requirements by broadly outlining core competencies and developing Task Force Concepts of Operation (described in Chapter 3) that will focus on achieving the Air Force and DOD goals for transformation.[5] The Air Force core competencies include:

1. Air and Space Superiority: the ability to control what moves through air and space to ensure freedom from attack and freedom to attack
2. Information Superiority: the ability to control and exploit information to our nation's advantage to ensure decision dominance
3. Global Attack: the ability to engage adversary targets anywhere, anytime to hold any adversary at risk
4. Precision Engagement: the ability to deliver desired effects with minimal risk and collateral damage to deny sanctuary to the enemy
5. Rapid Global Mobility: the ability to rapidly position forces anywhere in the world to ensure unprecedented responsiveness
6. Agile Combat Support: the ability to sustain flexible and efficient combat operations

USSOCOM is in a unique position as a Unified Command with Service-like responsibilities as outlined in Title 10. This mandates that USSOCOM maintain a joint perspective and allows a significant role in Army, Navy, and Air Force planning for transformation. USSOCOM defines transformation as the "process that shapes the changing nature of military competition and cooperation through new combinations of concepts, capabilities, people, and organizations that exploit our nation's advantages and protect asymmetric vulnerabilities to sustain our strategic position, which helps underpin peace and stability in the world."[6] Like the Air Force, USSOCOM defined transformation in broad terms. However, they also developed a set of core

capabilities that help to define the command's vision and provide a focus for future transformational programs. The USSOCOM "Flagship" capabilities are:

1. Ubiquitous Presence
2. Strategic Agility
3. Information Dominance
4. Global Access
5. Regional Expertise
6. Continuous Secure Connectivity and Reachback
7. Self Sufficiency in Austere Environment
8. Full Spectrum Integrated Operations

A Framework for Analysis

Several theories exist that seek to define transformation and propose ways for organizations to move forward to meet that definition. Yet, often times we see organizations apply a transformation label to modernization efforts that doesn't necessarily meet a transformational standard. In other words, some changes in systems might only be incrementally improving an organization and not transforming it to a new level of capability. In this case, one must look at the overall strategy for that organization and determine if it meets the expectations for the future. But first, certain standards, or metrics must be used to measure whether organizational innovations meet the test of transformation. To do this, one can look at history and derive notable characteristics of transformation, or RMA. These include:

- RMAs frequently bestow an enormous and immediate military advantage on the first nation to exploit them in combat
- RMAs are not always technology-driven
- Not all technology-driven RMAs involve weapons
- There are probably as many failed RMAs as successful RMAs
- RMAs often take a long time to come to fruition
- The military utility of an RMA is frequently controversial and in doubt up until the moment it is proven in battle[7]

Then, we must understand the process by which most transformations occur. First, a new technology (or several new technologies) is discovered or invented which enables devices and systems not previously possible or contemplated. Next, a new device, based on this new technology, is developed to do something no previous device was capable of doing. Then, a new system is constructed to perform a military function either dramatically better or dramatically different than it had performed before. This finally leads to new operational concepts, doctrine and force structure that enables the full military capability to be realized.[8]

The technological innovation process provides a good basis for understanding how transformations occur. But, to bring about a successful transformation, military organizations must look beyond innovations for their own sake and look at the following ingredients and develop a comprehensive strategy that answers these areas:

1. There must be a fertile set of enabling technologies – new technologies will breed new systems that will lead to transformational change
2. There must be unmet military challenges – the motivation to change is derived from certain military deficiencies
3. The organization must focus on a device or system – the right combination of technology, systems, and employment concepts must be emphasized
4. There must be a receptive organizational climate – the organization must be willing to change and open for debate
5. There must be support from the top – senior officers must be willing to sponsor new ways of doing things[9]

In this paper, I will analyze the overall strategy of the Air Force and USSOCOM in the areas of training, organization, and equipment for AFSOC and evaluate whether those strategies meet the proposed framework for transformation. From there, I will develop conclusions on whether these changes meet transformation goals of DOD. Finally, I will propose some recommendations that could enhance AFSOC's path to a future transformed force.

Notes

[1] Bosker, S. A. J. (2002). General Officer Explains Transformation. Air Force Print News.

[2] Mazarr, M. J. (1994). THE REVOLUTION IN MILITARY AFFAIRS, A Framework for Defense Planning, U.S. Army War College**:** 31.

[3] Rumsfeld, D. (2002). Annual Report to the President and the Congress, Department of Defense**:** 67-82.

[4] USAF/XPXT, H. (2002). The USAF Transformation Flight Plan, FY 03-07, US Air Force**:** 1-45.

[5] Ibid.

[6] USSOCOM (2002). USSOCOM Transformation Roadmap, USSOCOM**:** 34.

[7] Hundley, R. O. (1999). Past Revolutions, Future Transformations, National Defense Research Institute RAND**:** 99.

[8] Ibid.

[9] Ibid.

Chapter 3

The Overarching Strategy and Guidance

> *My administration is committed to transforming our forces, with innovative doctrine and strategy and weaponry. This will allow us to revolutionize the battlefield of the future, and to keep the peace by defining war on our terms. This is a great goal and it's a great opportunity, one granted to few nations in history.*
>
> —President Bush, January 10, 2002

The cold-war era military that was a product of the industrial age will no longer meet the challenges of the future. The terrorist tragedy of September 11, 2001 was a grim realization of that fact. Our military is transitioning to an information age military with new and more asymmetric threats. This transition requires a transformation in warfighting and the way we organize to support the warfighter. Successful transformation is founded on a clear strategy with clear objectives. The transformation strategy for the U.S. military stems primarily from three documents: the National Security Strategy, the Quadrennial Defense Review (QDR) of 2001, and the Defense Planning Guidance (DPG). Each of these documents presents a foundation for which senior leadership can focus innovative ideas and processes into the various goals and objectives. Additionally, the QDR and the DPG have tasked the Services to develop and update transformation roadmaps that will specify requirements and timelines to meet the critical operational goals. In this next chapter we will review key points from these documents and draw some conclusions with respect to Air Force Special Operations Forces.

National Security Strategy

In the final chapter of the National Security Strategy the role of the U.S. military is described as defending the United States by:

- Assuring our allies and friends
- Dissuading future military competition
- Deterring threats against U.S. interests, allies, and friends
- Decisively defeating any adversary if deterrence fails[1]

Of course, the best way to assure our allies and friends will be to continue our presence of American forces overseas through the use of bases and stations in the critical regions of the world. However, the actual strength of the permanent deployment is subject to debate due in large part to the changing expeditionary nature of our armed forces. The impact of this change will be discussed in detail in a later chapter. In the realm of military competition, the U.S. has a decisive edge over any other military. Yet, we know that other militaries will rapidly cut our margin of advantage if we do not continue focus on new and better methods of warfare. The NSS emphasizes innovation by strengthening joint operations, exploiting U.S. intelligence advantages, and taking full advantage of science and technology.[2] It also stresses that "we must transform the way the Department of Defense is run, especially in financial management, recruitment and retention." In the last two areas, deterring threats and decisively defeating any adversary, our ability to support these roles rests on the strength of our military. By focusing on a more "capabilities-based" force, we can better understand the requirements necessary to support our obligations and to defend the United States.

Quadrennial Defense Review and Joint Vision 2020

The 2001 QDR establishes a new strategic direction for the U.S. military. The goal is to balance near-term readiness and modernization requirements with the long-term requirements to

transform the military. It defines a new capabilities-based force-planning construct and shifts the focus of DOD from the two Major Regional Contingency strategy to a broader response in forward critical regions of the world. Additionally, the QDR has established a set of military priorities with which to base the size of our military force. They are:

- Defend the United States;
- Deter aggression and coercion forward in critical regions;
- Swiftly defeat aggression in two overlapping major conflicts while preserving for the President the option to call for a decisive victory in one of those conflicts-including the possibility of regime change or occupation; and
- Conduct a limited number of smaller-scale contingency operations

This strategy is also known as the "4-2-1" construct for force planning. Although, there is no mention of the "4-2-1" construct in the QDR. Yet, it "provides over time a richer set of military options across the operational spectrum than is available today."[3] This, obviously, requires an adjustment in force structure. The QDR calls for a larger base of forces to sustain rotational deployments in support of long-standing contingency commitments in the critical areas of interest. It also specifies a need for sufficient numbers of specialized forces and capabilities to sustain these commitments.[4] One could easily infer the requirement to eliminate the shortfalls in Low Density/High Demand (LD/HD) assets (to be discussed in Chapter 5). In the USSOCOM review of the QDR, the command viewed that the QDR "fails to address the need to change SOF force structure or otherwise modify current force planning to address the asymmetric threats identified as the most pressing for the United States."[5] The responsibility lies with USSOCOM and the services to develop and propose a new steady-state force optimized under the new force-sizing construct.

The QDR specifies transformation as the central theme of DOD and establishes six operational goals (see Figure 1) and four transformation pillars (see Figure 2) to focus transformational efforts of the services.[6]

- Protecting critical bases of operations (U.S. homeland, forces abroad, allies, and friends) and defeating CBRNE weapons and their means of delivery
- Assuring information systems in the face of attack and conducting effective information operations
- Projecting and sustaining U.S. forces in distant anti-access and area-denial environments and defeating anti-access and area-denial threats
- Denying enemies sanctuary by providing persistent surveillance, tracking, and rapid engagement with high-volume precision strike
- Enhancing the capability and survivability of space systems and supporting infrastructure
- Leveraging information technology and innovative concepts to develop an interoperable, joint C4ISR architecture and capability that includes a tailorable joint operational picture

Figure 1 QDR Operational Goals

- Strengthening joint operations
- Experimenting with new approaches
- Exploiting U.S. intelligence advantages
- Developing transformational capabilities

Figure 2 QDR Transformation Pillars

These areas will help with an understanding of where AFSOC fits into the national goals and where emphasis should be placed with respect to force structure and missions. In the joint area, AFSOC and USSOCOM are obviously leading the way. The QDR calls for joint forces that are:

- Scalable and task-organized into modular units;
- Highly networked with joint command and control extended down to the operational Service components;
- Better able to integrate into multinational operations;
- Lighter, more lethal and maneuverable, survivable;
- More readily deployed and employed in an integrated fashion;
- Capable of conducting distributed and dispersed operations; and
- Able to force entry in anti-access or area-denial environments.[7]

AFSOC and USSOCOM forces meet all of these areas and are usually the standard-bearer of a flexible force. Yet, more can be done in joint integration for SOF and some initiatives will be discussed in chapter 5. The expansion of DOD experimentation efforts under US Joint Forces Command (JFCOM) is also addressed in the QDR. It specifically tasks DOD to "explore the need to establish a joint and interoperability training capability, including a Joint National Training Center" and JFCOM to "conduct at least one major joint transformation exercise every

other year."[8] Hopefully, these initiatives will include AFSOC forces to better integrate conventional/SOF warfighting. In the last area, developing transformational capabilities, the QDR is looking at:

- Exploiting research and development to ensure that U.S. forces maintain a decisive lead in technologies critical to transformation;
- Advancing key transformation initiatives; and
- Selectively recapitalizing legacy forces to meet near-term challenges an to provide near-term readiness.[9]

The challenge for USSOCOM and the Air Force is to look at specific weapon systems and determine whether it is economically and operationally feasible to replace them with new transformational systems, or to continue with existing systems with selected upgrades and life extensions and risk operational and technological obsolescence.

Joint Vision 2020

The overall goal of Joint Vision 2020 is to provide an overarching conceptual template with which to guide the transformation of the armed forces. It also describes the projected capabilities that would be required for a joint force to succeed in the broad range of missions in 2020 and beyond.[10] This is achieved through what JV2020 labels "Full Spectrum Dominance"- the ability of U.S. forces, operating unilaterally or in combination with multinational and interagency partners, to defeat any adversary and control any situation across the full range of military operations.[11] Full spectrum dominance is supported through four areas: dominant maneuver, precision engagement, focused logistics, and full dimensional protection (see figure 3). Additionally, it is influenced by two factors: development and proliferation of information technologies that will lead to information superiority, and the capacity to intellectually and technically innovate.[12]

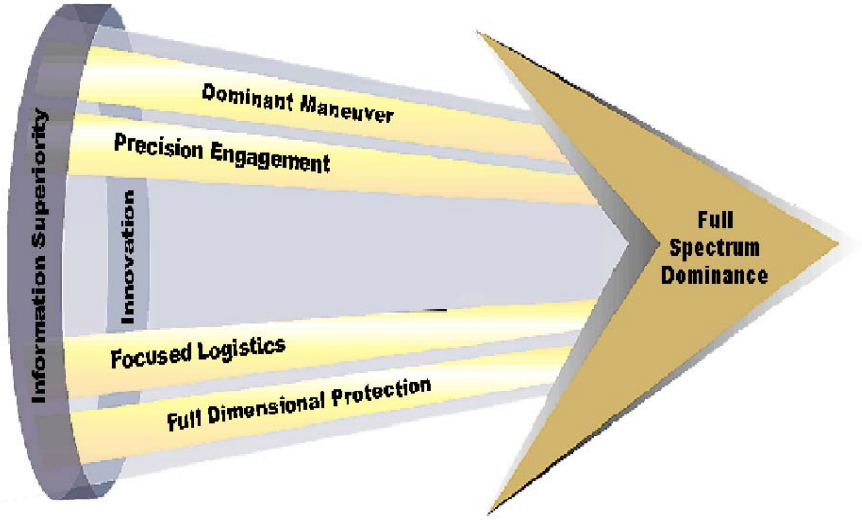

Figure 3 Focus of JV2020

The JV2020 focus of dominant maneuver is on speed and agility of moving forces.[13] In the AFSOC world, that can either be getting forces quickly into theater, or even putting a Special Forces A-Team on the ground in hostile territory in time to diffuse a crisis situation. The impact is a capability for the joint force commander to utilize the full range of military options to establish control over a battlespace. In precision engagement, the emphasis in on employing desired effects on objectives or targets.[14] The AC-130 would be a likely example of an AFSOC aircraft employing precision engagement. However, the concept goes beyond destroying targets and includes information operations, as well. Aircraft such as the EC-130 Commando Solo, or even the MC-130 dropping leaflets are prime examples. Focused logistics looks into revolutionary improvements in information systems and organizational processes to provide the most efficient and accurate means of supply to the warfighter. The services are leading this transformational effort and through advanced information systems, the goal will be a seamless integrated logistics support structure that includes DOD, commercial, interagency and

multinational partners. The final area, full dimensional protection, seeks to provide the joint force commander the freedom to conduct the mission with an acceptable degree of risk in both the physical and information domains.[15] AFSOC is particularly keen to this area due to the nature of the mission in potentially high-risk areas.

Interoperability and joint command & control are two other relevant areas for AFSOC emphasized by JV2020. The focus is not only on the technical aspects, but on training and education, experience and exercises, cooperative planning, and skilled liason at all levels of the joint force.[16] Within command and control, two major issues are addressed: command structures and processes, and the information systems and technologies used to support. JV2020 provides the following desired capabilities that help the services organize their plan for transformation:

- Commanders will need a broad understanding of new operational capabilities and new supporting tools in order to be capable of flexible, adaptive coordination and direction of both forces and sensors
- The staffs that support commanders must be organized and trained to take advantage of new capabilities. Commanders and staffs must also be capable of command and control in the face of technology failure
- Commanders will be able to formulate and disseminate intent based upon up-to-date knowledge of the situation existing in the battlespace
- Joint force headquarters will be dispersed and survivable and capable of coordinating dispersed units and operations. Subordinate headquarters will be small, agile, mobile, dispersed, and networked
- Faster operations tempos, increased choices among weapons and effects, and greater weapons ranges will require continuous, simultaneous planning and execution at all levels
- Expanding roles for multinational and interagency partners will require collaborative planning capabilities, technological compatibility/interoperability, and mechanisms for efficient information sharing.[17]

USAF Transformation Flight Plan

The USAF Transformation flight plan provides an overarching roadmap to guide the Air Force through the transformation process. It seeks to coalesce the six operational goals of transformation articulated in the QDR and the goals of JV2020. The requirements of the FY03-07 Defense Planning Guidance that the "roadmap will specify timelines to develop Service-

unique capabilities necessary to meet the critical operational goals" and "roadmaps will address resource requirements to fully fund transformation" are also addressed.[18] The USAF transformation flight plan achieves these requirements and goals by presenting a process of strategic planning, organizational and cultural efforts, and a new concept of capabilities-based Task Force Concepts of Operation (CONOPS) that shows how the Air Force presents forces.

Strategic Planning

The transformation process for the Air Force is founded on four distinctive documents; Air Force Vision 2020, the Capabilities Review and Risk Assessment, the Air Force Strategic Plan, and the Air Force Capabilities Investment Strategy (AFCIS). The Air Force produced the Air Force Vision 2020 document for long-range planning based on the future missions the Air Force projects, meeting the national security objectives, and supporting the foundation of JV2020. The document also identifies core competencies the Air Force will use as a baseline to develop future capabilities. The core competencies are:

- Air and Space Superiority: the ability to control what moves through air and space to ensure freedom of action
- Information Superiority: the ability to control and exploit information to the nation's advantage to ensure decision dominance
- Global Attack: the ability to engage targets anywhere, anytime to hold any adversary at risk
- Precision Engagement: the ability to deliver desired effects with minimal risk and collateral damage to deny sanctuary to the enemy
- Rapid Global Mobility: the ability to rapidly position forces anywhere in the world to ensure unprecedented responsiveness
- Agile Combat Support: the ability to sustain flexible and efficient combat operations[19]

Although AFSOC does not have a lead role in any of these areas, the unique capabilities that Air Force special operators bring will greatly enhance the Air Force's ability to prosecute missions in every one of these areas.

The Capabilities Review and Risk Assessment is a change in the way the Air Force evaluates operational resources. The net result is more of a focus on effects-based operations versus specific platforms.

The Air Force Strategic plan is a comprehensive review of organizational performance planning and future capabilities planning. It assigns common planning assumptions and aligns prioritized task areas to reach Air Force goals. The following chart (see figure 4) shows a graphical presentation of the performance planning process.[20]

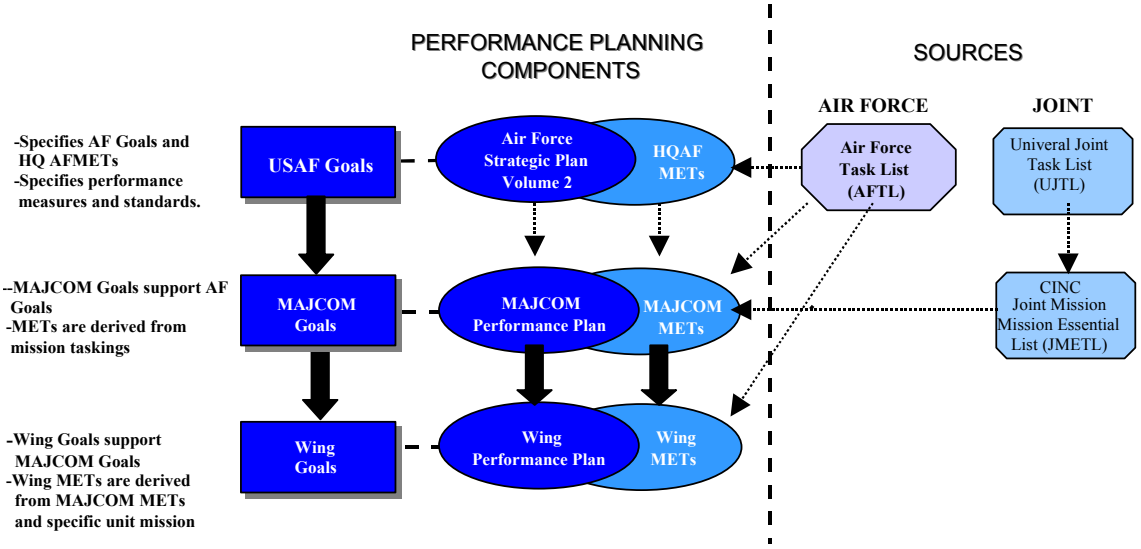

Figure 4 Performance Planning Process

In addition to performance planning, the AFSP captures mid and long-range planning guidelines from senior Air Force leadership and National military guidance documents (NSS, NMS, DPG, etc.) to drive modernization planning. The goal is to develop future capabilities that meet the Air Force vision.

The Air Force Capabilities Investment Strategy focuses the capabilities defined in each of the Task Force CONOPS and the Air Force vision into a balanced short and long-term plan for resource planners and programmers.[21] Once again, the goal is to meet the full potential of

transformation by adequately allocating resources to immediate readiness requirements and maximizing investment in future capabilities.

Task Force Concepts of Operation (CONOPS)

The key to Air Force transformation is the Task Force CONOPS. The Air Force categorized seven areas of force presentation that focus more on capabilities rather than individual platforms and systems. The impetus behind this stems from the view that the old way of procuring and employing weapon systems was very "platform centric - 'higher, faster, farther' – but without much consideration of how we are going to integrate with the other services, with coalition partners or allies. So, this simply inverts the process…It tries to put the operators into the lead of what we go and program and buy in our air force".[22] The current task forces are:[23]

- Air and Space Expeditionary Forces – provides overarching force-sizing and deployment construct;
- Space and C4ISR – provides timely and accurate intelligence for precise targeting and situational awareness;
- Global Strike – overcome sophisticated anti-access threats through stealth, persistence and stand-off capabilities;
- Global Response – to strike terrorist targets and support other critical missions such as Humanitarian Relief Operations (HUMRO), Noncombatant Evacuation Operations (NEO), and special operations;
- Homeland Security – to support the air component to US Northern Command;
- Global Mobility – support worldwide airlift needs; and
- Nuclear Response – provide the traditional nuclear deterrent to dissuade adversaries from acquiring or using weapons of mass destruction.

The AFSOC piece in the task force CONOPS is obviously in the area of Global Response and could be viewed as part of Global Strike and/or Homeland Security. In the Global Response Task Force white paper, for example, one of the desired capabilities is the covert mobilization of warfighting assets.[24] Clearly, this is one of AFSOC's mission areas. However, there are other mission capabilities that AFSOC provides that do not clearly fit into these task forces. One

example of this would be foreign internal defense. It is those areas that AFSOC and the special operations community contribute to the Air Force that need to be further defined.

Air Force Transformation Capabilities

The last area discussed in the Air Force Transformation Flight Plan is the defined capabilities the Air Force seeks to attain in order to the transformation goals. The AFTFP identifies 17 transformational capabilities and the broad programs associated with them.[25] Those involving AFSOC programs include:

- Precision engagement – the ability to conduct high volume attacks with significantly fewer platforms, the ability to achieve specific, tailored effects on a target – AC-130, AC-X, and Special Tactics
- Rapid Global Mobility – the ability to rapidly move military capability in support of world-wide combat and humanitarian relief contingencies – CV-22, M-X covert transport aircraft

The AFTFP puts all the transformational capabilities together with the CONOPS and addresses the QDR operational goals. Each of the six critical operational goals are satisfied by describing how the Air Force transformational efforts provide the capabilities needed for the future.

USSOCOM Transformation Roadmap

The USSOCOM Transformation Roadmap is broad based document providing details of the command's transformation goals and a vision of future capabilities for SOF. The overall goal is for SOF to "remain relevant and useful members of the joint team while maintaining the readiness required to shape and respond to the world today."[26] The roadmap directly ties the joint operational concepts in JV2020 and the six critical operational goals of the QDR to the "Flagship capabilities" of SOF. The eight flagship capabilities lay the foundation for transformation. They are:[27]

- Strategic Agility – Rapidly project forces possessing responsive and relevant battle space knowledge and offering capabilities not found in conventional forces;
- Global Access – SOF mobility assets sharing commonality with conventional military and commercial systems to achieve full spectrum, responsive capability for SOF-unique missions
- Ubiquitous Presence – Maintaining proactive peacetime global engagement
- Regional Expertise – Utilize recurring deployments to increase language skills, cultural awareness and to build military and political contacts.
- Information Dominance – ensuring uninterrupted information exchange, influencing situations to support mission accomplishment, and reducing an adversary's ability to use information;
- Continuous Secure Connectivity and Reachback – Connecting SOF operations to a supporting network of expertise that can quickly disseminate information worldwide;
- Self Sufficiency in Austere Environment – agile and responsive logistics forces supporting full spectrum operations; and
- Full Spectrum Integrated Operations – operate in SOF-unique missions between war and peace and synchronize activities between military and non-military.

In addition to the flagship capabilities, USSOCOM has also developed desired operational capabilities that support the command transformation objectives. The desired operational capabilities are:[28]

- Personnel Survivability – Improving the survivability of personnel through signature reduction, direct protection from chemical/biological and environmental threats, and improving physiological performance;
- Counter Weapons of Mass Destruction (WMD) – Detect, interdict, capture, destroy, or neutralize WMD;
- Mobility in Denied Areas – Capability to conduct operations in areas conventional forces are denied access due to political or threat conditions;
- Recruitment and Leader Development – Capability to gain and retain quality SOF leaders;
- Information Avenues – Capability to operate freely and securely in the information environment;
- Sensory Enhancements – improved ability to conduct the mission in all environments;
- Organizational Design – Improved organizational design that integrates defense, domestic and international agencies, and Guard/Reserve force into a seamless joint team; and
- Space and Unmanned Vehicle (UV) Utilization – Capability to interface and operate space and UV systems.

For the most part, these desired operational capabilities fall in concert with the U.S. Air Force desired capabilities. However, as one might expect, most of these capabilities imply certain developments beyond those required for the conventional force due, in large part, to the higher-

threat nature of the SOF mission. This inherently creates the challenge to balance SOF-unique requirements against conventional systems and programs. This area will be discussed further in chapter 6.

The last area discussed in the USSOCOM transformation roadmap is the means by which the command will achieve its initial transformation goals. The primary focus is on material, organization and doctrine and the impacts on USSOCOM's capabilities. Figure 5 provides a good overarching view of this strategy.[29]

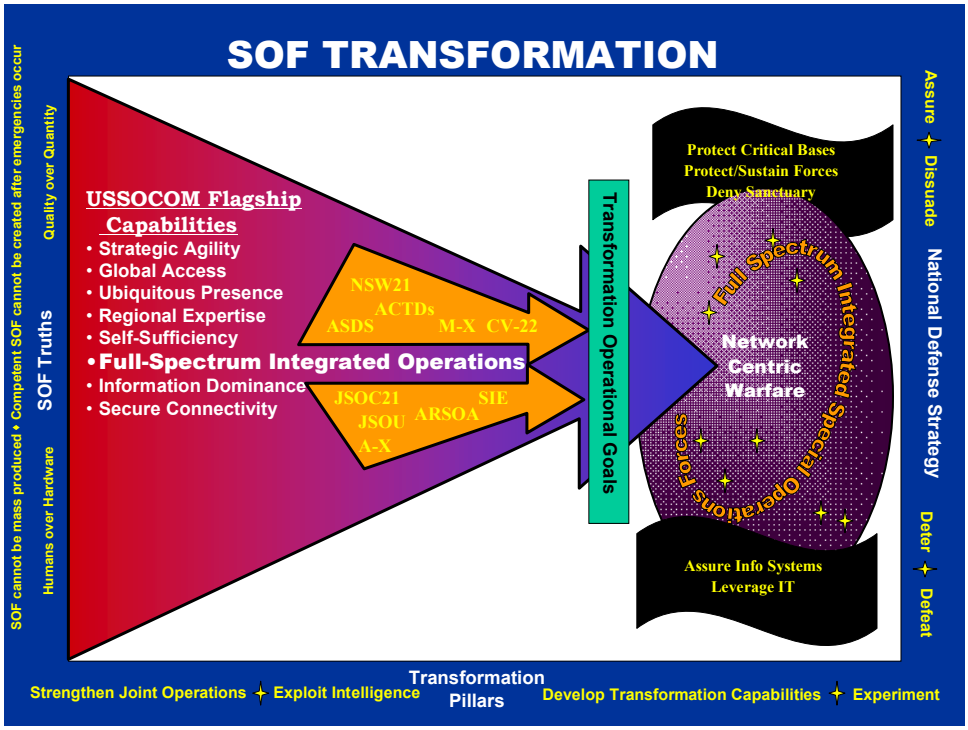

Figure 5 SOF Transformation Strategy

AFSOC Strategic Plan

The AFSOC strategic planning and modernization process involves a strategy-to-task (STT) model to develop prioritized requirements and potential solutions in the near and far-term.[30] The process includes four major steps that guide the command into coordinated plan for the future. These steps include:

1. Mission Area Assessment (MAA) – Evaluating the roles, missions, and operational tasks to satisfy the overall strategy and guidance;
2. Mission Needs Analysis (MNA) – Developing core missions and prioritized requirements to meet essential tasks and capabilities;
3. Mission Solution Analysis (MSA) – Finding solutions to meet the needs; and
4. Integrated Investment Analysis (IIA) – Producing a long-term investment plan under fiscal reality.

Using this construct, AFSOC derived nine core mission areas that support the overall strategy. They are:[31]

- Aerospace Surface Interface – Providing special reconnaissance of targets, terminal control, and weather operations
- Aviation Advisory Operations – Assess, advise, and train foreign aviation forces
- Combat Support – Provide combat support to Air Force special operations forces
- Information Warfare – Enabling freedom to conduct information operations
- Personnel Recovery – Recovering captured, missing, or isolated personnel from a hostile area
- Precision Aerospace Fires – Provide surgically accurate effects on a target
- Psychological Operations – Conveying selected information and indicators to foreign audiences
- Specialized Aerospace Mobility – Rapid specialized airlift of personnel, equipment, and supplies in hostile or denied airspace
- Specialized Refueling – Specialized refueling operations of SOF assets

The current and future systems that AFSOC will use to support these mission areas will be discussed in detail in chapter 6. AFSOC has produced five Mission Area Plans to support the core missions: Information Operations, Precision Employment/Strike, Shaping the Battlefield, SOF Agile Combat Support, and SOF Mobility. Each of these plans follows the same four-step process and coalesce into an integrated modernization strategy for AFSOC. The goal is to meet the visions of USSOCOM and the Air Force. One can see that certain dilemmas will definitely rise as to where to place the priority.

Summary

This chapter has explained the key points for transformation in the National Security Strategy and provided a tiered-down approach to the guidance affecting AFSOC transformation.

With this guidance in mind, the paper now turns to specific transformational areas that bear review and an evaluation of the current strategy against the proposed transformation framework describe in chapter 1.

Notes

[1] Bush, G. W. (2002). The National Security Strategy of the United States of America**:** 31.
[2] Ibid.
[3] Defense, D. o. (2001). Quadrennial Defense Review**:** 1-79.
[4] Ibid.
[5] Joint Processes Division, S.-S. (2001). United States Special Operations Command (USSOCOM) Transformation and the 2001 Quadrennial Defense Review (QDR), USSOCOM**:** 36.
[6] Defense, D. o. (2001). Quadrennial Defense Review**:** 1-79.
[7] Ibid.
[8] Ibid.
[9] Ibid.
[10] Shelton, H. H. (2000). Joint Vision 2020. Washington DC, Joint Chiefs of Staff**:** 8.
[11] Ibid.
[12] Ibid., p.2.
[13] Ibid., p. 26. The JV2020 definition is the ability of joint forces to gain positional advantage with decisive speed and overwhelming operational tempo in the achievement of assigned military tasks. Widely dispersed joint air, land, sea, amphibious, special operations and space forces, capable of scaling and massing force or forces and the effects of fires as required for either combat or noncombat operations, will secure advantage across the range of military operations through the application of information, deception, engagement, mobility and counter-mobility capabilities.
[14] Ibid., p. 28. Precision Engagement is the ability of joint forces to locate, surveil, discern, and track objectives or targets; select, organize, and use the correct systems; generate desired effects; assess results; and reengage with decisive speed and overwhelming operational tempo as required, throughout the full range of military operations.
[15] Ibid., p. 32. Full Dimensional Protection is the ability of the joint force to protect its personnel and other assets required to decisively execute assigned tasks. Full dimensional protection is achieved through the tailored selection and application of multilayered active and passive measures, within the domains of air, land, sea, space, and information across the range of military operations with an acceptable level of risk.
[16] Ibid., p. 21.
[17] Ibid., p. 39.
[18] USAF/XPXT, H. (2002). The USAF Transformation Flight Plan, FY 03-07, US Air Force**:** 1-45., p. 1.
[19] Ibid., p. 6.
[20] USAF/XPX (1999). Air Force Strategic Plan, US Air Force., Vol. 2, p.11.

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[21] USAF, H. (2002). Air Force Capabilities Investment Strategy (AFCIS), U.S. Air Force**:** 12.

[22] Sirak, M. (2002). "Interview - Gen John Jumper: US Air Force Chief of Staff." Jane's Defense Weekly.

[23] USAF/XPXT, H. (2002). The USAF Transformation Flight Plan, FY 03-07, US Air Force**:** 1-45., p. 13.

[24] AF/XOOC (2002). White Paper on Global Response Task Force CONOPS, USAF**:** , p. 3.

[25] USAF/XPXT, H. (2002). The USAF Transformation Flight Plan, FY 03-07, US Air Force**:** 1-45., p. 18-30.

[26] USSOCOM (2002). USSOCOM Transformation Roadmap, USSOCOM**:** 34., p. 2.

[27] Ibid., p. 8-9.

[28] Ibid., p. 9-11.

[29] Ibid., p. 14.

[30] AFSOC/XPPX, H. (2001). SOF Mobility AFSOF 2030 Mission Area Plan, Air Force Special Operations Command., p. 4.

[31] Ibid., p. 12-13.

Chapter 4

Transforming Special Operations Training

> *The commander must be at constant pains to keep his troops abreast of all the latest tactical experience and developments, and must insist on their practical application. He must see to it that his subordinates are trained in accordance with the latest requirements. The best form of welfare for the troops is first-class training, for this saves unnecessary casualties.*
>
> —Field Marshal Erwin Rommel, 1953

The "Full-Spectrum Integration" goal of USSOCOM can only be achieved through a high degree of joint training. The very nature of USSOCOM as a joint command requires each service component to train and operate as an integrated team. Additionally, the conventional force will operate in support of, or supported by the SOF forces under most circumstances. This operating environment obviates the need for joint training. Yet, in the past we have seen well-planned exercises executed in a stovepiped fashion that never realized the benefits of interoperability. The Secretary of Defense has recognized this deficiency and set training transformation, or T2, as one of his top priorities.[1] In this chapter, I will look into areas of simulation and exercises that would potentially transform the way AFSOC trains in the future and meet the goals of USSOCOM and the Air Force.

Simulators

Simulators provide several advantages over flying training and also pose some disadvantages. A careful look into these areas will help in analyzing the use of both simulators and aircraft in training. The advantages include:

- Simulators do not put the aircraft and aircrew at risk. Therefore, maneuvers and scenarios that are too dangerous to practice in flight can be practiced in a simulator.
- Simulator time is more efficient than flight time. In general, the time it takes to prepare, launch and recover an aircraft is much more than a simulator. Therefore, more training can be accomplished in a given period of training.
- Simulators can be more realistic in certain scenarios. For example, simulators can replicate the characteristics of an enemy missile attack that would challenge the aircrew's counter-tactics. Or, simulators can control the environmental conditions and allow aircrew to train in areas and weather not normally attainable in the real world.
- Simulators pose no constraints to the operating environment. Aircrew are allowed to develop the full use of tactics without restrictions due to range limitations, environmental impact, etc.
- Simulators can be a better tool for instruction and evaluation. The instructor/evaluator can control the situation and provide immediate feedback on performance.

A look at the disadvantages of simulator training include:

- Simulators cannot replicate psychological pressures of flying in combat. Although the environment can look exactly the same, no one is actually shooting at you.
- Simulators are based on models that do not always reflect reality. Certain aspects of flying are too inaccurate (e.g. helicopter air refueling) to teach an appropriate level of performance.

Obviously, the cost of procurement, upkeep, and modernization would be a big factor when evaluating simulators. But, one would need to balance that against the savings incurred by using simulators. For example, aircraft parts today are becoming increasingly expensive due, in large part, to the aging fleet of aircraft. Increased reliance on simulators would potentially reap huge savings as the utilization of the aircraft is reduced. Less replacement parts would be needed, increased time between major repairs, and mission reliability rates would increase. In the future, the problem of aging aircraft is going to get worse (the average age of Air Force aircraft is 23 years and maintenance costs are increasing 10 percent per year) and in a fiscally constrained environment the use of simulators must be considered in new and innovative ways.[2]

Readiness Training

Readiness training is defined as training required for a unit to maintain the capability to perform its primary mission. In AFSOC, those requirements are detailed in Air Force Instruction 11-202 Volume 1, and the specific Mission Design Series (MDS) instructions for the individual aircraft. In the MH-53M, for example, a pilot is required to perform 10 events semiannually (see Table 1) in order to maintain a basic qualification.[3]

Table 1 MH-53 Flying Training Requirements

REQUIREMENT	PILOT	FLT ENGINEER	AERIAL GUNNER
Sorties	18	12	12
Night Sorties	2	2	2
Emergency Procedure Sortie	2		
Transition Sorties	2		
Emergency Procedure Event	3		
Holding Pattern	2		
Precision Approach	6		
Non-Precision Approach	6		
Circling Approach	2		
Missed Approach	2		

Operational flying units in the military maintain their readiness qualifications utilizing aircraft and simulators. AFSOC operates seven different MDS aircraft (AC-130H, AC-130U, MC-130E, MC-130H, MC-130P, and MH-53M) based in six separate locations around the world.[4] The command supports all flying operations and training through the allocation of flying hours. The annual flying hour requirement, AFSOC flying hour model, is based on the total flying training requirement and the historically-based estimation of operational and other flying requirements (see Appendix 1 for a complete description of the flying hour model).[5] The question to ask is if AFSOC units are flying enough training hours to support the requirements of

the model? Table 2 below shows the projected flying hours required in the model, the command allocation, and the actual hours flown in FY01 for a given organization.[6]

Table 2 FY01 Flying Hours

Aircraft	Model Req Total Hours	Command Allocation	Actual Hours Flown	Model Req Training Hrs	Actual Training hrs
MH-53	7451	6900	6620	6794	5782
AC-130U	5547	5563	5230	5336	5181
AC-130H	3741	3502	3275	3669	2595
MC-130H	4490	4282	4362	4369	3757
MC-130P	3659	3610	3786	3583	3431

As shown above, most systems have a shortfall in the amount of training hours flown based on the requirement. In some cases, the total hours did not even meet the required training hours. This clearly highlights the issue units face in balancing readiness requirements against the flying hours they have available. Some solutions to this include: devising innovative ways of conducting training while on operational and other missions; reevaluating the requirements to see if there areas that can be reduced; increase the amount of training hours by increasing mission capable and sortie rate; and offsetting readiness training by using simulators.

To support qualification and training, AFSOC has procured simulators at Kirtland AFB, NM and Hurlburt Field, FL (See Appendix A for a complete description of AFSOC simulators). Although these simulators are fully capable of supporting readiness training requirements, the actual amount of readiness training conducted in simulators is minimal. This is due in large part to the limited number of simulators and the large requirement for initial and upgrade qualification training as well as mission rehearsal and distributed mission training. The most an aircrew member will be able to get will be when the person is sent to Kirtland AFB, for example, to receive a three day course in aircraft systems and emergency procedures. In this case, a

person will receive the simulator training once every 17 months and will credit a limited number readiness training events.[7]

The limitation in simulator availability and the shortfall in flying hours to meet flying training requirements lead to the following questions with respect to simulators:

1. What, and how much readiness training events currently being conducted in the air are better suited for the simulator training environment?
2. What are the costs associated with acquiring more simulators and would the increased usage realize an overall savings over the life of the weapon system?
3. Would the increased usage of simulators increase the combat effectiveness of the aircrew and therefore the overall readiness of the unit?

The answers to these questions were addressed in an Air Mobility Command study of simulator integration.[8] In this report, an evaluation of cost savings was accomplished based on the substitution of certain training events from the aircraft ($14,400 per hour cost for a C-5) to the simulator ($500 per hour cost). The overall conclusion was that a conversion to a simulator training program would pay for itself in one to five years with savings in flying hour costs. In the case of AFSOC aircraft and training, a similar analysis would probably hold the same conclusion. However, as stated before, one would need to consider the training requirement shortfall before deciding to cut flying hours directly to pay the simulator bill. Additionally, the savings associated with flying ranges would need to be taken into account. AFSOC aircraft conduct a significant amount of tactical training on expensive ranges. In FY00-FY02, AFSOC spent over $4.7 million on Electronic Warfare (EW) ranges alone. Certainly, a large portion of that expense would be saved if simulators were used for that training.

Mission Rehearsal

One of the greatest advantages of using high fidelity weapons system trainers is the contribution of mission rehearsal. Prior to a deployment, an exercise, or even a full-scale

conflict, crews can go to a simulator and practice the mission they are going to fly. During Operation ENDURING FREEDOM, for example, AFSOC helicopter crews were having a difficult time landing in the pervasive "brown-out" conditions while deployed in that part of world. As a safety-of-flight issue, AFSOC decided to send aircrews to the simulator to practice the most difficult procedures in replicated conditions prior to deployment. The mishap rate from brown-out landings immediately went down as a result.[9] The realism of today's high fidelity simulators is provided by the capability to download precise imagery and map data into a common database and display a precise replicated environment for the aircrews. Additionally, AFSOC is developing a capability using the Special Operations Force Signals Training and Rehearsal System (SOFSTARS) to provide live satellite feeds for threat intelligence direct to the simulators and command centers.[10] This would greatly enhance the capability to conduct realistic training using real world threat information without the expensive restrictions of ranges, airspace, aircraft availability, etc. Yet, probably the greatest benefits of developing simulators that operate in a synthetic battlespace is the transformational improvements in tactics development that could lead to revolutionary designs and capabilities of new systems. The end result would be leaps in capability and countless lives saved.

Distributed Mission Training

As early as 1996, DOD recognized that simulation technology was being developed by the services without much consideration for integration. The Undersecretary of Defense for Acquisition and Technology issued a mandate in Sept of 1996 stating that High Level Architecture (HLA) was designated as the standard technical architecture for all simulations in DOD.[11] The impact of this mandate was a requirement for all current and future DOD simulators to be HLA compliant with the ability to network with each other. In AFSOC, this

allowed the establishment of a permanent network of simulations linking simulators from Hurlburt Field, FL, to Kirtland AFB, NM, to Fort Campbell, KY. This linked capability enabled aircrews and command centers to exercise tactic, techniques, and procedures in a virtual battlespace. The next step for AFSOC was integration into the Air Force simulation network. In exercise "Desert Pivot", AFSOC aircrews participated in a test of a theater-wide special operation plan. Over 12 crews and command participants supported the exercise from eight different locations (see figure 5).[12]

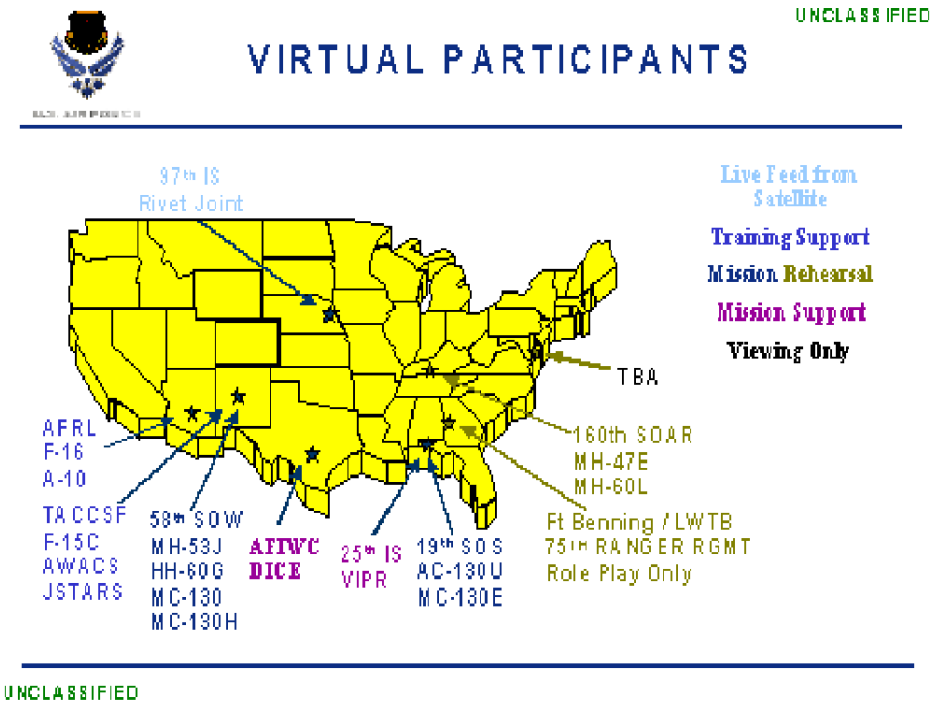

Figure 6 Exercise Desert Pivot participants

Although the exercise was just a concept demonstration and several problems of integration arose, the benefits of this exercise were clearly evident and indicated what is to come in the future. Another area of promise is the integration of live-fly aircraft into the simulator battlespace. With Blue Force Tracking (BFT) technology, a live-fly aircraft can participate in a

virtual exercise by cross-feeding position data into command centers and simulators. The virtual battlespace becomes a seamless picture of participants, whether live or simulated.

Forces fight like they train. Therefore, it is essential that the Services train together more frequently and realistically. Simulators and DMT can fulfill a large part of that requirement. However, the remainder of that pie should be focused on joint exercises.

Exercises

One of the top goals identified in the QDR and the Defense Planning Guidance is establishing a joint national training capability that would enable better integration of services in an operational training environment.[13] In the past, joint exercises such as Team Spirit, Blue Flag, Cope Thunder, Red Flag and Air Warrior brought large-scale multi-service participation. In spite of the progress made in planning integration, problems such as parochialism kept reoccurring. One component's mission was rationalized unilaterally as the most important at the expense of the other. This lack of teamwork at the tactical and operational levels only stood to minimalize the effectiveness of a joint training exercise.

In the future, we know that military operations will only be conducted with a joint force. With properly undertaken joint field exercises the benefits can include:[14]

- Reducing uncertainty on how best to meet emerging threats (particularly asymmetric threats)
- Developing optimum force mix of emerging and legacy systems
- Focusing on capabilities required to meet threats as they emerge
- Identifying transformational systems and/or avoiding systems that are not ready or capable

Recognizing these and other important benefits, the Secretary of Defense designated Joint Forces Command (JFCOM) as the lead proponent for establishing joint training. Yet, when looking at joint SOF training, some concerns become evident.

Joint Special Operations Training

In terms of joint training, SOF could be considered the banner for the conventional services to emulate. AFSOC in particular will regularly deploy on exercises where Navy and/or Army SOF personnel will join in a cohesive tactical scenario. However, several issues exist at the operational and strategic levels that hinder transformational development of training. First, AFSOC integration with conventional Air Force training has been difficult to institutionalize. Most Air Force exercises have only included AFSOC aircraft and crews in only limited roles (usually Combat Search and Rescue). Only recently did a Red Flag exercise include a special operations scenario during one iteration with marginal success.[15] This has led to increased misunderstanding of both the conventional and SOF capabilities and concepts of operation. Although the integration of the AFSOC Special Operations Liason Element (SOLE) has help to bridge the gap at the C2 level, much more must be done to ensure AFSOC and the conventional Air Force share the same culture and understanding. Second, the services serve large-scale training requirements with exercises that provide training primarily for that individual service. The Army, for example, utilizes the National Training Center, the Air Force uses Red Flag, and the Navy/Marine Corps exercise as task forces based on their readiness training cycle. None of these exercises include SOF as a regular participant. Once again, this creates a gap in understanding of capabilities. Fortunately, JFCOM has been tasked to develop a Joint National Training Center that will "allow for realistic multi-service combat training, employing joint doctrine and techniques, rigorous live training mixed with simulations, information operations, and fully integrated intelligence, surveillance, and reconnaissance activities."[16] Hopefully, this initiative will include SOF forces, as well. Finally, funding for joint training is usually at odds with what is expected for SOF participation. In most cases, the unit bears the brunt of the deployment costs when asked to participate in an exercise. With the increasing costs to operate

and deploy AFSOC's aging aircraft, units are increasingly pricing themselves out of participation in exercises. In most cases, Navy or Army SOF units are sending their teams to the home base of the aircraft to work with the aircrews. Unfortunately, the training suffers at times due to limited range availability or other restrictions. JFCOM is working in this area as well by requesting $135 million in FY04 for the JNTC and over $1 billion over the future years defense plan.[17] But, for AFSOC to transform in training, USSOCOM and the Air Force will need to evaluate the funds required and to look forward to what capabilities are required.

Summary

The Secretary of Defense has charted a course for transformation of DOD training. The Air Force and USSOCOM are looking at ways of meeting the SecDef guidance while balancing near and long-term goals. For AFSOC, it is clear that transformation of training will succeed by focusing on simulation technology and effective joint exercises. The cultural shift in training is moving towards the more synergistic effects of DMT and joint conventional/SOF exercises. Hopefully, this shift will result in a more cohesive effect within SOF and the overall military. In the next chapter we will look at the trends in organizational change and their effects on AFSOC.

Notes

[1] Costa, K. J. (2003). Joint National Training Capability: The Next Wave in Transformation. Inside the Pentagon**:** 1-5.

[2] Elliott, M. S. S. (2003). CSAF briefs Senate on service's outlook for 2004, Air Force Print News. **2003**.

[3] AFSOC/DOT, H. (2001). MH-53 Aircrew Training, U.S. Air Force**:** 75.

[4] AFSOC, H. (2003). Air Force Special Operations Command Web Site. **2003**., this does not include 6 SOS aircraft or future systems like the CV-22.

[5] AFSOC/DOT, H. (2000). HQ AFSOC Flying Hour Model, Air Force Special Operations Command**:** 14.

Notes

[6] Data received from HQ AFSOC/DOTA AFORMS flying hour documents. The AFSOC flying hour model requirements for training were based on the total currency, training, staff, and exercise hours for each aircraft.

[7] The MH-53 training instruction allows 50 percent of semiannual instrument approach requirements and some tactical training events.

[8] Thomas, M. A. (1999). The Benefits of Simulator Integration to AMC. Maxwell AFB, AL, Air University - Air Command and Staff College**:** 35.

[9] Based on personal experience of the author and data from HQ AFSOC/SE.

[10] AFSOC/DOT, H. (2002). Air Force Special Operations Modeling and Simulation Master Plan, Air Force Special Operations Command.

[11] Kaminski, P. (1996). High Level Architecture Simulators. Washington D.C., Department of Defense**:** 4.

[12] AFSOC/DOT, H. (2002). Air Force Special Operations Modeling and Simulation Master Plan, Air Force Special Operations Command., p. 3-3.

[13] Costa, K. J. (2003). Joint National Training Capability: The Next Wave in Transformation. Inside the Pentagon**:** 1-5.

[14] Krepinevich, A. F. (2002). Lighting the Path Ahead: Field Exercises and Transformation. Washington DC, Center for Strategic and Budgetary Assessments**:** 37.

[15] In 2001 the 16 Special Operations Wing participated in a Red Flag with a SOF mission but communication, range restrictions, and other integration issues limited the training.

[16] Costa, K. J. (2003). Joint National Training Capability: The Next Wave in Transformation. Inside the Pentagon**:** 1-5.

[17] Ibid., p. 4.

Chapter 5

Organizing for Change

The only thing harder than getting a new idea into the military mind is to get an old one out.

—Sir Basil Liddell Hart
Thoughts on War, 1944

During the Cold war, the U.S. military relied heavily on forward basing to stem the tide of the Soviet invasion coming through the Fulda Gap. As the Berlin wall fell and the USSR imploded, the massive European presence was no longer required. Several bases closed and the force structure of the U.S. military drew down by 40 percent. Yet, the commitments for the military have increased dramatically. The Air Force, for example, conducts four times as many missions around the world as it did before the wall fell.[1] This increase in operations tempo (OPTEMPO) with no end in sight has resulted in retention problems across the services and left service leadership rightfully concerned over what should be done to reverse the trend. Additionally, the threats and type of missions have changed. No longer are we required, nor can we fight with such a heavy force to defeat the enemy. The enemy is much more dispersed, and they vary in capability from a small militia with guns to a terrorist organization with a potential weapon of mass destruction (WMD). These issues have led the DOD into looking at new ways of organizing the force. Each of the services are looking at ways to become more lighter, lethal, and flexible to meet the wide range of demands. This chapter will examine some of the proposals and assess to effects on AFSOC.

Air Expeditionary Force

In the mid to late 1990's, the Air Force's large role in Operations Northern and Southern Watch, in addition to a wide array of contingencies, began to stretch the Air Force to its limit. Readiness, recruiting, retention, training, and modernization were all affected, and the trend was getting worse each year. In response to this, the Air Force leadership decided to change the organizational construct to focus less on forward-based forces reacting to crises and more on an "air expeditionary force" (AEF) responding to dynamic situations. This new force would be a task-organized unit that could quickly deploy and conduct operations in any crisis.

The Air Force decided to create 10 AEFs designed around a rotational schedule over a 15-month period (see figure 7) to provide improved stability and predictability to the force.[2] Each AEF contained up to 134 aircraft with associated crews and support that were susceptible to a 90-day overseas deployment once in the 15-month cycle.[3] The goal of this force management plan was to provide enough forces to meet Theater Combatant Commander requirements in a steady-state environment and to control the OPTEMPO problem plaguing readiness and retention.

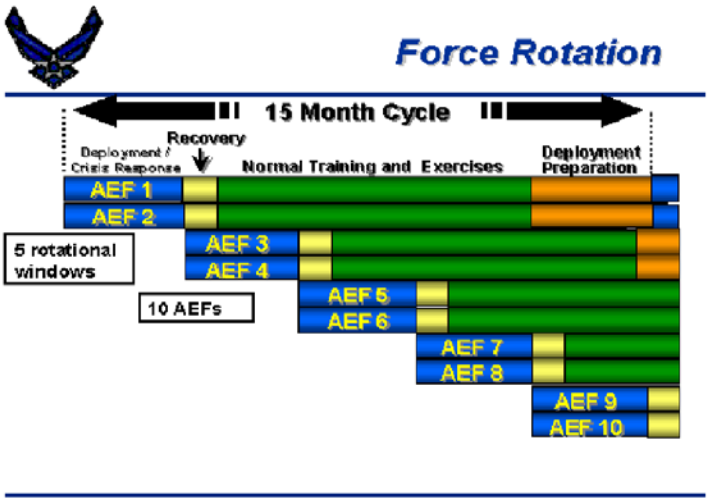

Figure 7 AEF Rotation Cycle

Following its implementation in 1998, the AEF concept worked very well. The average deployment rate came down from 120 days to 90 days in a year.[4] Retention was up, readiness was up, and most Air Force people had a pretty good idea what their schedule was going to be 15 months in advance. But, after Sept 11th the environment was everything "except" steady-state. Once Operations Noble Eagle and Enduring Freedom were in full employment, the resources available in two AEFs were not enough to support the requirements of the combatant commander. Although the AEF construct still worked to quickly deploy forces, the new requirements beyond 90 days highlighted shortfalls in several support areas (security forces, supply, communications, etc.) that required innovative ways to keep the program on track. There was also another piece of the Air Force that was stretched to the limit even before Sept 11th, and that was the Low Density/High Demand assets.

Challenges for Low Density/High Demand (LD/HD)

Most LD/HD assets (e.g. E-3, U-2, RC-135, HC-130, and almost all AFSOC aircraft) have been operating in a surge mode for several years. In fact, in a recent review of a aircraft usage, a panel found that these aircraft have been continually flying more hours than expected leading to accelerated wear and tear, increased costs, and difficult decisions regarding the health of the fleet when aircraft are aging sooner than their replacement come on line.[5]

AFSOC's unique organization and mission compound some of these issues. First, AFSOC aircraft are not assigned to an AEF rotation cycle. Yet, AFSOC participates, when able, in an AEF deployment to relieve other LD/HD units that are even more stretched.[6] As a component of USSOCOM, the training and operational requirements of the other components normally require AFSOC support. Unfortunately, the other components are not on the same cycle as the AEF. Most of the Army and Navy SOF units that AFSOC will normally work with manage their

schedules through a Joint Operational Readiness and Training System (JORTS).[7] The essence of the schedule is similar to the AEF cycle except each period (training, preparation, alert) is 13 weeks long and a joint exercise is required at the end of each preparation period. So, AFSOC could expect a minimum of one major and two minor exercises every 13 weeks as Navy and Army SOF units rotate through the cycle.[8] The difficulty is trying to merge the JORTS cycle and the AEF cycle for the AFSOC units participating in both.

Second, unlike most other LD/HD units, a portion of AFSOC's force is permanently assigned overseas. Those overseas units are dedicated to their specific theater of operations and support the strategy of the theater combatant commander. However, those units are not available to augment AEF rotations, nor are they available to support SOF operations outside their theaters of operations.[9] This places a large burden on the CONUS-based AFSOC units to support the global SOF strategy as well as augmenting AEF taskings and the overseas SOF units when required.[10] To support the new "expeditionary" approach to force posturing, the Defense department is reviewing a strategy of reducing garrisoned forces overseas and replacing them with rotational forces at forward locations. According the Admiral Cebrowski, the DOD transformation director, "with more units deploying from the United States on a regular basis, you'll have a larger share of the force that is expeditionary."[11] USSOCOM should evaluate this strategy, as well, to determine the effects on the AFSOC force.

Finally, the Air Force is looking at ways to change the organizational structure to better support a permanent warfighting command and control (C2) focus.[12] The issues driving the study primarily involve adaptation to a new defense strategy that "may be, in many cases, more demanding than the old 'Two Major Theater War' strategy" and how the Air Force should manage this transition. The proposed solution is an operations construct of 10 permanent

warfighting headquarters each embedded with an Air Operations Center (AOC) and associated staff.[13] Although this proposal might not be incorporated into the overall Air Force transformation, it highlights the challenges AFSOC faces with regard to C2. As the Air Force is focusing on AOCs for command and control, the USSOCOM focus is on the Theater Special Operations Command (TSOC). When AFSOC units deploys to a theater, they come under Operational Control (OPCON) of the TSOC. Although AFSOC will provide a Special Operations Liason Element (SOLE) to the AOC during an operation, the integration between the TSOC and the AOC can become a challenge when dealing with AFSOC assets. During Operation Allied Force, for example, AFSOC aircraft were deployed to support a Combat Search and Rescue (CSAR) role in addition to supporting SOF missions for the TSOC. This created a complicated web of C2 that confused the staffs of both the AOC and the TSOC. Fortunately, the cooperation of everyone involved enabled successful mission accomplishment without compromising safety. As the military transforms in the future, joint integration issues will become increasingly critical. The Air Force and USSOCOM must carefully weigh the impacts on AFSOC because of the unique relationship to both organizations. This will become critically important, even in the near term, due to greater authority gained recently by USSOCOM for the war on terror.[14] As USSOCOM transitions from simply providing forces to the theater commander in support of the conventional strategy, to a lead role with support from the services to plan and execute SOF missions. This will ultimately lead to more AFSOC deployments and a continued growth in the requirement for joint and conventional integration.

USSOCOM/USMC Team Experiment

In the spring of 2003, USSOCOM and the USMC will be initiating a transformational experiment involving the merging of two units into an integrated tactical team.[15] The concept involves looking at a Marine Force Recon unit and a Navy SEAL platoon and determining ways the individual capabilities would make a stronger team. The Marines involved will go through a six-month training program to learn the basic tactics, techniques and procedures of the SEALs and are proposed to be ready for real world operational missions in the spring of 2004. The overall goal is to demonstrate the effectiveness of this joint program and develop closer ties between the Marine Corps and USSOCOM.

Taking the Next Step in Aviation

Another area that should be considered is aviation. As addressed earlier, AFSOC aircraft have been stretched to the limit and the OPTEMPO is expected to increase in the future with the global war on terror. Several missions that AFSOC aircraft perform could potentially be augmented by, or conducted by USMC aircraft. For example, a joint formation of AFSOC and USMC helicopters could conduct an infiltration mission using an MC-130P or even a Marine KC-130 to provide refueling. Although there are limitations of USMC aircraft that would not enable them to conduct high-risk missions, there are capabilities (e.g. heavy lift capability of the CH-53E) that would enhance the SOF mission that should be evaluated. The Marine Corps operates six active CH-53E squadrons (16 aircraft per squadron) and two reserve squadrons (8 aircraft per squadron).[16] There are also 40 CH-53Ds and 72 KC-130s assigned across the Marine Corps. Though these aircraft primarily support the fleet when deployed, their capabilities could be utilized over and above the fleet requirements to support SOF missions, if required. In

Operation Enduring Freedom, for example, KC-130s were used to provide emergency ground refueling of SOF helicopters when no other means were available. Although the mission was successful, the coordination was ad hoc and highlighted significant issues with regard to joint integration. The extension of the USSOCOM/USMC concept into aviation would probably solve most of these issues and provide a greater capability as well.

Summary

As the Defense Department progresses down the road to transformation, it become more incumbent upon the Air Force and USSOCOM to coordinate organizational changes affecting AFSOC. The AEF is a sound management tool that provides predictability and stability of participating forces. However, AFSOC aircraft and people are tasked to support SOF requirements that don't normally follow the same cycle. Participation in both systems creates challenges for AFSOC. As LD/HD assets, AFSOC aircraft are spread thin with high OPTEMPO. The permanent basing of AFSOC units overseas complicates the issue by restricting available expeditionary forces. Additionally, organizational changes affecting C2 present potential challenges of integration between TSOCs and AOCs when controlling AFSOC supported missions. As USSOCOM gains primacy for the global war on terror, it will become more critical to maintain a clear and concise C2 architecture. Finally, new concepts such as the USSOCOM/USMC team could potentially provide a basis for future applications in aviation. With a joint capabilities-based focus, integration of USMC aircraft into certain AFSOC missions will provide the joint force commander with a much wider array of options. In the next chapter, we will look at the transformational aircraft under consideration for AFSOC.

Notes

[1] Cahlink (2003). "Flight Risk." Government Executive: 1-5.

[2] Wieners, C. F. (2002). Quick Look Report #8, Task Force Enduring Look - The Air and Space Expeditionary Force. on-line, U.S. Air Force**:** 8.

[3] David A. Shlapak, J. S., Olga Oliker, Tanya Charlick-Paley (2002). A Global Access Strategy for the U.S. Air Force. Santa Monica, CA, Rand**:** 1-13.

[4] Cahlink (2003). "Flight Risk." Government Executive: 1-5.

[5] Ibid.

[6] AFSOC sent aircraft in 2000 and 2001 primarily to relieve the Combat Search and Rescue units.

[7] Army, U. (2001). JORTS CYCLE SYSTEM. n.p.; on-line, available from http://www.atsc.army.mil/atmd/strac/swg-coc/2001_april/**:** 1.

[8] This primarily concerns the CONUS units in AFSOC. The overseas units are not tied to the same system.

[9] Operation Enduring Freedom is one exception.

[10] Operation Allied Force required CONUS augmentation to support the increased requirement in Europe.

[11] Naylor, S. D. (2003). Cebrowski: Transformation May Mean Fewer Forward Bases. Army Times**:** 18.

[12] AF/XOXS (2002). White Paper on Transformational Warfighting Construct, US Air Force**:** 8.

[13] Ibid, p. 2.

[14] Graham, B. (2003). Revamp of Special Operations Planned. Washington Post. Washington DC**:** 10.

[15] Lowe, C. (2003). DREAM TEAM - Recon, intelligence and fire-support Marines to form new special-ops unit. Air Force Times**:** 26.

[16] Navy, U. (2002). "Almanac of Seapower." Sea Power **45**(1): 200.

Chapter 6

Future Systems

The key to achieving transformational objectives is developing systems that fulfill unmet military challenges of the future. The challenges were identified as critical operational goals in the 2001 QDR and further specified as future capabilities and objectives in the U.S. Air Force and USSOCOM transformation roadmaps. But in a broader sense, AFSOC aircraft will continue to support SOF missions that are high risk, uniquely specialized, and require a high degree of confidence in success. As the enemy's capabilities increase, so too must the capabilities of SOF aircraft increase to ensure success. For AFSOC, this means future technologies must be pursued that support large increases in primarily mobility, lethality, and information systems.

Mobility, or the ability for SOF to reach into far corners of the world, has been and will be a key role for AFSOC. The extension of "reach" in the future will be critically important with respect to speed, payload and range. Studies have shown that current special operations lift platforms will not survive the threat projected by 2025 and new special operations aircraft are needed.[1] The capabilities of these future mobility systems will require low observability, high speed, long range, increased payload, and potentially vertical short take-off and landing (VSTOL) to enable AFSOC to conduct the needed precision operations for SOF.

Strike operations for SOF aircraft will continue to be based on providing continuous precise force to accomplish strategic objectives. Just like mobility aircraft, SOF strike platforms of

today will not survive the future capabilities of our adversaries. The future capabilities for SOF attack aircraft will include precision attack with variable effects, lethal and non-lethal, that will destroy or neutralize a target.[2] The targets will become increasingly sophisticated and require a high technology suite of sensors and avionics to conduct engagements with a high degree of certainty with minimal risk of compromise.

Information technology will be driven by requirements in communications, sensing, and the information content of weapons themselves. The wave of communications innovation is sweeping the military and AFSOC is no exception. The new concept of a "system of systems", envisioned by the former Vice Chairman of the Joint Chiefs of Staff, is being realized with breakthroughs in data transmission, voice and video communications.[3] For example, during Operation Enduring Freedom, critical sensing data was sent via satellite from Predator aircraft to SOF aircraft to provide real-time intelligence. Yet, this is only the beginning and we are just starting to understand the profound significance of these capabilities. In the future, communications will require clandestine and covert modes of operation; multilevel security; and the capability to integrate and manage voice, video, sensor, navigational, and identification data.[4] Sensor networks of the future will enable military commanders to gain a complete picture of the battlespace. In special operations this will become increasingly critical. Particularly in the global war on terror where the primary mode is "hiders and finders." One can only imagine the advantage of knowing where the enemy is located and simply deciding on the method and timing of a strike. The information content of weapons refers to integration of an information system on munitions to make it more accurate and lethal. For example, a Joint Direct Attack Munition (JDAM) is a 2,000 lb. bomb with a GPS guidance system making the bomb much more accurate.

For AFSOC, the information content of weapons could have large implications on the employment of Special Tactics terminal guidance operations and many other areas.

There are many future systems that AFSOC is considering as transformation initiatives that support both the Air Force and USSOCOM. The following programs are not all-inclusive, but represent the theme and direction that AFSOC is going to support the future of SOF.

CV-22

The CV-22 is a revolutionary design in vertical-lift aircraft. Using tilt-rotor technology, the CV-22 will overcome many limitations to the aging AFSOC helicopter fleet. With speeds comparable to an MC-130 and a vertical takeoff and landing capability, it will double the range of existing rotary-wing aircraft.[5] This will allow units to self-deploy quicker and provide for infiltration, exfiltration, or resupply of SOF units over longer distances. As stated earlier, the future attributes of SOF mobility will include high speed and long reach to enhance surprise in a SOF precision operation. Even the QDR states, "Special Operations Forces will need the ability to conduct covert deep insertions over great distances…these capabilities will also enhance the strategic and operational agility of Special Operations Forces."[6] AFSOC is scheduled to field 50 CV-22s in FY 06-13.[7] Over this same timeframe, AFSOC will retire the aging MH-53 fleet and potentially some MC-130P based on adjusted refueling requirements. The net gain in capability will greatly improve USSOCOM's ability to conduct full-spectrum operations and supports the near and mid-term mobility goals of transformation.

MC-X

The MC-X, or M-X, is a conceptual design to support the far-term mobility requirements of SOF. The ability to carry SOF teams and/or equipment over long distances in denied, politically

sensitive, or hostile territory is becoming increasingly difficult. Additionally, many missions today require the transfer of troops or equipment from helicopters on a secure runway to complete an infiltration or exfiltration. This obviously adds complications that require additional planning, assets, and time to ensure success. The role of the MC-X will be to penetrate a sophisticated enemy defense with increased speed, low-observability, and range, and have the flexibility to operate with or without a runway. Although this aircraft is still in the concept stage, the transformational benefits measured against the increasing vulnerability of the SOF C-130 fleet, make this aircraft a critical requirement for AFSOC to progress into the future.

AC-X

In precision strike operations, the AC-X, or A-X, is another concept platform that is designed to provide persistent force on pinpoint targets. AFSOC's focus is on areas such as an urban environment where close proximity to hostiles, friendlies, and non-combatants, in addition to minimizing collateral damage to infrastructure and personnel require extreme accuracy.[8] Development of the next generation aircraft is being conducted concurrent with research into the Advanced Tactical Laser.[9] The integration of a high-energy laser system on a maneuverable and survivable aircraft will greatly enhance the capabilities of precision strike. These capabilities will be vital in the future when dealing with high-value target engagements, neutralizing weapons of mass destruction, and fighting the global war on terror.

Impact of Other Systems in USSOCOM

In the other components of USSOCOM, the US Army maintains a significant special operations aviation force that complements the support provided by AFSOC. As the priority of

USSOCOM's mission shifts to a supported combatant command, the organization is looking at additional weapons, targeting systems, and aircraft required to support this new area. The Army, for example, is looking to increase the force of MH-47 helicopters from 37 to 72, MH-60 Black Hawks from 69 to 96, and validating the requirement for an extended range Unmanned Aerial Vehicle (UAV).[10] AFSOC is looking at procuring additional AC-130 gunship aircraft and accelerating efforts for 24 additional MC-130 aerial refueling systems to compensate for the increased refueling requirement with more helicopters.[11]

Although these systems are needed in the near term, USSOCOM must balance these requirements against future risk in investment decisions. Postponing major investments in transformation while supporting near term requirements raises the risk of relevancy and being able to defeat future adversaries. This dilemma has, and always will challenge AFSOC and USSOCOM to strategically optimize a transformation strategy that takes into account the near, mid and far-term goals and requirements.

Summary

AFSOC's future systems are incorporated into a strategy of meeting the projected capabilities in SOF mobility, lethality, and information technology. The CV-22, MC-X, and AC-X are banner systems that AFSOC is looking to transform the command with revolutionary capabilities. However, as a component of USSOCOM, the requirements of AFSOC must be balanced against the needs of the other components in the near, mid and far term. The challenge for USSOCOM is to ensure maximum coordination and collaboration between the components and the services to meet the future transformation goals.

Notes

[1] Cerniglia, J. A. (1996). The DIM MAK Response of Special Operations Forces to the World of 2025: "Zero Tolerance/Zero Error", US Air Force**:** 58.

[2] Ibid., p. 27.

[3] Owens, B. A. (2000). Lifting the Fog of War, Farrar, Straus and Giroux., p. 141.

[4] Cerniglia, J. A. (1996). The DIM MAK Response of Special Operations Forces to the World of 2025: "Zero Tolerance/Zero Error", US Air Force**:** 58., p. 13.

[5] USSOCOM (2002). USSOCOM Transformation Roadmap, USSOCOM**:** 34.

[6] Defense, D. o. (2001). Quadrennial Defense Review**:** 1-79., p. 44.

[7] AFSOC/XPPX, H. (2002). Information Paper on AFSOC Transformational Initiatives, USAF**:** 5.

[8] Ibid., p. 3.

[9] USSOCOM (2002). USSOCOM Transformation Roadmap, USSOCOM**:** 34., para. 4.4.4

[10] Wall, R. (2003). "Army Special Ops Grows; Helos Improved For Iraq." Aviation Week & Space Technology: 404.

[11] Keeter, H. (2003). SOCOM Outlines Acquisition Priorities. Defense Daily**:** 8.

Chapter 7

Conclusions

The 2001 QDR laid the foundation and established the strategic direction for the DOD to transform into the future. In the report, six operational goals and four transformation pillars provided the focus for the services to develop their transformation strategies. USSOCOM and the U.S. Air Force developed roadmaps that identified key areas of research, organizational structure, and concepts of operation that would satisfy the overall vision and goals of the future.

This paper looked beyond the path developed by the QDR and proposed a framework that asks questions about the elements of transformation and evaluates success based on the answers. First, there must be a fertile set of enabling technologies. AFSOC clearly enjoys a plethora of enabling technologies including advances in tiltrotor, stealth, information systems, advanced lasers, etc. These technologies offer a variety of experimentation and development options available to apply to transformational strategies. Second, there must be unmet military challenges. The obvious area that comes to mind is the global war on terror and asymmetric threats that SOF is fighting now and in the foreseeable future. Also, countering the WMD threat, high value asset recovery, and urban operations could be included as unmet military challenges for SOF. Third, the organization must focus on a device or system. Although CV-22, MC-X, and AC-X fit the requirement, the jury is still out on whether the Air Force and USSOCOM will focus on these or other systems. The risks of both organizations spreading too thin to support

near-term requirements could jeopardize this requirement. Fourth, there must be a receptive organizational climate. The Air Force and USSOCOM have grown to appreciate the relevance of AFSOC as a conventional major command and a joint SOF air component. This unique relationship has pulled AFSOC in different ways and at times left the command in an identity crisis.[1] But, USSOCOM and the Air Force have strengthened the relationship through understanding of the requirements and better integration. This has led to incredible progress on programs like the CV-22 and others where both organizations share an integrated strategy of procurement. Finally, there must be support from the top. AFSOC continues to gain support from both USSOCOM and the Air Force. However, more effort should be focused in the areas of training and organizational integration that will enable AFSOC to realize its full potential in the future.

The transformation dilemma facing AFSOC is the same as many other military organizations: the need to balance near-term requirements against future investments, and investing now in transformational concepts while staying open to new ideas in the future. However, this dilemma is unique to AFSOC due to the complication of serving both the Air Force and USSOCOM. Both organizations' strategies have charted a course that enables AFSOC to fit in their plans for the future. Yet, both have their own justified priorities that might, or might not serve AFSOC with its most pressing needs. The challenge is to ensure a proper balance.

Special Operations today is in higher demand than ever before. The global war on terrorism is requiring the best from the U.S. military and, as evidenced in Afghanistan, SOF provides the unique capabilities to support this challenge. But, the enemy will adapt and seek other ways of exploiting our defenses. It is incumbent on us to continue our asymmetric advantage by

investing in transformational ideas and programs that give us the capabilities we need in the future. In the words of Donald H. Rumsfeld, Secretary of Defense, "those costs do not begin to compare with the cost in human lives and resources if we fail to do so."[2]

Notes

[1] Scott, D. J. (1996). The Air Force Special Operations Command Identity Crisis: An Assessment and Opinion. Maxwell AFB, U.S. Air Force**:** 93.

[2] Defense, D. o. (2001). Quadrennial Defense Review**:** 1-79., p. vi.

Appendix A

AFSOC Simulation Systems

AC-130U Testbed

A revolutionary concept development device, this simulator serves as an operational testbed, trainer, and mission rehearsal device. It also tests the idea of combining operations and maintenance simulators into one device, reducing expenses, and advancing the concept of concurrency with the weapon system.

Mission Rehearsal Operations Center (MROC)

The MROC is a central location for interaction and observation of training and mission rehearsal. Hurlburt Field Simulator Complex simulators as well as other distributed simulations are networked to the MROC. The MROC will allow mission commanders and other agencies in the chain of command to rehearse their roles at the same time as the aircrew practices the mission.

MC-130E Weapon System Trainer (WST)

The primary mission for the WST will be student training and mission rehearsal for the 19 SOS and AFSOC Weapons Instructor Course (WIC).

MC-130H Mission Rehearsal Devise (MRD)

The primary mission for the MRD is mission rehearsal (formal training is conducted at 58 SOW, Kirtland AFB). It also serves in a limited capacity as a unit-training device for the 15 SOS.

AC-130U Armament System Maintenance Trainer (ASMT)

The ASMT is an armament system maintenance trainer used to train weapons technicians on troubleshooting and repairing AC-130U weapon systems. The device is used by the Field Training Detachment (FTD) as a Hurlburt Field on-site maintenance armament trainer, and is able to function as a weapons load training system for operations.

Air Traffic Control Simulation

The Air Traffic Control Simulation is used by Special Tactics for training in the Combat Control Team mission. The simulation is not networked to other (aircraft) simulators, but achieving this capability is one of their goals. If the simulation is re-engineered for networking, it will be HLA compliant. It is located at 23rd Special Tactics Squadron (23 STS), Hurlburt Field, FL.

IDAS/MATT Trainer

The Interactive Defensive Avionics System (IDAS) Trainer primarily provides aircrew with instruction and practical training on the MH-53M helicopter. The IDAS Trainer consists of four PCs networked by a MIL-STD-1553B bus. Each PC executes software that emulates or simulates MH-53M Line Replaceable Units (LRU). The simulations currently include operator controls and displays the Multi-mission Advanced Tactical Terminal (MATT); Integrated Electronic Warfare Processor; Digital Map System; Global Positioning System (GPS); Inertial Navigation System (INS); Bus Interface Unit; Doppler Navigation System, C-12 Compass System; and Radar Altimeter. The emulations currently include the Mission Computer, Control Display Unit (CDU), and Symbol Generator Unit (SGU). DeskLab™ software models MH-53 flight characteristics and navigation sensor inputs. It is operational at the 19 SOS.

MC-130E Load Master Part Task Trainer (LMPTT)

The LMPTT is used for training Talon I load master students. It is located at Hurlburt Field.

Visual Threat Recognition & Avoidance Trainer (VTRAT)

This aircraft scanner trainer currently focuses on training the academics of threat characteristics; rapid and accurate detection for AC-130U/H and MC-130E/H scanners; and basic performance for AC-130U/H loadmasters. Subsequent phases will support a wider variety of AFSOC weapons systems, crew coordination (including mission rehearsal), comprehensive tactical performance, and maximum effort scanning. It is operational at the 19 SOS.

4.1.2 The following simulators are currently under procurement by AFSOC. Refer to Appendix B for an anticipated delivery schedule per 15 March 2001 CV-22 System Training Plan.

CV-22 WST

Primary mission is student training.

CV-22 Operational Flight Trainer (OFT)

Primary mission of the OFT is proficiency training and mission rehearsal.

CV-22 Crew Part Task Trainer (CPTT)

Primary mission of the CPTT is student training for the cabin area.

4.1.3 In addition to the AFSOC-owned devices, there are simulators owned and operated by AETC at the 58 SOW, Kirtland AFB, NM. While AETC "owns" these devices, AFSOC pays the Operations and Maintenance (O&M) bills, and, through the AETC-AFSOC Memorandum Of Agreement (MOA), has some control over their use.

MH-53J WST

The primary mission of the WST is student training (see Appendix B)

MH-53M Operational Flight Trainer (OFT)

The primary mission of the OFT is student training on M-model unique subsystems.

Aerial Gunner and Scanner Simulator (AGSS)

The primary mission of the AGSS is student training for H-53 and H-60 flight engineer and aerial gunner candidates. The device can operate "stand-alone" or networked to any of the helicopter simulators to allow operations as an entire aircraft and crew complement.

MC-130P OFT

The primary mission of the OFT is student training.

MC-130H WST

The primary mission of the WST is student training.

MC-130H and MC-130P LMPTT

Loadmaster part task trainers are used to train aircrew students.

H-53 Helicopter Proficiency Trainer (HPT)

The HPT is a part task trainer used for training enlisted aircrew students.

MC-130H Avionics System Trainer (AST)

The AST is an avionics subsystem trainer used for training communication/navigation/sensor/guidance and control maintenance specialists in troubleshooting and repair tasks.

MH-53J CDU Maintenance Trainer

This PC-based CDU device simulates limited functionality for maintenance training.

Appendix B

AFSOC Flying Hour Model

Weapon system Mission Essential Task Lists (METLs) are the basis of the HQ AFSOC/DOT Flying Hour Model. In developing the Flying Hour Model, METLs for the AC-130H, AC-130U, MC-130E, MC-130H, MC-130P, EC-130, MH-53J, and MH-60G were studied and compared against HQ AFSOC/DOS drafted Tasks, Conditions, and Standards (TCSs) and the training currency tables in AFSOCI 11-402/403. The conclusion of this study was:

1. All METLs and TCSs are trained when aircrews complete training listed in the currency tables.
2. All events listed in the training tables are related to at least one METL and any associated TCSs. (Our crews do not accomplish extraneous flying training that does not prepare them for their combat mission)
3. Since the training tables are the most specific documentation of the three (METLs, TCSs, training tables) and the training tables accurately reflect METL requirements, basing the flying hour requirements on the training tables is logical and supportable.

Thus, the currency tables provide the majority of the line items in the Flying Hour Model. Each weapon system's training tables were reviewed to determine which events actually drove the time line when flying. These events were assigned an average time for completion (times taken from the instruction when provided, derived as an average when not provided), multiplied by the number of crewmembers performing the particular event and then multiplied by a refly factor (to account for less that 100% effective sorties). That number is the total hours required to keep all AFSOC crews current and qualified in the listed event for the given fiscal year. (When

reviewing the Flying Hour Model, keep in mind that the currency tables list semiannual and quarterly requirements while the model covers the whole fiscal year)

The number of crewmembers is derived as follows:

1. Primary Aircrews: PAA times Crew Ratio (rounded up).
2. Staff: All staff billets (at the group, wing, and MAJCOM levels) authorized to fly. These numbers were provided by HQ AFSOC/DP. While they may fluctuate slightly from year to year, this variance should be insignificant in the overall flying hour program. The "staff" also includes unit commanders and operations officers (because PAA x Crew Ratio does not account for them)
3. Formal School Instructors: Authorized instructor billets at the formal training units. The model assumes that 90% of these instructors accomplish their currency while flying with students and need only 10% dedicated time to complete their annual training requirements.

In addition to **Mission Qualification** and **Basic Qualification** events (computed as explained above), the Flying Hour Model has the following sections:

1. **Exercise Support.** Exercises are assumed to be rich in training (and are directed to be so by both Air Force instructions and USSOCOM directives). However, this is not always the case, especially in deployment/redeployment to the exercise location. A study of all flying time spent deploying to and redeploying from exercises in FY95 and FY96 showed that, within one standard deviation, AFSOC weapon systems experience the following unproductive time going to and from exercises:
   a. JCS/JTR Exercises: 25 hours per year per PAA.
   b. Bilateral Exercises: 20 hours per year per PAA.
2. **Training/Upgrades.** This includes the time required to conduct qualification, requalification, and upgrade training at the formal school and for in unit upgrades. Flying hours in formal school programs and the projected student throughput are provided by the particular formal school.
3. **Maintenance Support.** Maintenance support covers the estimated time spent each year conducting maintenance flights (FCF/OCF), PDM/depot/refurb inputs, and OT&E flights (conducted by 18 FLTS).
4. **Proficiency.** By definition, accomplishing the events in the currency tables keeps average aircrews not only current and qualified in the weapon system, but also proficient at their duty tasks in the aircraft. However, we assume in our Aircrew Absorption Model (figures derived by AFPC) that at any given time 40% of our aircrews will be "inexperienced." This assumption is supported empirically by the quarterly aircrew experience levels brief which, for the past 3 years has shown that experience hovers around the 60% mark (inexperience is approximately 40%). These inexperienced aircrews require more flying training than the "average" crewmember. The Flying Hour Model expects inexperienced crewmembers will fly 20% more time than required in the training tables.

Glossary

AEF	Air Expeditionary Force
AFCIS	Air Force Capabilities Investment Strategy
AFSOC	Air Force Special Operations Command
AFSOF	Air Force Special Operations Force
AFSP	Air Force Strategic Plan
AFTFP	Air Force Transformation Flight Plan
AOC	Air Operations Center
BFT	Blue Force Tracking
C2	Command and Control
CONOPS	Concepts of Operation
CONUS	Continental United States
CSAR	Combat Search and Rescue
DMT	Distributed Mission Training
DOD	Department of Defense
DPG	Defense Planning Guidance
EW	Electronic Warfare
GPS	Global Positioning System
HLA	High Level Architecture
HUMRO	Humanitarian Relief Operations
IIA	Integrated Investment Analysis
LD/HD	Low Density/High Demand
JDAM	Joint Direct Attack Munition
JFCOM	Joint Forces Command
JNTC	Joint National Training Center
JORTS	Joint Operational Readiness and Training System
JV2020	Joint Vision 2020
MAA	Mission Area Assessment
MDS	Mission Design Series

MNA	Mission Needs Analysis
MSA	Mission Solution Analysis
NEO	Noncombatant Evacuation Operation
NSS	National Security Strategy
OPCON	Operational Control
OPTEMPO	Operations Tempo
RMA	Revolution in Military Affairs
SEAL	Sea Air Land
SOF	Special Operations Forces
SOFSTARS	Special Operations Forces Signals Training and Rehearsal System
SOLE	Special Operations Liason Element
STT	Strategy to Task
TSOC	Theater Special Operations Command
QDR	Quadrennial Defense Review
UAV	Unmanned Aerial Vehicle
USMC	United States Marine Corps
USSOCOM	United States Special Operations Command
VSTOL	Vertical Short Take-Off and Landing
WMD	Weapon of Mass Destruction

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