

Combat Support



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FOREWORD

Frequently, operational aerospace forces must respond to global taskings within hours. The support these forces require must be equally responsive. This is the challenging job of combat support, the foundation of aerospace power. In the past, we used massive quantities of in-theater supplies and support forces. This is a luxury we won't be able to afford in future operations. Employing the Aerospace Expeditionary Forces (AEF) requires a shift from the previous military philosophy of massively deployed support structures and basing toward more tailored forces geared for rapid deployment. **The AEF must rely on the rapid movement of force packages to conduct their combat, peacekeeping, counterdrug, and nation-assistance missions.**

Combat support consists of those people and organizations responsible for planning, programming, and sustaining the forces; who and what are deployed; as well as how they arrive and return home safely. Although not doctrine per se, agile combat support is an Air Force core competency that touches every functional area and is key to meeting the US Air Force's mission to organize, train, and equip. **The dedicated support of our people makes combat support a reality. The goal of combat support is to provide the best possible aerospace forces to joint and unified commanders.**

MICHAEL E. RYAN
General, USAF
Chief of Staff

22 November 1999

TABLE OF CONTENTS

FOREWORD	i
INTRODUCTION	v
CHAPTER ONE—Combat Support Overview	1
Background	1
Definition	2
Role of Combat Support Functions	2
Core Combat Support Principles	4
Responsiveness	4
Survivability	5
Sustainability	6
Time-definite Resupply	7
Information Integration	8
Conclusion	8
CHAPTER TWO—Combat Support Process	9
Readying the Force	10
Preparing the Force	11
Protecting the Force	12
Positioning the Force	13
Employing the Force	14
Sustaining the Force	15
Recovering the Force	16
CHAPTER THREE—Combat Support Deliverables	19
Educated and Trained Forces	19
Protected, Fit, and Survivable Forces	19
Expeditionary Aerospace Forces	21
Host-nation Support	21
Prepositioning	22
Reachback	22
Bases and Infrastructure Considerations	23
En Route and Theater Infrastructure	23
Force Generation and Recovery	23
Responsive Command and Control	24
Organizations	24
Command and Control Information Systems	24
CHAPTER FOUR—Command and Control Elements	25
Participation in Joint Operations	25
Base Operating Support	26

Support Structures	26
Total Asset Visibility	26
Combat Support Resource Sourcing and Distribution	27
Retrograde Management	27
CHAPTER FIVE—Conclusion	29
Suggested Readings	31
Glossary	33

INTRODUCTION

PURPOSE

Both Air Force weapons systems and personnel are employed across the broad spectrum of US and multinational military operations. This combat support doctrine facilitates the responsiveness, readiness, and sustainability of US Air Force forces contributing to these operations. Expeditionary aerospace power will shift the previous military philosophy from massively deployed support structures and basing toward tailored forces geared for rapid deployment. Air Force Doctrine Document (AFDD) 2-4, *Combat Support*, outlines the Air Force perspective on how best to rapidly deploy and support operational aerospace capabilities. This AFDD implements Air Force Policy Directive (AFPD) 10-13, *Air and Space Doctrine*.

APPLICATION

This AFDD applies to all Air Force military and civilian personnel (includes Air Force Reserve Command [AFRC] and Air National Guard [ANG] units and members). The doctrine in this document is authoritative, but not directive. Commanders need to consider not only the contents of this AFDD, but also the particular situation and requirements when accomplishing their missions.

SCOPE

AFDD 2-4 is the keystone document addressing the full spectrum of combat support functions that operate in peace and in war. It stresses the need for tailored combat support packages with the airmen, facilities, equipment, and supplies required for supporting aerospace forces.

CHAPTER ONE

COMBAT SUPPORT OVERVIEW

The primary function of an armed force is to fight in battle. That is nowadays impossible without a highly complex system of supporting activities.

Lieutenant General Sir John Winthropm Hackett
The Profession of Arms

BACKGROUND

Post-cold-war drawdowns and lessons from recent expeditionary operations make the traditional practice of moving massive quantities of troops and large stockpiles of supplies into a theater to engage hostile forces less likely or feasible. Today, combat support focuses on the rapid movement and sustainment of tailored force packages to conduct military operations anywhere in the world.

From peacekeeping, to aiding third-world nations, to conducting counterdrug operations, the military continues to adapt to evolving missions. Combat support infrastructure and processes must evolve continuously in response to new demands. The key to successful military operations is creating robust, responsive, flexible, and integrated combat support systems. Resource constraints may require military infrastructure changes, smaller inventory and forces, and life cycle cost reductions without degrading operational capabilities.

The basic foundation of combat support is a motivated and ready force tailored, organized, trained, and equipped to accomplish tasks. Combat support leaders should always be looking for ways to optimize their forces to more effectively and efficiently support the warfighter. For example, competitive sourcing and privatization initiatives may reduce cost but could impact how forces are organized. Combat support operations in the twenty-first century will continue to require a highly responsive and agile combat support (ACS) force. The success of combat support depends on flexibility in adapting to evolving military strategy, budget constraints, and emerging technology advances.

DEFINITION

Combat support provides the foundation for and is the enabler of the Air Force core competencies. It includes the actions taken to ready, sustain, and protect aerospace personnel, assets, and capabilities through all peacetime and wartime military operations. Furthermore, it supports the unique contributions of aerospace power: speed, flexibility, versatility, and global reach.

ROLE OF COMBAT SUPPORT FUNCTIONS

Each major combat support function has a role in the integrated support process. Table 1.1 briefly describes the role of each function. Each is critical to the Air Force's operational success.

Table 1.1
Functions and Roles

Function	Role
Acquisition	Plans for, develops, and procures spare parts and complete weapons and support systems in rapid response to a combat need.
Chaplain Service	Implements global ministry strategies supporting the free exercise of religion. Meets the diverse religious needs of Air Force personnel and their families through spiritual care and ethical leadership. Provides religious observances, pastoral care, and advice to Air Force leaders.
Civil Engineer	Provides general and combat engineering; explosive ordnance disposal; disaster preparedness; environmental management; major accident recovery; fire protection; and mitigation and recovery from the effects of weapons of mass destruction (including nuclear, biological, and chemical weapons), peacetime emergencies, and terrorist incidents.
Communications and Information	Provides the capabilities to create, store, retrieve, fuse, display, disseminate, and dispose of information. This capability includes communications, information resources management, information warfare support, knowledge management through records management, postal support, visual information, and computer support.
Comptroller	Provides the appropriate application of funds to ensure the timely delivery of services and capabilities.
Contracting	Provides the means for basic life support, including billeting, food, water, and transportation. Negotiates leasing and renting contracts, provides local services, and assists in rebuilding infrastructure, bridges, and roads.
Health Services	Provides a variety of activities grouped into force health protection, health surveillance and risk assessment, dentistry, prevention, health care delivery, and interface with aeromedical evacuation.
Legal	Provides legal advice to commanders on disciplinary issues and on the legal aspects of other base support issues, to include finance, personnel, and contracting issues. Legal also provides advice and assistance on all operational and international law.

Table 1.1—continued

Function	Role
Logistics Plans	Responsible for integrating logistics functions as well as base support, deployment, reception, resupply, and redeployment planning.
Maintenance	Repairs weapon and support systems and their components. Provides organic, intermediate, and emergency battle damage depot-level maintenance on the flight line.
Materiel Management	Manages worldwide asset requirements, visibility, and accountable inventories for serviceables and reparable, to ensure prepositioned and resupply stock levels are available when needed.
Munitions	Procures, manages, allocates, and maintains munitions to include maintenance, buildup, staging, delivery, and loading.
Office of Special Investigation	Investigates crimes against the Air Force and its members. Conducts counterintelligence defensive information operations. Performs civilian contractor background checks.
Personnel	Provides airmen with the proper skills, training, and experience required to accomplish the mission. Builds and sustains accession, development, and workforce management plans and programs needed to allow all functions to meet their missions with effective human resources. Provides accountability of in-garrison and deployed forces. Provides commanders reachback capabilities to increase or decrease available personnel.
Public Affairs	Disseminates information to the Air Force, news media, and public.
Quality and Manpower	Provides controls to ensure efficient and economical use of available personnel and processes.
Safety	Promotes a safe environment for aerospace forces to live and work.
Security Forces	Provides forces for air base defense, security, and law enforcement services. Provides protection to weapons systems, personnel, and infrastructure.
Services	Provides food service, mortuary affairs, lodging, fitness, retail sales and services, laundry and dry cleaning services, and recreational opportunities while maintaining a sense of community and quality of life.
Space Support Teams	Provides space expertise and applications to theater air commanders.
Supply	Stocks, stores, and issues assets that support operations and the repair of assets.
Transportation	Provides timely delivery, resupply, retrograde, and vehicle support.

CORE COMBAT SUPPORT PRINCIPLES

The combat support process, discussed in chapter two, involves five underlying principles: *responsiveness, survivability, sustainability, time-definite resupply, and information integration*. These principles are integrated to create a systematic process for providing seamless combat support while minimizing the support footprint. The end results of applying these principles and using the process are the deliverables discussed in chapter three.

Responsiveness

Combat support has the flexibility to provide a tailored response with personnel, equipment, and support.

Inherent in this principle is a properly prepared force, well trained, organized to achieve mission-essential tasks, and equipped with sufficient resources to accomplish



Responsive combat support forces prepare the runway for operations.

the mission. Agile combat support, one of the Air Force's core competencies outlined in AFDD 1, *Air Force Basic Doctrine*, is achieved by proper planning and providing equipment and trained personnel when and where needed.

Combat support forces have the capability to deploy to any location in support of operations across the spectrum of conflict. Civil engineer mobility forces, organized as Prime Base Engineer Emergency Force (Prime BEEF) and RED HORSE units, employ specialized training, tactics, and equipment to rapidly establish the essential infrastructure needed to support the mission whenever and wherever required.

The Air Force has unique deployment capabilities that allow extreme flexibility. Air Force mobility forces, such as RED HORSE, can rapidly deploy to an unimproved, possibly hostile site. Once in place, mobility forces can establish runways and support facilities, install essential infrastructure and billeting, and conduct bare base operations that allow the

support, generation, and maintenance of air missions. As a result, the support footprint is minimized. Deployable communications assets, including initial communications packages and combat communications units, provide inter- and intratheater communications support to air operations where limited or no base information infrastructure exists. These assets enhance operational capabilities and reduce the support footprint. Deployed forces rely on many resources and capabilities such as:

- ✦ Prepositioned stock and war reserve materiel (WRM).
- ✦ Responsive reachback to reduce need for WRM, airlift, and bare-base assets.

The focus of the equipment support systems should shift from maintaining massive inventories to establishing rapid-response capabilities. This will increase operational capability, reduce the mobility footprint, and reduce cost with streamlined inventory. The key to successfully developing a responsive combat equipment support system is to emphasize:

- ✦ Efficient business-based management.
- ✦ Integrated command and control.
- ✦ Accurate inventories and asset visibility.
- ✦ Time-sensitive transportation.
- ✦ Responsive depot-level repair.

Survivability

Survivability is a critical element of aerospace power. In the broadest sense, it includes protecting people, weapons systems, and support structures. Increasingly lethal international and domestic threats dictate the Air Force take aggressive measures to protect its personnel and installa-



Air base defense requires basic weapons and tactics training.

tions from all threats, including weapons of mass destruction. An AEF poised to respond within hours to global taskings should also expect protection to accompany them. At a minimum, successful air base defense requires basic weapons and tactics training for all deployed Air Force personnel. (See the AFDD on *Force Protection*.)

Commanders should also plan and prepare to maintain the necessary support to enable continuity of operations throughout the execution of wartime, contingency, Military Operations Other Than War (MOOTW), or garrison operations. Force health protection elements, such as health surveillance information gathering and prevention programs, continue throughout the duration of operations. Examples include:

- ✦ Oversight of food, water, disease carrying pests, and other individual, occupational, or environmental health-related factors important to theater commanders.
- ✦ Protection measures employed by the Air Force Medical Services to detect or counter potential and adverse nuclear, biological, chemical (NBC) and conventional threats. In concert with civil engineering personnel, medical support to the commander includes advice regarding chemical and biological detection systems. (See the AFDD on *Health Services*.)

Sustainability

Sustainability measures the Air Force's ability to maintain combat support to all users throughout the theater for the duration of the operation. To reduce forward-deployed inventories, commanders

should embark on arigorous, situationally dependent, base support planning effort. This should allow assessment of what a deploying force must bring with it, as opposed to what can be obtained locally. This includes contracting for rental and leasing, and coordinating host-nation support. Al-



Deploy only what you cannot obtain locally in a timely manner.

though one goal of combat support is to reduce forward-deployed inventories, these stocks cannot be eliminated completely. Deploying forces may use prepositioned assets to generate forces for immediate operations and then use reachback for sustainment. Reachback encompasses the complex network that transfers information regarding weapons systems status and requirements. It is the concept whereby deployed units seek support from rear, home station, or nearest available sources.

The ability to continue support throughout all operational phases relies heavily on personnel preparedness and assets drawn from a seamless support system. The air mobility system and its contribution to rapidly resupplying and relocating forces are provided by the US Air Force. Combat communications and other deployable communications systems, such as Commercial Satellite Communications Initiative, provide the capability to expand the base information infrastructure. These capabilities allow smaller forward forces to draw information and resources from outside the theater of operation through systems such as the Global Command and Control System (GCCS) and the Global Combat Support System (GCSS).

Time-definite Resupply

Time-definite resupply means delivering, immediately resupplying, and sustaining a deployed force when and where needed. By providing users with reliable, predictable mission-critical parts delivery, time-definite resupply gives deployed commanders the confidence to reduce investment in

stock inventories. This method forms the basis for all resupply in theater. When combat commanders require an item, the system provides reachback to home station or the nearest source and delivers it where it is needed. This approach makes it possible to deploy fewer personnel and their functions.



Air mobility provides the backbone of time-definite resupply.

Information Integration

Exploiting advances in communications and information tech- nology will enhance combat support.

Information integration is the timely and accurate access and fusion of data across combat support agencies worldwide, providing reliable asset visibility and



Agile combat support requires seamless exchange and universal access to information.

resource access to the warfighter. Information technology should be leveraged to improve command and control, which is key to making timely and accurate decisions. An example of leveraging information technology is the GCSS, designed to provide universal access to information and seamless exchange among support functions and the chain of command.

CONCLUSION

Combat support functions and roles, along with the five principles of *responsiveness, survivability, sustainability, time-definite resupply, and information integration*, ensure Air Force assets can be deployed and sustained with minimum notice. Operational aerospace forces should be guaranteed the required support in any circumstance regardless of location.

CHAPTER TWO

COMBAT SUPPORT PROCESS

Air control can be established by superiority in numbers, by better employment, by better equipment, or by a combination of these factors.

General Carl A. “Tooe” Spatz

Combat support is a process, as depicted in figure 2.1, that begins at the unit level during peacetime and is recognized for its vital importance during deployments or war. The Air Force trains to accomplish the mission in a safe operating environment, taking full advantage of integrated base support functions identified in table 1.1. Forces should train like they will fight so they are fully prepared when they mobilize or deploy for exercises or actual military operations.



Figure 2.1. Combat Support Process

READYING THE FORCE

Readying the force means establishing an organized, trained, and equipped force ready to operate in peace or war. Diverse mission taskings require integrated and efficient support functions. The key to readiness is being able to respond to the full spectrum of military operations. Commanders are responsible for ensuring airmen are trained and ready to deploy. Air Force fitness programs encourage warriors to maintain a fit and healthy lifestyle so airmen are battle ready. For the AEF, the reachback capability to home-based resources is integral to readiness. Personnel should be ready to deploy and support operations with the appropriate forward area infrastructure. Combat support capabilities can be deployed with a smaller footprint by employing compact, multiuse equipment with increased dependability and less redundancy.

The Air Force is committed to a base environment that fosters a sense of community through quality of life programs. Maintaining a high quality of life enables the Air Force to recruit, train, retain, and motivate a highly capable force.



A fit and healthy force.

Actions to Ready the Force:

- ✦ Organize.
- ✦ Train.
- ✦ Equip.
- ✦ Establish quality of life.
- ✦ Monitor world situation.
- ✦ Support training operations tempo.
- ✦ Establish and secure lines of communication.
- ✦ Ensure personal health and fitness.
- ✦ Provide a medically ready force and a ready medical capability.
- ✦ Inform the force and public.
- ✦ Promote spiritual and emotional well being.

PREPARING THE FORCE

Preparing the force in the operational environment ranges from broad to focused base support planning and assessment. Adequate preparation includes gathering, assessing, analyzing, and disseminating information on the environment's support capabilities and constraints. Planners should collect and include this data in an appropriate annex or appendix of a commander in chief (CINC) operation plan (OPLAN) or Air Force component OPLAN.

Commanders should ensure combat support planners participate at the start of force deployment and employment planning. Examples of deployment area characteristics that should be assessed include:

- ✦ Ability to support personnel, weapons, and systems.
- ✦ Airfield supportability.
- ✦ External support (e.g., support from host nation, joint, coalition, contracted, etc., sources).
- ✦ Operational constraints (e.g., weather, geography, etc.).
- ✦ Environmental constraints (e.g., host-nation standards, hazardous materials, etc.).
- ✦ Threat of enemy, dissident, and terrorist activity.
- ✦ Presence of endemic diseases.
- ✦ Risk of exposure to weapons of mass destruction.

Accurately assessing support capabilities and infrastructures is critical to the Air Force's agility because it allows planners to determine support requirements and properly tailor force packages. After the initial assessment, commanders should continually consider ways to enhance the operational environment. This may include conducting such actions as psychological operations or ensuring the security of critical information through operations



Reachback communications transfer information regarding operational support needs.

security and information assurance measures. Preparing the operational environment should also include public affairs coordination. Robust and integrated combat support information systems ensure the ability to rapidly identify requirements, obtain resupply, and track assets status.

Actions to Prepare the Force:

- ✧ Assess the threat.
- ✧ Obtain medical estimate.
- ✧ Plan base support.
- ✧ Preposition assets.
- ✧ Gather information.
- ✧ Maintain resource visibility.
- ✧ Identify local resources.
- ✧ Establish reachback capability.

PROTECTING THE FORCE

Force protection provides the safe and secure operational environment necessary to ensure mission completion.

It plays a part in every Air Force operation, from conducting surveillance against threats, to furnishing air base defense, protecting against health threats, providing community safety, and protecting communication and in-



Airmen should be trained to counter all threats.

formation systems. **Everyone is responsible for force protection.** Every airman should be trained in force protection knowledge, concepts, and weapons skills; self-aid and buddy care; field hygiene; NBC defense measures; and antiterrorism and threat awareness. The prime goal is to execute the mission with increased freedom and reduced fear. (See the AFDD on *Force Protection*.)

Actions to Protect the Force:

- ✧ Defend air base.
- ✧ Coordinate host-nation assistance and cooperation.
- ✧ Conduct surveillance against threats.
- ✧ Provide community safety.
- ✧ Conduct defensive information operations.
- ✧ Increase awareness.
- ✧ Protect resources.
- ✧ Collect intelligence.
- ✧ Perform intelligence assessment.
- ✧ Prepare employment security actions.
- ✧ Practice disaster preparedness and operations security.

POSITIONING THE FORCE

Positioning includes deploying, receiving, and bedding down tailored and prioritized forces.

The *supported* CINC's air component should work with the *supporting* CINC's air component to meet the supported CINC's priorities. Deployment should expedite personnel, aircraft, and equipment movement to



Deploying, receiving, and bedding down the force.

meet operational priorities. Receiving forces involves offloading at staging locations and accounting for all assets, moving to operating locations, and performing beddown activities. Aerospace forces should be prepared to beddown at a variety of locations ranging from main operating bases to austere bare bases. Forces should immediately prepare to support operations upon arriving at their final destination.

Actions to Position the Force:

- ✧ Account for prepositioned assets.
- ✧ Account for host nation and coalition assets and support.
- ✧ Structure the deployed combat support contingent to accomplish necessary operations.
- ✧ Deploy en route support force.
- ✧ Deploy employment elements.
- ✧ Establish initial operational cadre in the area of operations.
- ✧ Receive and account for forces.
- ✧ Prepare for operations.
- ✧ Conduct environmental baseline survey.
- ✧ Begin reachback operations.

EMPLOYING THE FORCE

Employing the force is conducting and supporting aerospace operations.

Force employment requires support functions such as services, personnel, civil engineering, communications, health services, maintenance, force protection, and others covered in table 1.1. Operations could commence even while additional combat support is being received and integrated. In the-



Preparing for operations.

ater, combat support elements provide input for building the air tasking order (ATO) that supports the air component commander by sourcing and distributing combat resources to best meet mission tasking.

Actions to Employ the Force:

- ✧ Generate force to combat or operational levels.
- ✧ Provide timely information dissemination.
- ✧ Accomplish field mission training.
- ✧ Launch, recover, or regenerate operational elements.
- ✧ Accomplish force support for continuing operations.
- ✧ Preserve installation security.

SUSTAINING THE FORCE

Sustaining the force is the ability to maintain and prolong combat support to all users throughout the theater for the duration of the operation. There are seven essential requirements to successful force sustainment:

- ✧ An efficient and effective in-theater distribution system.
- ✧ Scheduled mobility to resupply equipment.
- ✧ Effective asset visibility.
- ✧ Reliable communication and information systems.
- ✧ Generation and repair of equipment (including depot level maintenance).
- ✧ Augmentation and rotation of people.
- ✧ Care of people.

Constant communication, planning, and status updates throughout sustainment are critical. Resupply operations are a primary force sustainment component. The sooner materiel sustainment can begin, the fewer supplies a deployed unit must take with it. A successful resupply operation requires the following:

- ✧ Lightweight, portable, and integrated communication and information systems should be operational as soon as possible.
- ✧ Scheduled airlift should begin as soon as possible and be integral to planned airflow.
- ✧ Sufficient spares and an effective and efficient in-theater distribution system should be in place.

These resupply measures can also be used in reverse to provide a pipeline to return reparable to overhaul sites. The “agile logistics” concept requires fewer spares to be used more efficiently. For the concept to work, reparable cannot accumulate either in theater or in transit. Another key element to force sustainment is rapid aircraft repair. Aircraft battle damage repair teams provide depot-level repair capability in-theater to reduce aircraft downtime and sustain aircraft operations. Rapid personnel augmentation or replacement is equally important to provide the theater CINC or joint task force (JTF) commander maximum flexibility throughout the sustainment phase.

An overlooked facet of sustainment is the ability to rapidly research, develop, and field a new or modified weapon system to meet special or unforeseen needs. For example, the GBU-28 “Bunker Buster” bomb was developed in 18 days during Operation DESERT STORM; and the E-8 joint surveillance, target attack radar system, an immature system, was deployed and supported during the Gulf War with no delay to its development program in the United States. Development programs should consider the potential for accelerating the fielding of these immature systems, should the need arise.



Responsive medical care.

Development programs should consider the potential for accelerating the fielding of these immature systems, should the need arise.

Actions to Sustain the Force:

- ✧ **Transition initial force to mature, steady-state operation.**
- ✧ **Optimize information, communication, and resource flow.**
- ✧ **Maintain operational security.**

RECOVERING THE FORCE

Recovering the force includes readying forces to deploy, redeploy (i.e., move to a new deployment location, rotate, or be replaced), or reintegrate into their home station. All three actions can occur simultaneously in the same theater. Planners should track resources throughout the transportation process to enable rapid reconstitution and continued readiness during recovery. Recovering the force involves more than moving



Safe return to home station.

aircraft and units. At times bases may have to be closed, repaired, and returned to host nations. Environmental impact and combat support resource information from the closure site may need to be collected.

Units returning to home station should pack their equipment, perform required decontamination, mark items for refurbishment or disposal (ensuring reparable items are returned to depot), and arrange for hazardous waste disposal and hazardous spill remediation. Base services and force protection should continue until all personnel have departed. Once at home station, deferred maintenance, refurbishment, and reconstitution should take priority, making the unit ready for another deployment. This includes restoring health documents and individual records. Fitness, recreation, and family-oriented programs play an essential role in recovering the force. Returning personnel should be provided time to reintegrate into their work places, families, and communities. Allowing adequate time to reestablish individual, family, and community ties is essential to the long-term viability of the force.

Actions to Recover the Force:

- ✧ **Reduce cadre size to support redeployment.**
- ✧ **Continue medical surveillance.**
- ✧ **Deploy en route support forces.**
- ✧ **Launch redeployment force.**
- ✧ **Maintain information and communication flow.**
- ✧ **Maintain control of resource flow.**
- ✧ **Consider environmental impact.**
- ✧ **Redeploy remaining combat support resources.**
- ✧ **Reconstitute forces.**

CHAPTER THREE

COMBAT SUPPORT DELIVERABLES

Air Power alone does not guarantee America's security, but I believe it best exploits the nation's greatest asset—our technical skill.

General Hoyt S. Vandenberg

Combat Support deliverables are the desired or expected results that provide agile combat support for expeditionary aerospace forces. Each combat support function listed in table 1.1 is critical and contributes to the integrated ACS process. This integration creates the synergy needed to produce products and services, or deliverables.

EDUCATED AND TRAINED FORCES

Education and training are integral to the Air Force's success. Basic training begins with ingraining Air Force history, heritage, and culture into its newest members. Modern military operations are complex, dynamic, and among the most demanding human activities. Only through education and training can individuals meet these demands. Air Force personnel should engage in a continuous education and training program that helps them gain, maintain, and upgrade occupational skills; improve professional qualifications and judgment; and prepare for leadership and supervisory challenges. Stateside and deployed locations should take advantage of technology to maintain training for their personnel. (See the AFDDs on *Leadership and Command* and *Education and Training*.)

Education and training extend beyond formal learning into all areas in the Air Force community such as fostering strong community ties and personal well being.

PROTECTED, FIT, AND SURVIVABLE FORCES

Programs in all combat support organizations should improve physical, emotional, and spiritual wellness for those deploying and those who remain behind, both military and family members. Heightened operations tempo in continental United States (CONUS) and forward-deployed

locations necessitates placing a high priority on individual preparedness to meet growing mission requirements.

Historically, disease and nonbattle related injuries cause the greatest force degradation during both peacetime and contingencies. **Commanders should ensure their personnel are fully ready for deployment by providing familiarization training for preventive health measures and field hygiene.** This will minimize the effects of endemic disease and combat and environmental stresses while reducing projected injury rates derived from accidents and combat action. Additionally, personnel suffering from battle or nonbattle injuries or from disease must be either treated for early return to duty or stabilized for rapid evacuation.

Individual fitness prepares Air Force warriors for the physically demanding environment of military operations. Physically fit personnel complete mission tasks more efficiently and effectively. Combat support personnel should achieve and maintain a high fitness level before, during, and after deployed operations. Individual programs should include cardiovascular, strength, and flexibility training—essential to a fitness program. Physically fit warriors are more productive, resist stress better, are less likely to be injured, and are more resistant to illness and disease than unfit warriors. Physical fitness is paramount to mission accomplishment. Prevention of self-destructive behavior or suicide is also critical for a fit force, especially in an extended deployment. (See the AFDD on *Health Services*.)

Spiritual wellness has an explicit impact on mission effectiveness by enabling Air Force members to swiftly and decisively respond to any contingency. The spirit of the airman needs continual nourishment because spiritual health has direct correlation with physical, mental, and moral health. To that end, the Air Force supports military personnel by promoting spiritual faith, moral character, and commitment according to the core values of integrity, service before self, and excellence in all we do.

The Air Force should create an environment conducive to operational success by ensuring forces can prepare for and execute operations while minimizing the threat of attack. This environment should also provide systems and other information sources for early detection and warning against attacks, as well as minimize the effects of actual attacks. Counterforce, intelligence, and surveillance systems should be sized and postured to preempt enemy or criminal action and effectively respond to

perceived threats and actual attacks. Force protection measures can provide the safety and protection needed to allow the mission to proceed. This includes providing appropriate security forces; force health protection; detection and warning of NBC attack; and plans for asset protection from enemy attack or terrorist actions. (See the AFDD on *Force Protection*)

EXPEDITIONARY AEROSPACE FORCES

Combat support aids in tailoring and phasing force packages allowing deployed forces to remain operational until resupply can begin. **Tailoring meets two requirements: only the forces necessary for successful mission accomplishment are sent, and beddown site facilities are matched with support equipment and personnel.** Additional forces and materiel are available to the theater commander via reachback. Having detailed beddown site information is vital when planning what to bring. Creating tailorable units makes it easier to deploy a smaller force that has significantly reduced initial and resupply needs yet is operationally sufficient to meet the mission.

Host-nation Support

To achieve economy of force and a viable combat support structure in an international setting, the US and its partners should make maximum use of host-nation support via international agreements. Such agreements detail what combat support the host nation will provide and what the host nation expects in return. Air Force elements ensure these agreements are translated into actions for planning and conducting operations. The results define support requirements during all operations phases. They prescribe support tasks affecting tangible resources—people, materiel, facilities, utilities, and information from acquisition to consumption. Additionally, Air Force elements ensure they understand and accommodate any exceptions the host country may have through all phases of the operation.

Host-nation agreements are situationally dependent and can be politically sensitive. Integrated host-nation support reduces the number of US personnel required; however, host-nation service support should be balanced with force protection. When threats are prevalent or an increased terrorist threat condition exists, commanders should closely monitor off-base personnel support to determine the impact on force protection measure effectiveness.

Contracting enhances combat support by acquiring materiel and services from the local economy. Contracting officers provide commanders flexible and responsive support before, during, and after operations. During Operation JOINT ENDEAVOR, on-scene contracting people rapidly procured billeting, rental vehicles, construction materials, and bottled water for the JTF, resulting in better, faster, and more cost-effective combat support.

Prepositioning

Prepositioning assets allows the Air Force to reduce strategic airlift requirements. To receive the greatest prepositioning benefits, theater and Service planners should continue refining the process that integrates operations plans and the time-phased force deployments with supporting prepositioned assets. While staging assets reduces transportation requirements, the Air Force should maintain a balance between prepositioning and the ability to deploy into areas where there is no staged materiel.

Using prepositioned assets for MOOTW over an extended period could degrade readiness and adversely impact asset availability in a major theater war or another MOOTW. As an alternative to prepositioned assets, contract support, alternative Service stocks, diverted unit equipment, or combinations of these methods could better support continuing MOOTW requirements.

Reachback

Reachback provides commanders the capability to reliably access resources to support deployed airmen and weapons systems. Reachback success depends on establishing effective logistics command and control to seamlessly process logistics data from the deployed locations to logistics pipeline managers at all levels. Command and control systems provide total asset visibility (TAV) and tracking throughout the logistics process to facilitate the timely delivery of resources to the combat commander. Reachback also depends on implementing a time-definite delivery (TDD) capability, including guaranteed strategic and intratheater airlift so logistics managers can move people and repairable assets from deployed locations to designated repair points. Together, logistics command and control and TDD enable logisticians to maintain required combat capability levels with the smallest possible footprint.

BASES AND INFRASTRUCTURE CONSIDERATIONS

Bases and their associated infrastructure provide the springboard for operational success. Personnel at home stations prepare, train, equip, and deploy forces while supporting Air Force core competencies and maintaining quality of life. Deployed locations provide the infrastructure to sustain combat capability. This infrastructure includes housing, food service, medical care, and quality of life features such as laundry, recreation, fitness facilities, and chapels. Planning should include analyzing and assessing communications and information systems infrastructure requirements.

En Route and Theater Infrastructure

Responsive air mobility allows commanders to shift from a just-in-case posture to a resupply posture that emphasizes minimum up-front deployment of supplies followed by immediate and continuous resupply. To ensure continuity of command along with a smooth and effective materiel flow in and out of the battlespace, there should be an en route infrastructure that can be quickly activated and tailored. Political or physical restrictions on personnel, aircraft, and equipment in a forward environment may restrict inter- and intratheater transportation. These restrictions mandate an en route infrastructure that can store, care for, and manage assets and their flow between the time they leave their origination point and the time they arrive at their final destination. (See the AFDD on *Air Mobility*.)

The existing infrastructure at a staging or en route location is a major concern to arriving forces. A bare en route base requires housing, communications connectivity, and support facilities prior to operating at full capacity. Adequate infrastructure permits flying operations to begin quickly after arrival. Infrastructure also impacts a given location's throughput capacity to and from the theater.

Force Generation and Recovery

The ability to quickly generate operational forces on arrival depends on proper support forces arriving early in the initial deployment phase to receive and beddown incoming assets. Redeployment and reconstitution ensure aerospace power can be effectively applied again and again. The objective of combat support in redeployment and reconstitution is to maintain control over resources and ensure

maximum asset recovery consistent with time and transportation limitations for return to home station or other designated locations. (For information on beddown operations, refer to the AFDD on *Bases, Infrastructure, and Facilities*.)

RESPONSIVE COMMAND AND CONTROL (C2)

Combat support C2 combines two complementary factors for mission success: *organizations, and command and control information systems*.

Organizations

C2 should be tailored and integrated to best meet the needs of the warfighter. This is true whether the command center is a theater-focused joint air operations center (JAOC), an aerospace operations center (AOC), an Air Force forces (AFFOR) headquarters, or a deployed expeditionary operations center (EOC) with its associated C2 centers for maintenance, security, medical, survival, and other combat support functions.

Most combat support is located within the Headquarters, AFFOR at the theater level and provides essential cross-leveling and critical asset management, including personnel. This structure ensures combat support considerations are addressed throughout the operational planning process. To support operations and these centers and their processes, C2 organizations should include combat support functional representatives during air base and aircraft generation.

Command and Control Information Systems

Air Force architectures and standards allow for a common operating picture of the battlespace and directly support deployment, employment, generation, sustainment, and protection decisions. The Air Force's C2 vision is supported by architectures that can *sense, decide, and execute* the commander's orders. *Sensing* includes intelligence, surveillance, and reconnaissance; TAV; and in-transit visibility (ITV). Sensing is not limited to sustainment, but extends to threat surveillance, forecasting enemy intent, and predicting the effects if anticipated threats materialize. *Deciding* permits analyzing limiting factors and eliminating or avoiding constraints during the generation and sustainment process. *Executing* permits combat support systems to work reachback, on-time sustainment, and time-critical movement of essential items and manpower.

CHAPTER FOUR

COMMAND AND CONTROL ELEMENTS

Just as we capitalized on our strong base of heavy manufacturing to gain victory in World War II, we will rely on America's dynamic new base of available technologies to tailor our fighting force to tomorrow's battlefield. Specifically, we are exploiting advances in information technology to raise our readiness to respond to unstable situations throughout the world.

General Gordon R. Sullivan
Army Chief of Staff

The end of the cold war era has significantly changed the political and military environment. Consequently, combat support should adapt its process to focus on a more responsive support system rather than relying on traditional systems. To effectively change the way the Air Force supports operations, systems development should include the combat support required to meet the communications and information architecture. Joint Pub 6-0, *Doctrine for Command, Control, Communications, and Computer (C4) Systems Support to Joint Operations*, states, "C4 systems seek interoperability and compatibility through developing all C4 systems on a life-cycle basis to include architectures, standards and life cycle functional systems support." This support should be integral to the operation, not a separate entity. The challenge for system developers is understanding and defining requirements, supporting systems development to meet those requirements, and using an approach that effectively implements the support portion of an aerospace operation. The following discusses how combat support is organized to ensure aerospace forces receive support.

PARTICIPATION IN JOINT OPERATIONS

Combat support for joint forces is provided through individual Service component commands. The combatant commander exercises directive authority for combat support and may organize theater forces any way that optimizes mission effectiveness. This authority is normally exercised through a joint/combined C2 organization for coordinating combat support requirements. Support may be obtained from Service

resources, sister Services, a host nation, or through contracting for services or commodities. A single Service may also be designated to provide common support, such as land transportation, bulk fuels, or contracting services. Regardless of the source of support or support C2 structure, the Service component is responsible for ensuring essential support for Service forces assigned or attached to a joint command.

BASE OPERATING SUPPORT

The highest practical level-of-quality living and working environment should be made available to ensure fighting force effectiveness and efficiency while meeting mission requirements and restrictions. Units may receive support from other Service components or nations that may or may not have the same support standards as the Air Force. Interoperability standards should be negotiated and planned to ensure all combat support aspects are adequately addressed.

SUPPORT STRUCTURES

The Air Force tailors support requirements to fit the mission, taking only the structure needed to support it. Many Air Force support structures are in the rear area. They dramatically decrease deployed personnel requirements, thus reducing the mobility footprint without degrading support to the warfighter.

For example, typical support structures include the US Air Force Contingency Supply Squadron at Langley AFB, Virginia, and the Standardized Tactical Entry Point (STEP) sites at overseas bases in Germany. The STEP is a communications gateway that provides reachback into the Defense Information Systems Network (DISN) for deployed commanders. The STEP provides information (classified and unclassified) interchange, including voice, data, video, imagery, and message services (including the Automatic Digital Network and Defense Message System) from the deployed location via military satellite communications into the DISN.

TOTAL ASSET VISIBILITY

TAV's goal is to provide timely and accurate information concerning the location, movement, status, and identity of units, personnel, patients, and materiel. It tracks requisitions, locates assets in storage or in use, views assets in-transit, tracks critical Air Force specialty codes and staffing levels, and ensures visibility over personnel losses (patients, casualties, as well as missing in action and prisoners of war).

TAV relies on integrated information systems providing seamless connectivity between old and new support systems, which enables efficient and effective resource allocation and command decision making. TAV becomes more critical as force structure is downsized, stocks are reduced, and political sensitivity increases. Both joint- and Service-initiated efforts are underway to provide the necessary tools for TAV. Ensuring airmen are trained to use these TAV tools before contingency operations leads to more successful combat support.

ITV is the ability to track the identity, status, and location of assets from origin to destination. ITV will contribute to TAV. ITV will become more vital as combat support C2 evolves. To ensure commanders have the appropriate level of ITV, personnel at origin, en route locations, and destination should use automated information systems that feed standard joint systems such as the Global Transportation Network (GTN).

COMBAT SUPPORT RESOURCE SOURCING AND DISTRIBUTION

The Commander, Air Force Forces (COMAFFOR) should maintain the ability to source, distribute, and redistribute theater force support resources under the JTF commander's operational control. While reachback will provide most force support resources, a functional C2 center used to monitor and manage assigned combat support forces—the “beds, beans, and bullets,” handled by the Services—such as a Combat Support Center (CSC) would control the home-based assets distribution within the combatant commander's area of responsibility (AOR) to ensure assets are managed from a theater-level perspective.

RETROGRADE MANAGEMENT

A comprehensive retrograde management program should be established as soon as practical after initial deployment. The system should effectively track deployed assets and ensure reparables are located, prioritized, and returned to their source of repair as quickly as possible.

CHAPTER FIVE

CONCLUSION

The combat support process, deliverables, and C2 elements are guides to convert resources into combat support capabilities. The ultimate goal is to create capabilities to sustain aerospace weapons systems and personnel for use in any theater at any command level, in any operation. Tangible resources (people, materiel, and facilities) are combined with intangible resources (time and information) to produce a capability that can be employed by commanders at all levels.

Expeditionary operations have transformed the way the Air Force views combat support. The Air Force now has the opportunity to develop definitions and doctrine associated with the ACS core competency. This competency establishes the support community's role in the global engagement philosophy.

Combat support reaches beyond pure logistics. It includes force protection, engineering, services, medical, education, training, communications and information, personnel, and other support functions mentioned earlier. When participating in exercises, war games, or contingencies, commanders should ensure realistic combat support considerations are incorporated in operational events. Combat support deliverables should be analyzed in the after-action reports and critiques to the same level of detail that aerospace operations are reviewed. These outcomes will continue to redefine Air Force combat support organizational relationships and concepts of operation that will lead us into the future.

At the Very Heart of Warfare lies Doctrine . . .

Suggested Readings

Military Publications

Air Force Doctrine Document (AFDD) 2-3, *Military Operations Other Than War*.

AFDD 2-4.1, *Force Protection*.

AFDD 2-4.2, *Health Services*.

AFDD 2-4. 4, *Bases, Infrastructure, and Facilities*.

AFD 2-5, *Information Operations*.

AFDD 2-8, *Command and Control*.

Joint Publication (JP) 1-0, *Personnel Support to Joint Operations*.

JP 1-02, *DOD Dictionary of Military and Associated Terms*.

JP 3-07, *Joint Doctrine for Military Operations Other Than War*.

JP 3-10, *Joint Doctrine for Rear Area Operations*.

JP 3-10.1, *Joint Tactics, Techniques, and Procedures for Base Defense*.

JP 3-11, *Joint Doctrine for NBC Defense*.

JP 3-13, *Joint Doctrine for Information Operations*.

JP 4-0, *Doctrine for Logistics Support of Joint Operations*.

JP 6-0, *Doctrine for Command, Control, Communications, and Computer (C4) Systems*.

Civilian Publications

Lt Col John L. Cirafici. *Airhead Operations—Where AMC Delivers the Linchpin of Rapid Force Projection*. Air University Press. 1993.

Thomas J. Snyder. *The Logistics of Waging War: US Military Logistics, 1982-1993, the End of the "brute force" Logistics*. Air Force Logistics Management Agency. 1998.

Glossary

Abbreviations and Acronyms

ACS	agile combat support
AEF	Aerospace Expeditionary Force
AFDD	Air Force doctrine document
AFFOR	Air Force forces
AFPD	Air Force Policy Directive
AFRC	Air Force Reserve Command
ANG	Air National Guard
AOC	aerospace operations center
AOR	area of responsibility
ATO	air tasking order
C2	command and control
C4	command, control, communications, and computers
CINC	commander in chief
COMAFFOR	Commander, Air Force Forces
CONUS	continental United States
CSC	Combat Support Center
DISN	Defense Information Systems Network
EOC	Expeditionary Operations Center
GCCS	Global Command and Control System
GCSS	Global Combat Support System
GTN	Global Transportation Network
ITV	in-transit visibility
JAOC	joint air operations center
JP	joint publication
JTF	joint task force
MOOTW	military operations other than war
NBC	nuclear, biological, chemical

OPLAN	operation plan
Prime BEEF	Prime Base Engineer Emergency Force
STEP	standard tactical entry point
TAV	total asset visibility
TDD	time-definite delivery
WRM	war reserve materiel

Definitions

agile combat support. An Air Force core competency that encompasses the process of creating, sustaining, and protecting all aerospace capabilities to accomplish mission objectives across the spectrum of operations. Also called **ACS**. (AFDD 1)

area of responsibility. The geographical area associated with a combatant command within which a combatant commander has authority to plan and conduct operations. Also called **AOR**. (JP 1-02)

battlespace. The commander's conceptual view of the area and the factors that he must understand to successfully apply combat power, protect the force, and complete the mission. It encompasses all applicable aspects of air, sea, space, and land operations the commander must consider in planning and executing military operations. The battlespace dimensions can change over time as the mission expands or contracts, according to operational objectives and force composition. Battlespace provides the commander a mental forum for analyzing and selecting courses of action for employing military forces in relationship to time, tempo, and depth. (AFDD 1)

beddown. A location at which a deploying unit operates during a contingency. It is usually, but not always, in the area of responsibility (AOR).

command and control. The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in plan-

ning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. Also called **C2**. (JP 1-02)

command, control, communications, and computer systems. Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control across the range of military operations. Also called **C4 systems**. See also **command and control**. (JP 1-02)

cross-leveling. Responding to priority needs within the area of operations by adjusting and shifting material and personnel to meet combat support mission requirements at the right place and time.

deliverables. The desired or expected results of specific support functions that contribute to responsive combat support for an aerospace expeditionary force.

deployment. The relocation of forces and material to desired areas of operations. Deployment encompasses all activities from origin or home station through destination, specifically including intra-continental United States, intertheater, and intratheater movement legs, staging, and holding areas. (JP 1-02) [*Act of preparing, staging, and moving equipment and personnel from their home station to their deployed site, usually in an AOR, to support an operation.*] {Italicized definition in brackets applies only to the Air Force and is offered for clarity.}

distribution. 1. The arrangement of troops for any purpose, such as a battle, march, or maneuver. 2. A planned pattern of projectiles about a point. 3. A planned spread of fire to cover a desired frontage or depth. 4. An official delivery of anything, such as orders or supplies. 5. That functional phase of military logistics that embraces the act of dispensing materiel, facilities, and services. 6. The process of assigning military personnel to activities, units, or billets. (JP 1-02)

force protection. Security program designed to protect Service members, civilian employees, family members, facilities, and equipment, in all locations and situations, accomplished through planned and integrated application of combatting terrorism, physical security, operations security, personal protective services and supported by intelligence, counterintelligence, and other security programs. (JP 1-02) [*Measures taken to prevent or mitigate successful hostile actions against Air Force people and*

resources while not directly engaged with the enemy.] {Italicized definition in brackets applies only to the Air Force and is offered for clarity.}

Global Command and Control System. Highly mobile, deployable command and control system supporting forces for joint and multinational operations across the range of military operations, any time and anywhere in the world with compatible, interoperable, and integrated command, control, communications, computers, and intelligence systems. Also called **GCCS**. See also command and control. (JP 1-02)

global engagement. The ability to hit an adversary's strategic centers of gravity directly as well as prevail at the operational and tactical levels of warfare. It stresses what the Air Force provides that no other service's air force can: speed, flexibility, and global nature. (*Global Engagement: A Vision for the 21st Century Air Force*)

global transportation network. The automated support necessary to enable USTRANSCOM and its components to provide global transportation management. The global transportation network provides the integrated transportation data and systems necessary to accomplish global transportation planning, command and control, and in-transit visibility across the range of military operations. Also called **GTN**. (JP 1-02)

hazardous materials. Any item or chemical that can cause harm to people or the natural environment when released by spilling, leaking, discharging, dumping, or disposing into the environment.

home station. The permanent location [CONUS or overseas installations] of active duty units and Reserve Component units (e.g., location of armory or reserve center). (JP 1-02) {Information in brackets added for clarity.}

host-nation support. Civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, crises or emergencies, or war based on agreements mutually concluded between nations. (JP 1-02)

information. 1. Facts, data, or instructions in any medium or form. 2. The meaning that a human assigns to data by means of the known conventions used in their representation. (JP 1-02)

integration. 1. A stage in the intelligence cycle in which a pattern is formed through the selection and combination of evaluated information. 2. In photography, a process by which the average radar picture seen on several scans of the time base may be obtained on a print, or the process by which several photographic images are combined into a single image. (JP 1-02)

in-transit visibility. The ability to track the identity, status, and location of DOD units, and non-unit cargo (excluding bulk petroleum, oils, and lubricants) and passengers; medical patients; and personal property from origin to consignee or destination across the range of military operations. See also **global transportation network.** (JP 1-02)

operation plan. Any plan, except for the Single Integrated Operation Plan, for the conduct of military operations. Plans are prepared by combatant commanders in response to requirements established by the Chairman of the Joint Chiefs of Staff and by commanders of subordinate commands in response to requirements tasked by the establishing unified commander. Operation plans are prepared in either a complete format (OPLAN) or as a concept plan (CONPLAN)... a. An operation plan for the conduct of joint operations that can be used as a basis for development of an operation order (OPORD). An OPLAN identifies the forces and supplies required to execute the CINC's Strategic Concept and a movement schedule of these resources to the theater of operations.... (JP 1-02) [This is a partial definition and is the portion that pertains to this AFDD.]

reachback. The process of obtaining products, services, and applications, or forces, equipment, or materiel from Air Force organizations that are not forward deployed. (AFDD 2)

RED HORSE. These units are wartime-structured to provide a heavy engineer capability. They have a responsibility across the area of operations, are not tied to a specific base, and not responsible for base operation and maintenance. These units are mobile, rapidly deployable, and largely self-sufficient, for limited periods of time.

remediation. Actions taken in response to cleaning up a contaminated site to mitigate effects of environmental contamination on human health and safety, the environment, or the mission. Remediation actions can range from total cleanup, to monitoring of the site, to no action required.

These site clean-up activities are performed safely and consistently in accordance with the Air Force Solid and Hazardous Waste Program.

retrograde. Returning assets—particularly reparable parts—from the AOR to their source of repair.

sustainment. The provision of personnel, logistics, and other support required to maintain and prolong operations or combat until successful accomplishment or revision of the mission or of the national objective. (JP 1-02)

time-definite resupply. A fundamental shift in the way we support deployed forces. Resupply of deployed forces will begin upon arrival, reducing their initial lift requirement. Time-definite delivery will form the basis for all resupply in the theater, thus reducing total lift requirement. When combat commanders require an item, the system will reach back to the CONUS and deliver it where and when it is needed. (*Global Engagement: A Vision for the 21st Century Air Force*)

total asset visibility. An integrated structure using a command and control process to ensure the quantity, condition, and location of critical assets are visible. Also called **TAV**.