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JFACC Primer

10 January 1994

"... Command and control of Joint Air Operations was the best in US military history"

CJCS memo to SECDEF on DESERT STORM

"The successes of the air campaign in the gulf rested almost as much on organizational innovations as on technology. To speak of a revolution in warfare as a purely technological affair is to miss half the significance of the war... The centralized control of air power made for a much more coherent campaign than would otherwise have occurred."

Eliot Cohen in Foreign Affairs

Foreword

This revision to the JFACC Primer reflects the latest doctrine on joint operations. The biggest changes in the JFACC Primer are the result of the publication of Joint Pub 3-0 Doctrine for Joint Operations in September 1993, but we've also tried to improve our thinking and make it clearer. The challenge for each reader is to make the most of the information available. General Horner explained our responsibility this way:

> We have a moral obligation to ensure military force is applied in the most effective and efficient manner in order to save lives, shorten the conflict period and achieve victory.

As airmen, we must know how best to contribute to the Joint Force Commander's campaign. We need to keep improving our understanding of air power and its tremendous potential to achieve our nation's objectives and save lives. It's essential to keep our hard-won experience alive and growing.

When the United States declared war in 1917, Billy Mitchell was already in the theater. Before General Pershing and the American Expeditionary Forces arrived in France, Mitchell asked General Trenchard (later Marshal of the Royal Air Force) for his views on the best way to organize air forces. Mitchell tells us

> The only way to handle air power, in Trenchard's opinion, was to unify it all under one command. The air covers everything and is one substance in which movement takes place irrespective of what is under the flying machine, whether land or water.

Senior officers disagreed with Trenchard -- until the German air force began massed bombing raids. According to Mitchell

> They dropped their bombs on London, turned around and returned, apparently without losing any planes. The anti-aircraft fire had no effect. The divided control of the air force ... resulted in a terrible mess.

Subsequent campaigns demonstrated the effectiveness of centralizing control of air power. This pamphlet covers how to best organize, plan, and execute joint air operations. Whatever your Service, your background or specialty, your position or rank, the lives of others may at some time depend on your decisions. For that reason I urge you to master the material in this pamphlet.

BUSTER C. GLOSSON
Lieutenant General, USAF
DCS, Plans and Operations

This pamphlet will be revised every two years.

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JOINT FORCE AIR COMPONENT COMMANDER (JFACC) Primer

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I. INTRODUCTION

1. Theater commanders strive to exploit the full military capabilities of their assigned forces. Since World War II, they have relied on theater air commanders to:

- integrate the air power capabilities of different nations and Services,

- devise ways to exploit the different capabilities of the available air assets while reducing their limitations,

- plan operations that maximize the total combat power and synergy of the aggregate air effort, and

- consequently conduct an effective theater air campaign.

2. Unity of effort through centralized control of theater air assets is the most effective way to employ air power. The Joint Force Air Component Commander (JFACC) provides a Joint Force Commander (JFC) the means to exploit the capabilities of air power in a theater air campaign.

3. Operation Desert Storm provided a modern combat validation of the JFACC. Using the most successful air campaign in history as a reference, our armed forces are moving ahead and preparing for future JFACC roles. This pamphlet updates Air Force thinking on the JFACC, associated roles and responsibilities, and key command relationships.

II. BACKGROUND

A. JFACC DEFINITION

Joint Pub 1-02, "Department of Defense Dictionary of Military and Associated Terms" defines the joint force air component commander:

> The joint force air component commander derives authority from the joint force commander who has the authority to exercise operational control, assign missions, direct coordination among subordinate commanders, redirect and organize forces to ensure unity of effort in the accomplishment of the overall mission. The joint force commander will normally designate a joint force air component commander. The joint force air component commander's responsibilities will be assigned by the joint force commander (normally these would include, but not be limited to, planning, coordination, allocation, and tasking based on the joint force commander's apportionment decision). Using the joint force commander's guidance and authority, and in coordination with other service component commanders and other assigned or supporting commanders, the joint force air component commander will recommend to the joint force commander apportionment of air sorties to various missions or geographic areas.

B. PRACTICAL EXPERIENCE WITH THE JFACC CONCEPT

1. WORLD WAR I -- AMERICAN AIR SERVICE AT ST. MIHIEL

a. As Chief of Air Service of the First American Army in September 1918, Billy Mitchell recognized the need for centralized control of offensive air operations. He requested that all air missions of American Army units, French units attached to the American Army, the French Air Division, and the French Night Bombardment Wing be assigned to him for execution. Mitchell thus pioneered centralized control of air power. By concentrating the almost 1500 Allied aircraft directly supporting the forces in the St. Mihiel offensive, Mitchell achieved both mass and unity of effort. Furthermore, to effectively combine operational and tactical level objectives during the offensive, Mitchell sequenced the air operations into four phases: Preparation, Night Preceding the Attack, Day of the Attack, and Exploitation.

b. Billy Mitchell maintained a theater-wide view of the battlefield and was able to sequence air actions for maximum effect. His use of barrage patrols in the preparation phase, while not the most effective long-term solution for gaining control of the air, achieved his short-term objective of hiding Allied preparations from German reconnaissance aircraft. Similarly, his instructions to pursuit aircraft and bombardment aviation to maintain normal activity during the preparation phase helped the Allies gain surprise as to the actual place and time of their offensive. Since Mitchell could not possibly attack every target desired by the ground commanders on the eve of the battle, he focused on critical operational level targets such as enemy airfields, railway stations, ammunition dumps, and enemy cantonments. The last minute attack of these key nodes inflicted temporary paralysis among the defending forces. Allied air and ground forces exploited the confusion during the following morning's attack.

2. WORLD WAR II -- NORTH AFRICA

a. The British started the war with their air power parceled out to Army units. British forces in North Africa were outnumbered, so the theater commander, General Alexander, centralized control of air forces under Air Marshal Sir Arthur Coningham. Coningham and the ground commander, General Montgomery, had equal status. Their headquarters were collocated. Further, General Alexander refused to intercede in disputes between the two, so they worked out their differences without Alexander's intervention. Coningham gained air superiority and created operational advantages for Montgomery's forces even though his forces were locally outnumbered.

b. The United States (US) military entered North Africa with its air power split between the Army Air Force (AAF) and "support" air power assigned as organic air power for individual Army units. The decentralized forces concentrated on providing "umbrella" air cover and direct support for specific ground force units. German ground and air forces gained strength in the face of the decentralized American air effort. The American defeat at the Kasserine Pass in February 1943

forced a fresh look at air organization. Shortly thereafter, General Spaatz centralized control of American air power in the Northwest African Air Forces. The immediate success of American air power underscored the value of unifying theater air power under a single air commander.

c. President Roosevelt and Prime Minister Churchill decided to further centralize control of air forces at the Allied level. They appointed Air Marshal Tedder as the overall Allied air commander for the theater. This allowed control and coordination of the British and American air forces for maximum results. As a consequence of these experiences, the Army Air Forces wrote Field Manual (FM) 100-20, "Command and Employment of Air Power," the predecessor of the current Air Force Manual (AFM) 1-1. It guided AAF organization and operations for the duration of the war. Thus, the JFACC concept was reaffirmed and campaign-tested a half century ago in the Allied struggle for North Africa.

3. WORLD WAR II -- SOUTHWEST PACIFIC AREA (SWPA)

a. In July 1942, when General Douglas MacArthur's Pacific campaign had consisted of delaying actions and withdrawals for eight months, General George Kenney assumed duties as MacArthur's air commander. His demonstrated vision, organizational skills, understanding of sister service operations, and personal relationship with MacArthur helped Kenney to take the offensive and pace the overall joint campaign in the theater.

b. General Kenney's first offensive air operation, a raid on Rabaul in support of joint operations on Guadalcanal, convinced MacArthur of his air commander's complete dedication to the joint mission and its strategy. Given complete and acknowledged command and control of all SWPA Air Forces, Kenney reorganized, reallocated resources, streamlined logistics, sped weapons developments, and devised an air campaign that would be the critical element in MacArthur's island-hopping strategy.

c. Equally important, General Kenney recommended army and navy operations that supported air operations, much like a modern JFACC. Kenney's familiarity and competence in army and navy matters proved indispensable to planning and fighting coherent joint campaigns.

d. Kenney's skillful employment of the allied air forces allowed MacArthur to undertake offensive operations at a time when other forces were critically scarce. General MacArthur summed up Kenney's role after the Allies took Buna, New Guinea:

> The outstanding military lesson of this campaign was the continuous calculated application of air power, inherent in the potentialities of the Air Force, employed in the most intimate tactical and logistical union with ground troops.

4. KOREAN WAR

a. At the beginning of the Korean War, pre-war budget and organizational struggles strongly affected relations between the Services, resulting in poor cooperation. US forces operated under essentially the same organizational scheme as General MacArthur's World War II command structure.

b. In contrast to his experience in World War II, General MacArthur now had no General Kenney in whom he had strong personal faith and belief. Disagreement between the services over air assets allocation centered around the centralized control concept of the Air Force and the dedicated air assets concept used by the Marine Corps.

c. Officially (from June 1951) General Weyland, as the FEAF commander, was the overall air component commander. Marine air assets were assigned to Far East Air Forces (FEAF) to allocate as required. In contrast, Naval Task Force 77 operated independently throughout the war, even to the extent of carving out a separate geographic area of operations, foreshadowing the Route Pack system used in Vietnam.

d. Within the Air Force, Fifth Air Force maintained day to day control of fighter and fighter-bomber operations, while FEAF maintained centralized control of B-29 operations. The lack of a unified and integrated air campaign plan resulted in incoherent operations, some at cross-purposes. In addition, land and air campaign planning lacked coordination.

5. VIETNAM WAR

a. Each service brought different lessons out of Korea, and concentrated on its own air assets and missions. The Air Force concentrated on nuclear war, the Navy on fleet defense. Both the Marines and the Army saw the advent of the helicopter in Korea and pursued this form of organic aviation. By the time of the Vietnam war, four separate air arms existed, one for each service, with very little coordination between them.

b. In Vietnam the individual services, for the most part, controlled their own air arms. The Army maintained control of its large helicopter fleet as organic air assets. Marines followed their traditional organizational path of assigning an Air Wing to each Marine division. The Navy maintained complete control of its air assets and Admiral Sharp, as Commander in Chief of Pacific Command (CINCPAC), implemented the Route Pack system for all air operations over North Vietnam. General Clay, the Pacific Air Forces (PACAF) commander, was assigned coordinating authority for deconflicting air operations, but he felt that the existing command arrangements (route packaging and assigning the air

component only coordinating authority) did not provide a sound means to control the overall air effort.

c. The Route Pack system divided responsibility within North Vietnam into seven different geographic areas, with the Air Force and the Navy each receiving responsibility for portions of the route packs. Commander in Chief of Pacific Fleet (CINCPACFLT), the naval component of Pacific Command (PACOM), maintained control of carrier air assets. Even within the Air Force there was no single air commander. Seventh Air Force was responsible for Air Force air operations in Vietnam, while Thirteenth Air Force was responsible for Thailand, and Strategic Air Command (SAC) never relinquished command or control of its B-52 bombers.

d. The targeting process further complicated this patchwork of responsibility. Targets were selected in Washington by a small team on the joint staff and approved only at the presidential level. The result was a major misuse of air power.

e. Air power application came to be simply the servicing of targets, with little regard for whether or not they were the "right" targets, and without an air campaign plan. Service parochialism dominated the air effort. Lacking a single responsible air commander, a clear set of objectives, and a common concept of operations, even the most skilled operations of the separate components tended to work at cross-purposes and give respite to the enemy.

6. OPERATION DESERT STORM

a. Central Command's (CENTCOM) prewar plans and joint doctrine regarding the JFACC were closely followed during Operations DESERT SHIELD/STORM. To ensure unity of effort, General Schwarzkopf designated General Horner as the JFACC, the Area Air Defense Commander (AADC), the Airspace Control Authority (ACA), and the Coordinating Authority for Interdiction. In this last role, General Horner had responsibility to coordinate interdiction efforts of all components and authority to require consultation among components, but did not have authority to compel agreement. General Schwarzkopf would resolve essential disagreements.

b. General Horner was charged to coordinate, plan, deconflict and execute the overall theater air campaign to meet General Schwarzkopf's guidance and objectives. Land Areas of Operations (AOs) did not impede JFACC theater air operations. The principal fire control line for air-to-ground operations was the Fire Support Coordination Line (FSCL). Its location proved critical to achieving strategic objectives (see paragraph IV. C.)

c. The operations order and the master attack plan that guided the initial phases of DESERT STORM reflected the following objectives:

- Destroy/neutralize air defense command and control.
- Destroy nuclear, biological, and chemical storage and production capability.
- Render ineffective national and military command, control, and communications infrastructure.
- Destroy key electrical grids and oil storage facilities.
- Deny military resupply capability.
- Eliminate long-term offensive capability.
- Render Republican Guard forces combat ineffective.

d. The JFACC's Director of Combat Plans (supported by two groups -- the "Black Hole" in theater and Checkmate in Washington), developed the campaign plan which was translated first into a Master Attack Plan (MAP) and finally into a flyable Air Tasking Order (ATO). Combat Plans included representatives from each Service and the Royal Air Force. An executable air campaign plan was complete by mid-September. From that point on, the plan was reviewed and modified as additional information and targets became available. As follow-on forces arrived in theater, the plan grew in size and complexity.

e. While success of the air campaign depended on synchronizing theater air assets with a single ATO, the Navy and Marine Corps were not familiar with the ATO process. CENTCOM naval forces (NAVCENT) lacked Air Force Computer Assisted Force Management System (CAFMS) compatible equipment, which necessitated hand-delivery of the ATO to Navy forces afloat. The apparent complexity of the ATO process, the size of the ATO product, and dissemination delays contributed to NAVCENT and MARCENT difficulties operating under the JFACC concept.

f. NAVCENT established a "Fleet Defense" sortie apportionment to retain flexibility to strike targets important to the Navy. Shipboard communications capabilities limited NAVCENT's ability to consistently obtain comprehensive, accurate, and current information to resolve issues or influence the air campaign.

g. In accordance with CINC guidance and the Omnibus Agreement, MARCENT provided sorties to the JFACC for tasking for air defense and interdiction. This equated to all A-6 and EA-6B sorties and half the F/A-18 sorties. The JFACC included these sorties into planning for the theater air campaign. Remaining F/A-18s, AV-8s, and MARCENT helicopters were used for direct support of MARCENT ground operations. After MARCENT received JFACC tasking for the theater air campaign, MARCENT submitted its total daily flying schedule to CAFMS processors within the Tactical Air Control Center (TACC) for inclusion on the ATO. As the ground war neared, JFACC-tasked MARCENT sorties progressively decreased.

h. As the ACA, General Horner decentralized execution of airspace control operations to the agency closest and most able to provide airspace control. For example, the MARCENT Tactical Air Operations Center (TAOC) with its associated airborne Direct Air Support Center (DASC) was assigned coordination authority for airspace control in most of the MARCENT area of operations.

i. The Director of Combat Plans developed innovative control measures such as "kill boxes" to more efficiently conduct operations within the Kuwait Theater of Operations (KTO). Kill boxes were initially designed to control air operations short of the FSCL. They were subsequently used to enhance target area familiarity and reduce multiple-kills on targets. Dedicated F-16 killer scouts during daytime and F-111/F-15E "tank plinking" missions at night ensured continuity in each kill box. The Airborne Command and Control Center (ABCCC) and the Marines' airborne DASC provided overall management of the kill boxes by assimilating Battle Damage Assessment (BDA) reports, coordinating with killer scouts, and clearing inbound and outbound fighters to and from appropriate kill boxes. The airborne DASC controlled the two kill boxes immediately in front of the MARCENT area (essentially southern Kuwait). The kill boxes did not extend from surface to infinity, since Combat Air Patrols (CAPs) and transit aircraft overflew the kill boxes under control of Airborne Warning and Control System (AWACS).

7. HISTORICAL CONCLUSIONS

The Desert Storm practices of theater air warfare, air campaign planning, and designation of a JFACC, marked our return to the air power concepts proven in the extended campaigns of World War II.

a. Unity of the air effort allowed the Allies to regain the initiative in North Africa and New Guinea. In Desert Storm, General Horner forged a unified air campaign of unparalleled effectiveness which preserved coalition unity and boosted our coalition partners' confidence and support. The key to success in each case was unity of the air effort.

b. In contrast, when theater command of the air effort has been divided, as in Korea and Vietnam, campaign planning and execution became impossible. A divided air effort does not cover more bases -- it exposes forces to combat with reduced chance of success. Historically, division of the theater air effort and strategic confusion have occurred together.

c. For surface forces to fight effectively at the theater level they must divide the overall effort geographically. Their large formations, plans, and operations depend on geographical methods of control. In contrast, air forces possessing theater-wide range divide their efforts by mission, campaign phase, and result.

Geographical division of the theater air effort has most often resulted when airmen have failed to effectively articulate the best ways to use air power.

d. General Horner's air campaign worked extremely well -- it was coherent and focused, seized the initiative, and created the conditions for the collapse of Iraq's military. The air campaign gained from using different capabilities brought by each service, and from the larger mass of aircraft and higher tempo that the total forces could generate. Service concerns with the JFACC concept became clearer, and better operations under future JFACCs should be possible if we learn from the lessons of DESERT STORM.

e. In general, traditional military thought has focused on defeating an armed opponent in close battle through a combination of direct attrition and maneuver to place opposing forces at an unacceptable disadvantage. Air power can certainly accomplish the direct attrition of front line forces, and in some scenarios this may be its most important contribution. However, exploiting air power's ability to quickly maneuver over and past the front line forces to strike critical targets anywhere in the enemy rear area can often contribute even more to the success of all the components and to theater warfare.

C. JFACC AUTHORITY

1. Joint Pub 0-2, "Unified Action Armed Forces (UNAAF)," establishes procedures for JFCs to exercise operational control (OPCON) through functional component commands when such a command structure will enhance the overall capability to accomplish the mission. The JFACC definition states that the JFACC derives his authority from the JFC. The JFC establishes the specific command authority, i.e., OPCON or tactical control (TACON), assigned to the JFACC. However, JFACCs typically will exercise OPCON over assigned and attached forces, and TACON over other forces made available for tasking. Some air-capable assets, such as ATACMS, Tomahawk Land Attack Missiles (TLAMs), and AH-64s, will normally remain under the OPCON of the respective component commanders.

2. The current Joint Pub 1-02 definitions for the different kinds of authority are as follows:

a. Operational Control (OPCON) -- Transferable command authority which may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in Combatant Command (command authority) and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish assigned missions. Operational control is normally exercised through the Service component commanders. OPCON in and of itself does not

include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. OPCON does include the authority to delineate functional responsibilities and geographic AOs of subordinate commanders. OPCON is also normally exercised by functional component commanders over assigned and attached forces and over other forces as established by JFCs.

b. Tactical Control (TACON) -- The detailed and usually local direction and control of movements or maneuvers necessary to accomplish assigned missions or tasks. TACON is typically exercised by functional component commanders over military capability or forces made available for tasking that are not assigned or attached to the functional component.

c. Support -- An element of command which assists, protects, complements, or supplies other forces in combat. Joint Pubs 0-2 and 3-0 further define the following specific types of support:

(1) Mutual support -- action that units render each other against an enemy because of their assigned tasks, their position relative to each other and to the enemy, and their inherent capabilities.

(2) General support -- action given as a whole to the supported force rather than to a particular subdivision.

(3) Direct support -- support given to a specific force and answering a direct request for assistance.

(4) Close support -- action against targets or objectives sufficiently near the supported force as to require detailed integration or coordination of the supporting action.

d. Coordinating Authority -- A commander or individual assigned responsibility for coordinating specific functions or activities involving forces of two or more Services or two or more forces of the same Service. The commander or individual has the authority to require consultation between the agencies involved, but does not have the authority to compel agreement. In the event that essential agreement cannot be obtained, the matter shall be referred to the appointing authority.

3. The biggest difference between OPCON and TACON is TACON does not provide organizational authority. In other words, while TACON includes authority for the direction and control necessary to accomplish assigned missions or tasks, it does not give the commander the authority to reorganize units.

4. Joint Pub 3-0 states that "JFCs may establish support relationships within the joint force to enhance unity of effort for given operational tasks, [and to] emphasize or clarify

priorities. Establishing supported and supporting relationships between components is a useful option to accomplish needed tasks. Each subordinate element of the joint force can support or be supported by other elements." The support command relationship gives the commander being supported authority to exercise general direction of the supporting effort. General direction includes designation of targets, timing and duration of the supporting action, and other instructions necessary for coordination or efficiency.

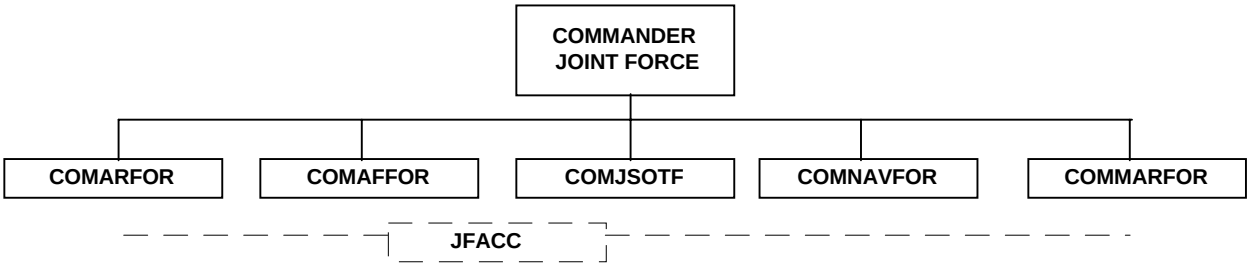
5. In contrast to TACON and supported command authority, coordinating authority is a consultation relationship between commanders, not a form of command authority. Coordinating authority is more applicable to planning and similar activities than to operations.

6. Normally, the JFACC needs only TACON or a support relationship to conduct operations employing augmenting forces that remain assigned to other components.

7. Specific guidance on the exercise of OPCON, TACON, support, and coordinating authority is provided in Joint Pub 0-2, Chapter 3.

D. JFACC SELECTION AND COMMAND RELATIONSHIPS

1. JFCs will normally designate a JFACC and define the JFACC's authority and responsibilities based on the JFC's concept of operations. The JFACC, when appointed as Joint Pub 3-0 prescribes, should not affect the command relationships nor the information interfaces already in place among joint forces. Joint force commanders normally exercise OPCON through service component commanders (Figure I) or through functional component commanders (Figure II). The individual designated as JFACC uses established interfaces with the joint force headquarters and the other components to fulfill assigned responsibilities.



Note: the JFACC will normally be the component commander having the preponderance of air assets and the best capability to control and direct joint air operations.

Figure I. JFACC in "Service component" JFC organization.

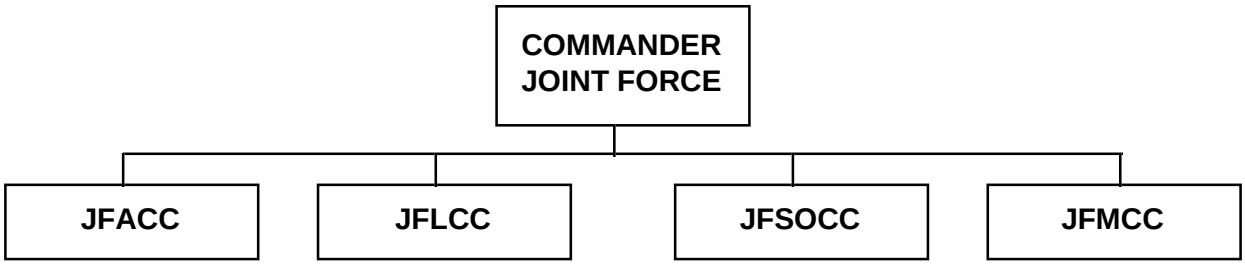


Figure II. JFACC in "functional" JFC organization.

2. The primary purpose for a JFACC is to provide unity of effort for employing air power for the benefit of the joint force as a whole. Joint Pubs 3-01.2 and 3-04 include criteria for JFACC selection.

3. According to Joint Pub 3-04, "Joint Maritime Operations (Air)," "In the maritime environment, if the JFC designates a JFACC, he will normally be a naval commander."

4. Army Aviation assets are normally retained for employment as organic forces; current Army doctrine considers Army Aviation forces as maneuver units. However, some Army helicopters could be employed in close air support operations; some Army helicopters could also be employed in interdiction, in which case they may come under the purview of the JFACC when the JFACC has been tasked to plan and execute the theater interdiction effort. The same can hold true for other systems (such as ATACMs) when employed for interdiction, depending on tasking and target location.

5. Naval Aviation assets are normally retained as needed for fleet defense and related naval missions. Sorties in excess of those needed to satisfy maritime air operations requirements (that is, maritime air operations and internal supporting missions) are normally made available to the JFACC. TLAMs used beyond the FSCL would come under the purview of the JFACC in the same conditions as ATACMs performing the same missions would.

6. Marine Aviation Assets. The JCS also approved the policy for the command and control of USMC TACAIR in sustained operations ashore (1986 Omnibus Agreement) for inclusion in Joint Pub 3-01.2, "Landing Force Operations." This policy relates directly to the JFACC. It is provided in its entirety below:

> a. "The Marine Air-Ground Task Force (MAGTF) commander will retain operational control of his organic air assets. The primary mission of the MAGTF air combat element is the support of the MAGTF ground element. During joint operations, the MAGTF air assets will normally be in support of the MAGTF mission. The MAGTF commander will make sorties available to the Joint Force Commander, for tasking through his air component commander for air defense, long-range interdiction, and long-range reconnaissance. Sorties in excess of MAGTF direct support requirements will be provided to the Joint Force Commander for tasking through the air component commander for the support of other components of the joint force or the joint force as a whole. Nothing herein

shall infringe on the authority of the Theater or Joint Force Commander in the exercise of operational control, to assign missions, redirect efforts (e.g., the reapportionment and/or reallocation of any MAGTF TACAIR sorties when it has been determined by the joint force commander that they are required for higher priority missions), and direct coordination among his subordinate commanders to ensure unity of effort in accomplishment of his overall mission, or to maintain integrity of the force, as prescribed in JCS Pub 2." [now Joint Pub 0-2]

b. Sorties provided for air defense, long-range interdiction, and long-range reconnaissance are not "excess" sorties and will be covered in the ATO as directed by the JFACC. These sorties provide a distinct contribution to overall joint force effort. The JFC must exercise integrated control of air defense, long range reconnaissance, and interdiction aspects of the joint operation or theater campaign. Excess sorties are in addition to these sorties. Additional guidance for employment of USMC Tactical Air is provided in Joint Test Pub 3-02.1.

7. SOF Aviation Assets. The Joint Force Special Operations Component Commander (JFSOCC) exercises operational control over all theater-assigned joint special operations forces (SOF). His Joint Special Operations Air Component Commander (JSOACC) controls all theater assigned special operations aviation assets. The JSOACC is not a competitor to the JFACC. The JSOACC centralizes control of special operations aviation much as the JFACC.

a. Whether operating autonomously or in conjunction with conventional forces, special operations must be integrated into, and closely coordinated with, other air activities supporting the theater campaign. Integration is crucial since air assets and SOF are the only forces that routinely operate deep in enemy territory. In planning and conducting the air campaign, the JFACC can consider using SOF in one of four ways to enhance theater air operations. First, SOF can operate as an **economy of force measure** to destroy certain targets, freeing JFACC assets to concentrate against other targets. For example, by employing SOF against an Iraqi early warning site, CENTAF freed the F-117 force to strike Baghdad. Second, SOF can conduct **surgical operations**, striking certain enemy targets that may be beyond the capability of precision guided munitions, i.e.: concealed targets or safe haven targets. In certain cases, SOF can attain a desired degree of effect. For examples, SOF can damage but not destroy a target, or neutralize target system operators. SOF can also strike and contain certain pollutants such as Nuclear, Biological, and Chemical (NBC) materials. Next, SOF can work in a **synergistic attack** role with conventional air. SOF can designate targets visually, electronically, and optically. SOF can also locate perishable targets that can be moved, disassembled, or fortified. SOF can positively identify these targets and then designate them for conventional air to destroy. SOF can also act as a pathfinder, leading in other assets, or placing navigation beacons at ingress points. Finally, SOF can provide other **air campaign enhancements.** These include conducting combat recovery operations beyond the capability of the designated rescue force, connecting with the escape and recovery network, conducting

psychological operations with leaflet and airborne broadcast services, and employing its 15,000 pound BLU-82 capability.

b. The JFSOCC provides the JFACC a special operations liaison element (SOLE) to coordinate, deconflict, and integrate SOF operations with conventional air. The senior liaison officer is the JFSOCC's representative to the JFACC. The JFACC's air tasking order (ATO) provides the mechanism to integrate SOF missions into the overall campaign effort. Planners should be aware that the special operations planning cycle is normally 96 hours. However, with timely identification of mission requirements, the SOLE can efficiently coordinate and integrate SOF operations into the JFACC's ATO. The SOLE works directly with the AOC staff to coordinate and deconflict immediate, real-time mission support activities to meet JFC/JFACC requirements. Similarly, all air and space assets have the capability to support special operations. SOF may require support from conventional assets to suppress enemy air defenses, cause diversions, provide air refueling, increase airlift capability, etc.

E. JFACC RESPONSIBILITIES

1. Joint Pub 3-0 contains several general statements addressing the responsibilities of the JFACC. Its guidance on JFACC responsibilities is:

a. The JFC assigns the JFACC's responsibilities (normally these would include, but not be limited to, planning, coordination, allocation, and tasking based on the JFC's apportionment decision).

b. Based on the JFC's guidance and in coordination with the other component and supporting commanders, the JFACC will recommend apportionment to the JFC.

c. The JFACC is normally the *supported commander* for counterair operations. Acting as the supported commander for counterair operations, the JFACC can use the existing C3 architecture and leverage the AADC's role to provide the best possible theater air defense. The JFACC should also provide general direction for passive defenses, deception efforts, and the protection of air defense assets. The JFACC can gain support for the offensive counterair effort by designating Joint SEAD target priorities and designating targets or objectives for attack by surface forces or special operations forces. Although air bases and air defense sites have been common maneuver force objectives since World War II, operations to seize or neutralize these sites are normally not supporting operations unless they require only a small independent force. Larger force operations to control terrain used by hostile air or air defense forces normally use *mutual support* between the components.

d. When air operations constitute the bulk of the capability needed to directly attack strategic centers of gravity, JFCs will normally task the JFACC, as a *supported commander*, to conduct such operations. Acting in this capacity, the

JFACC can designate targets or objectives for other components in support of the joint strategic attack effort. Special operations forces may attack, designate, or observe targets deep in enemy territory, in the most typical case. Other strategic structures may have component parts distributed throughout the theater, some of which may be vulnerable to attack or influence by supporting forces. In some cases it may be possible to devise a supporting effort that will create a subsequent opportunity for effective attack.

e. The JFACC is the *supported commander* for the JFC's overall air interdiction effort and will use JFC priorities to plan and execute the theater-wide interdiction effort. Most forces and weapons systems can support the air interdiction effort by attacking unengaged enemy forces or supporting those attacks -- for example, by suppressing air defenses. The overall theater interdiction effort should capitalize on the capabilities and shield the vulnerabilities of all participating forces; optimizing the full interdiction effort requires expert planning by component liaison element specialists located both in the Joint Air Operations Center (JAOC) and at the other component headquarters.

(1) JFCs may direct that maneuver operations support the theater interdiction effort in order to isolate enemy forces or neutralize their capabilities at minimum cost to friendly forces. When maneuver supports interdiction, the JFACC's early involvement in maneuver planning can be the key to maximizing results. General Kenney contributed to maneuver component planning in the Southwest Pacific Area throughout the planning process. This helped allied forces gain operational successes even when they were locally outnumbered and logistically vulnerable.

(2) When, on the other hand, interdiction supports maneuver, maneuver component commanders may designate targets or objectives for the supporting interdiction effort inside maneuver force boundaries. "The size, shape, and positioning of land or naval force boundaries will be established by JFCs based on their concept of operations and the land or naval force commander's requirement for depth to maneuver rapidly and fight at extended ranges. Within these boundaries, land and naval operational force commanders are designated the *supported commander* and are responsible for the synchronization of maneuver, fires, and interdiction. To facilitate this synchronization, such commanders designate the target priority, effects, and timing of interdiction operations within their AOs." (Joint Pub 3-0)

(3) However, the JFACC will conduct other theater air operations besides interdiction that require attacks inside maneuver force boundaries, such as counterair and strategic attack. Such operations must be coordinated if they occur inside the FSCL; inside maneuver force boundaries but outside the FSCL they should be coordinated whenever possible.

(4) Interdiction in support of maneuver forces will rarely be the sole interdiction effort. "Interdiction target priorities within the land or naval force boundaries are considered along with theater-wide interdiction priorities by JFCs and reflected in the apportionment decision. The JFACC will use these priorities to plan and execute the theater-wide interdiction." (Joint Pub 3-0) Interdiction operations in support of theater-wide priorities that occur within maneuver force boundaries must be coordinated inside the FSCL; outside the FSCL they should be coordinated whenever possible.

(5) These arrangements appear complex at first glance (Figure III), but joint operations are rarely simple or easy. Effective joint operations depend on clearly understood common objectives, communicating between components, and exploiting the capabilities of component liaison elements.

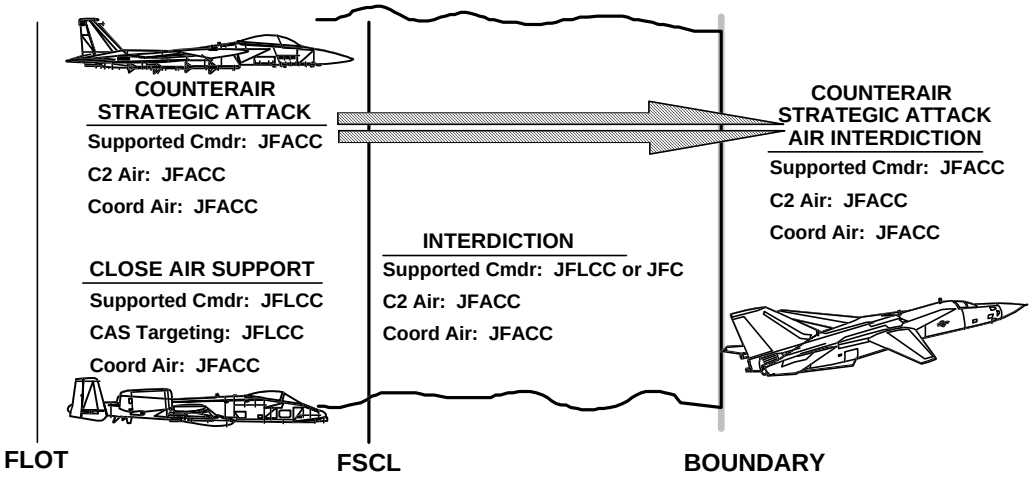


Figure III -- Authority for Air Operations

f. Apportionment is the determination and assignment of the total expected effort by percentage and/or priority that should be devoted to the various air operations and/or geographic operations for a given period of time. The total expected effort made available to the JFACC is determined by the JFC in consultation with component commanders based on the assigned objectives and the concept of operations. JFCs normally apportion by priority or percentage of effort into geographic areas, against mission-type orders, and/or by categories significant for the campaign. These categories can include strategic attack, interdiction, counterair, maritime support, and close air support. After consulting with other component commanders, the JFACC makes the apportionment recommendation to the JFC.

g. Allocation. Following the JFC apportionment decision, the JFACC allocates apportioned air sorties to the functions, areas, and/or missions they support. On

the basis of the JFC's apportionment decision, internal requirements, and Air Support/Request (AIRSUPREQ) messages, each air capable component prepares an Air Allocation/Request (ALLOREQ) message for transmission to the JFACC not later than 24 hours prior to the air tasking day. ALLOREQ messages report the number of sorties to be flown during the air tasking day by assigned mission and type aircraft, excess sorties not needed by the air-capable component and available for joint or cross-force taskings by the JFACC, and requests for additional air support beyond the capability of the air capable component.

i. Allotment. The JFACC reviews each air capable component's ALLOREQ and prepares a Sortie Allotment (SORTIEALOT) message back to the service components not less than 19 hours prior to the applicable tasking day or in accordance with established operations plans. The SORTIEALOT message confirms (and where necessary modifies) the ALLOREQ and provides general guidance for planning operations. The SORTIEALOT contains three kinds of instructions:

(1) Revisions, if any, to the component's planned allocation of sorties required by unforeseen joint force needs and within the JFC's apportionment guidance. With JFC concurrence, SORTIEALOT messages could convey revisions or redirection of missions outside of the apportionment guidance.

(2) Approval or changes to the component's requests and allotment of excess sorties from other components to fill the approved requests, to fill requirements for the joint force, or for cross-force tasking.

(3) Revisions to mission data for component requests, such as a changed mission priority or time on target. Component liaison elements and the JFACC usually coordinate such revisions in advance.

2. More specific guidance is contained in Joint Pub 3-56.24, "Tactical Command and Control Planning Guidance and Procedures for Joint Operations--Joint Interface Operational Procedure--Message Text Formats," which recommends information exchange procedures for use within a joint force.

3. The JFACC is likely to be designated as Area Air Defense Commander (AADC) and Airspace Control Authority (ACA). Joint Pub 3-52, "Doctrine for Joint Airspace Control in a Combat Zone," contains the following guidance concerning JFACC authority:

a. Because of the integrated relationship between airspace control measures and air defense operations, ACA and AADC duties should normally be performed by the same person, who may also be the JFACC.

b. The JFC will normally designate an AADC. The successful conduct of air defense operations requires the integrated operation of all available component air defense systems. Although the components retain OPCON of some air defense systems, these systems remain subject to the fire control measures of the AADC. Air defense operations must be coordinated with other operations, both on and over land and sea. The responsibilities of the AADC and the ACA are interrelated.

c. The JFC will designate the ACA. The broad responsibilities of the ACA include coordinating and integrating the use of the airspace control area. Subject to the authority and approval of the JFC, the ACA develops broad policies and procedures for airspace control and for the coordination required among units within the area of operations. The ACA establishes an airspace control system that is responsive to the needs of the JFC, integrates the joint force airspace control system with that of the host nation, and coordinates and deconflicts user requirements. The ACA develops the airspace control plan (ACP) and after JFC approval promulgates it throughout the area of operations. The airspace control order (ACO) implements the ACP. A key responsibility of the ACA is to provide the flexibility needed within the airspace control system to meet contingencies that require rapid employment of forces. Finally, centralized direction by the ACA does not imply assumption of operational control over any air assets. Matters on which the ACA is unable to obtain agreement shall be referred to the JFC for resolution.

d. The ACP must be tied to the area air defense plan and coordinated with the fire support plan. These documents together allow for the conduct of operations along the range from fully capable and operating command and control systems to greatly degraded command and control systems. The ACP must consider procedures and interfaces with the international or regional air traffic systems necessary to effectively support air logistics, augmenting forces, and JFC objectives. As a consequence, the ACP should be preplanned as much as possible and be put in a simplified, understandable format. Because the airspace control area normally coincides with air defense boundaries, combat zone airspace control and area air defense operations must be carefully coordinated.

(1) The ACP should be coordinated with representatives of the host nation in whose airspace the operations will take place and with civil air activities that may occur in or near the airspace. There should also be close planning and coordination between representatives of both offensive and defensive weapon systems of US and allied armed services.

(2) Planners developing the ACP need to be familiar with the basic operations plan and must know host and allied political constraints, capabilities and procedures of military and civil air traffic control systems, and general locations of friendly and enemy forces.

III. AIR CAMPAIGN PLANNING

A. CAMPAIGN PLANS. Campaigns are the major instruments theater commanders have used to achieve strategic aims. By means of campaign plans, theater commanders have set the operational tempo and direction for the conduct of battles, envisioned and assigned objectives, developed concepts, and coordinated logistical means to achieve victories over enemy forces. The campaign plan provides broad concepts of operations and sustainment to achieve strategic objectives in a theater of war and theater of operations. The plan is the basis for all other planning. Key tenets of the campaign plan are as follows:

1. Provides an orderly scheme of military operations -- conveys the commander's vision and intent. Clearly defines what constitutes success.

2. Orients on the enemy's center or centers of gravity (e.g., leadership, national will, infrastructure, military).

3. Phases a series of related major operations, which may overlap and need not be consecutive.

4. Provides operational direction and tasks to subordinates.

5. Synchronizes aerospace, land, and sea efforts into a cohesive and synergistic whole.

B. CONCEPT OF AIR OPERATIONS. **The essence of the JFACC concept is not simply the designation of a single commander for air. Its broader focus is the development of a Concept of Air Operations to meet the objectives set by the JFC. The concept of air operations bridges the gap between assigned strategic objectives and the execution of air operations to accomplish those objectives (see Figure IV below). The JFACC is not just in the business of servicing targets. The concept of air operations is embodied first in the JFC's air campaign plan, subsequently in the master attack plan and finally in the execution ATO.**

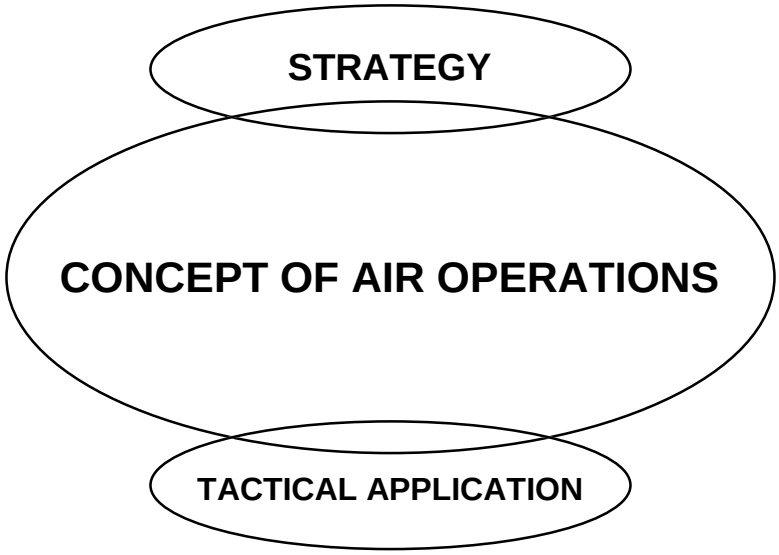


Figure IV. Role of the Concept of Air Operations

1. Air Campaigns. In the air power context, a campaign is a series of related military operations aimed at attaining common objectives normally in a finite period of time, and which can achieve strategic results. [An effective "air campaign" is in truth an air and space campaign, employing air and space forces together; where "air campaign" is written, this means "air and space campaign" unless clearly stated otherwise.] The JFACC develops an air campaign plan for employing all available theater air and space forces to accomplish or support the theater objectives established by the JFC. When required to employ force, JFCs seek combinations of forces and actions to achieve concentration in various dimensions, all culminating in attaining the assigned objective(s) in the shortest possible time and with minimal casualties. JFCs arrange symmetrical and asymmetrical actions to take advantage of friendly strengths and enemy vulnerabilities; and to preserve freedom of action for future operations. Engagements with the enemy are symmetrical if our force and the enemy force are similar (land versus land, etc.). They are asymmetric if forces are dissimilar (air versus sea, sea versus land, etc.). Theater objectives may require varying combinations and participation levels of air, land and sea forces. The air campaign plan must be tailored to the desired objectives and should describe centers of gravity, phasing of air operations, and resources required.

2. Assumptions to take into planning. Not every operation will require phasing. However, phasing is a useful tool to communicate the JFACC's concept of operations. As such, phasing provides an orderly schedule of military decisions and indicates preplanned shifts in priorities and intent. The air campaign is likely to consist of several phases, with priority given to operations that are most important to achieving theater objectives. On the basis of the JFC's guidance, the JFACC will use varying combinations of aerospace control, strategic attack, interdiction, maritime support, and close air support missions to accomplish the objectives in each phase. The following factors will influence the decision on if and how to phase the air campaign.

a. Prioritization of Attack: The JFC may prioritize theater military objectives, or the JFACC may do the same with air objectives. Such a conscious decision to prioritize objectives may drive the phasing of the air campaign plan by dictating a specific mission flow based on strategic and operational considerations. This will translate into assignment of relative values for specific target sets and individual targets. Attacks on target sets may take place in series or in parallel. The priorities defined by the JFACC may force the selection of either one of these schemes or some combination of the two. Attack in series generally refers to attacking targets in the highest priority target set sequentially, beginning with the highest priority target and continuing to the lowest priority, before initiating attack on the next target set. Attack in series may also refer to a sequential attack based primarily on geographical considerations. Attack in parallel refers to attacking targets across several or more geographically dispersed target sets at the same time.

b. Phasing Methods. Phasing can be accomplished in a variety of ways. In cases when the JFC establishes phasing, this should be the starting point for determining air campaign phasing. A few of the more common methods for phasing are by region, by objectives, or by force limitations. Commanders or planners must clearly identify start points and measures of merit which define when the phase is complete. Note that the end point of one phase does not have to be the start point of the next phase--phases will usually overlap to some extent. Phase guidance should identify phase objectives, tasks, and priorities.

c. Aerospace missions. JFCs will normally seek to secure air superiority early in the conduct of operations. Establishing control of the air and neutralizing the enemy's air defenses are normally dual objectives in this phase. In general, control of the air is a prerequisite to pursuing other objectives effectively and affordably. Once friendly forces can operate without unacceptable hindrance and risk, air operations should focus on neutralizing the enemy center(s) of gravity through strategic attack, interdiction, or close air support. Close air support may be the most critical mission for air forces, particularly when it is essential to ensure the success or survival of ground forces. For example, if friendly ground forces are engaged at the outset, the primary focus of the air effort might be local air superiority, close air support, and interdiction of closing enemy forces and

their ability to sustain the offensive until friendly forces gain the upper hand. In all of these cases, flexibility will be required. Circumstances may require us to react to an enemy's initiatives and threats, or tie up many of our forces in alert postures. General MacArthur called General Kenney a "master of air tactics and strategy" largely because he overcame all these disadvantages while outnumbered, fought as circumstances required, and took the initiative from his opponent.

3. Planning the Air Campaign. The air campaign may be the primary or the supporting effort in a theater. In either event, an air campaign plan is a necessity. The plan should link specific air objectives and tasks with theater military and political objectives. It should also describe centers of gravity, phasing of operations, and resources required. It harmonizes the aerospace control, force application, force enhancement, and force support roles, and integrates the efforts of other services and components. It should explain how other arms will support or be supported. Like the overall theater plan, it must carry through to the conclusion of the war. The following are some critical factors to consider in developing the air campaign plan.

a. The Enemy's Strategy: Sun Tzu's advice -- to defeat the enemy's strategy -- has held up for over 2000 years. This entails not only understanding the nature of the enemy, but also his specific objectives and willingness to sacrifice to achieve those objectives. An enemy may be described as rational, irrational, fanatic, rigid, flexible, independent, innovative, determined, doctrinaire, or countless other ways. To the extent that an enemy fits any of these categories, his plans may be anticipated, and the way he will react to a new situation can be projected. The JFACC must task intelligence to obtain useful information about the enemy, then focus his efforts on defeating the enemy's plans.

b. Air Superiority. Airmen maintain that a war is not winnable if the enemy has air superiority. The prudent commander will do what is necessary to become superior in the air. The effort to achieve air superiority (a means to an end) should not be waged with air assets alone. Naval and ground forces should play a role whenever possible.

c. Center(s) of Gravity. Targeting priorities can be gauged by understanding enemy centers of gravity. The center of gravity is a label that planners and strategists find useful for devising maximum payoff courses of action. Some military theorists hold that any function of vital importance to the enemy is a center of gravity, whether or not it is vulnerable. Those things that are both critical and vulnerable are normally the best candidates for direct attack. Likewise, some people argue that there can be only one center of gravity, while others assert that a single center of gravity, if it exists, can only be identified after the fact. Planners need to look for multiple candidate centers of gravity tied to theater objectives. JFCs establish broad planning objectives and guidance for attack of enemy strategic and operational centers of gravity and interdiction of enemy forces as an integral part of joint campaigns and major operations. Where possible, specific operations may be conducted to attack directly strategic centers

of gravity by air, missile, special operations, and other deep-ranging capabilities. When air operations constitute the bulk of the capability needed to directly attack strategic centers of gravity or to conduct air superiority operations, JFCs will normally task JFACCs, as supported commanders, to conduct such operations. The "real" center of gravity may not be reachable initially and defensive considerations may compel the commander to strike first at something other than the final objective. The route to the center(s) of gravity may not be a straight line.

(1) Key features of a center of gravity are its importance to the enemy's ability to wage war, its importance to the enemy's motivation and willingness to wage war, its importance to the enemy political body, population, and armed forces, and the enemy's consciousness of these factors. There may be several potential centers of gravity, each of which can have different degrees of vulnerability, effort required, immediacy of effects, lasting effects, and probability of results. National and coalition strategic priorities will normally determine which courses of action are acceptable, while military capabilities establish which are feasible. The enemy's key military capabilities or forces are often the preferred center of gravity because neutralizing them is often the most certain way to gaining victory.

(2) After identifying the enemy center(s) of gravity, the theater commander must decide which, or what combination of available forces to use. The goal is to increase the effectiveness of the joint force, not necessarily to involve all forces or to involve all forces equally. If he decides to use more than one, he must assign missions to each participant. When required to employ force, JFCs seek combinations of forces and actions to achieve concentration in various dimensions, all culminating in attaining the assigned objective(s) in the shortest possible time and with minimal casualties. Generally speaking, operations should be phased to take advantage of and create force asymmetries. Commanders and planners can design campaigns and operations that focus on defeating either enemy forces or functions, or a combination of both. Typically, JFCs structure operations to attack both enemy forces and functions.

(3) The proper selection of targets in the industrial/economic/military /social structure of a modern nation, and their subsequent destruction by air attack, can weaken or topple an enemy government. Effective planning requires systematic analysis of the target systems in the light of war plan objectives. Airpower's contribution to theater aims, by necessity, depends on developed intelligence and the conclusions planners glean from it.

d. Seizing, Maintaining, and Expanding the Initiative. Operations that increasingly rob the enemy of capabilities and increase friendly options increase the enemy's difficulties. Friendly forces gain significant advantages from reducing enemy capabilities to maintain situational awareness, protect their

forces, perform combat and support functions, communicate in preferred modes, and move effectively. These conditions make it increasingly difficult for enemy forces to effectively oppose our own forces and can gain a succession of advantages for friendly forces, in some cases having a cascading effect.

e. Command and Control Warfare(C2W). C2W is an integral component of the JFACC's warfighting concept. It combines the denial and influence of information, deception, disruption, and destruction to counter adversary C2 while simultaneously protecting friendly C2. The five principal military actions used to achieve these results are OPSEC, PSYOP, military deception, EW, and destruction (hard kill and weapons effects). Integrated intelligence and counterintelligence support are critical to C2W. The JFACC must balance the potential advantage of attacking enemy facilities, capabilities, and threats with the potential loss of intelligence that might result from destruction of specific targets. Counterair, strategic attack, and interdiction operations and the offensive components of C2W are interrelated. More broadly, C2W is the military component of a national strategy of Information Warfare (IW).

C. TOOLS FOR AIR CAMPAIGN PLANNING. The "thinking aids" listed below follow a logical sequence of developing the plan's foundations. The following four products, prepared by the JFACC's staff, are also essential inputs to the JFC's higher level joint planning effort.

1. The intelligence preparation of the theater is a continuous process, begun in peacetime, and continuing after operations cease. One of the most useful products at the initial planning stage is the Strategic Appreciation (see Appendix A).

2. The JFACC's Estimate of the Situation helps identify enemy centers of gravity to attack and friendly centers of gravity to defend.

a. The JFACC's Estimate of the Situation follows a logical process to establish a sound course of action. The JFACC may produce an Estimate at the request of the JFC or develop one on his own initiative at an appropriate planning stage. Appendix B shows the format of the JFACC's Estimate of the Situation.

b. The next-to-the-last step of the JFACC's Estimate is to compare the enemy's possible courses of action with friendly courses of action. The friendly course of action which best counters the enemy's most threatening course of action is the safest option, according to Game Theory logic. However, comparison of the courses of action must also consider the potential role of deception: a less than optimum course of action may produce magnified results if the enemy does not anticipate it.

c. The last step of the Estimate, the decision, states the JFACC's recommended course of action. Normally the JFACC proposes this course of action to the JFC or higher authority. When it is approved it becomes the JFACC's mission.

3. The JFACC's Estimate states what the JFACC intends to do; the Concept of Operations fleshes out how air component forces will accomplish the course of action. The Concept of Operations and Master Attack Plan (Appendix C) explain how the air campaign will be conducted. Part three (execution) of the air campaign plan order assigns specific taskings to participating forces.

4. The Logistics Concept establishes operational constraints and limits. Existing operations plans and logistics concept plans can be overlaid on the actual situation, in template fashion, and quickly adapted to the circumstances at hand.

5. The Air Campaign Plan itself follows the operations plan format used both in JOPES and in Air Force planning. Appendix D contains the Air Campaign Plan format.

6. The core structure planners must maintain throughout plan development is a clear top-down hierarchy of objectives (Figure V). This is the same idea as the Strategies-to Tasks (and Strategies-to-Tasks-to-Capabilities) structure. National security strategy sets out the highest level of objectives; national military strategy is designed to fulfill a higher-level security strategy. Similarly, air campaign plans must be designed specifically to satisfy stated, inherent, or assumed objectives in the theater campaign plan. Planners maintain this continuous hierarchy all the way down to the level of selecting targets, and selecting Desired Mean Points of Impact (DMPIs) to neutralize the selected target in the most suitable way.

Level of Objective	**Objective it supports**	**Example Objective**
National Strategic	National interests	Deter/counter aggressors
Military Strategic	National Strategy	Reverse specific aggression
Theater Strategy	Military Strategy	Prepare to counterattack
Campaign	Theater Strategy	Weaken defenses
Phase/Major Operation	Campaign	Interdict occupation forces
Air Tasking Order	Phase/Operation Concept	Reduce bulk supply
Package Tasking	Air Tasking Order	Attack railroad bridges
Target Objective	Package Tasking	Cut specific bridge
DMPI	Target Objective	Destroy east bridge abutment

Figure V, Hierarchy of Objectives

7. All of the major air operations planning functions at the AOC (Operations, Plans, Intelligence, and liaison elements) must contribute their expertise at each level of planning. The potential contribution of the air component may be bounded more by shortcomings of information -- or limited ability to anticipate consequences -- than by the

resources on hand. Paragraph E below details the role of Intelligence in the planning process.

D. THE THEATER AIR CONTROL SYSTEM (TACS). The JFACC's primary means of executing assigned duties is the TACS. The Air Operations Center (AOC) is normally the JFACC's command post. It will often be designated a Joint Air Operations Center (JAOC). The AOC Combat Plans division may construct the detailed air campaign plan and will translate the air campaign plan into a flyable Air Tasking Order. The AOC's Combat Operations staff directs the day's operations and preserves responsiveness. Actual operations of the TACS are complex and require continual command awareness.

1. The JFACC is responsible for putting together a rational command, control, communications, and intelligence system that allows him to accomplish the Joint Force Commander's directives. However, individual service devices used for passing and displaying air target information as well as air tasking orders, are often incompatible with other service devices doing the same thing. Improvised solutions are more the rule than the exception. The introduction of the Contingency TACS Automated Planning System (CTAPS) is alleviating this problem to an extent. CTAPS speeds the flow and dissemination of air tasking orders (ATOs) to many users, including the Marines, Navy, Army, and Air Force, as well as Allied forces. It is a modular system that can be "tailored" for large or small contingencies. Appendix E explains CTAPS in more detail.

2. JFACCs should be wary of the composite "recognizable air picture" command and control proponents speak of. The display screens in the command complex reflect the products of Airborne Warning and Control System (AWACS) assets, fixed and mobile ground assets, ship-borne and space assets, but only indirectly.

3. With few exceptions, the air picture in command facilities is actually a series of standardized messages that represent the known locations of friendly and enemy air tracks, reported on a shared "net" and updated as often as the traffic load and communication system allows (normally, somewhere between 15 seconds and 3 minutes). These composite air pictures do not allow the viewer to "see" what the AWACS sees, or what other detection devices (air or ground based) see. Looked at another way, the communication links handling the data from AWACS and other collectors simply can't keep up with the tremendous loads these devices can generate (one AWACS could easily overload an entire system). These collection devices "report" only a portion of what they collect. This keeps the "recognizable air picture" as close to what is actually happening as possible without overloading the system.

4. Many of these collection assets speak different "languages" and in order to share their data and produce a composite air picture, the information must be fed into translation devices before it can be used. These too have a finite throughput capability.

5. All of these facts impact the AADC's ability to control surface-to-air missile engagements. Some SAM systems speak their own languages and require translation devices to receive target commitment from the air defense commanders. At the present

time, Patriot and Hawk fire batteries have unique, non-joint protocols that preclude JFACCs from direct access to them.

6. The Joint Surveillance Target Attack Radar System (JSTARS), like AWACS, transmits a selected picture to the AOC. At the same time, it transmits unprocessed data to Army Ground Station Modules (GSMs). The pre-selected and compressed picture received in the AOC obviously differs from the raw information available at GSM stations. Targets discerned by JSTARS operators and those identified by GSM operators use separate target tracking systems, so any target could have one, two, or no track numbers assigned. No two GSMs will share the same view of the same data, unless GSM operators at both stations make the same switch selections at the same time.

E. INTELLIGENCE SUPPORT TO THE JFACC.

1. AOC Combat Intelligence Role. Intelligence plays a critical role in planning and executing air operations. The intelligence process is highly interactive, demanding an operational orientation from the collection end of the intelligence cycle to the dissemination end. The JFACC's requirements are the principal drivers of intelligence organization, services, and products. The role of intelligence is to provide overall theater situational awareness, to help the JFACC identify and exploit the enemy's centers of gravity, to help formulate objectives, and to support the commander's forces. Timely, accurate, and tailored intelligence is required to effectively apply combat air assets. Intelligence underpins and shapes key planning products prepared by the JFACC and his staff and is vital to the development of a comprehensive, prioritized target list focused on the JFACC's objectives. Intelligence feeds and sustains the planning and execution of the ATO by providing timely and air-focused intelligence to combat planners and combat operations.

2. Intelligence provides information to help judge the enemy's intentions, evaluate the capabilities of opposing commanders, and counter the enemy's overall strategy. In developing the air campaign plan, the JFACC needs intelligence assessments of enemy forces concerning strength, capabilities, availability, sustainability, composition, disposition, and movement of forces and weapons systems. Providing timely intelligence to air combat planners and air battle managers is a primary objective of intelligence support to the JFACC.

3. Intelligence Cycle: The three major intelligence functions -- collection, analysis, and targeting -- are not separate functions, but are each part of a highly interdependent process. Based on JFACC requirements, intelligence production interprets collected data, extrapolates known data into estimates of enemy action, and proposes effective ways to accomplish assigned objectives. Combat Intelligence produces fused and tailored intelligence from multiple sources. Intelligence personnel use automated systems to correlate SIGINT, IMINT, and HUMINT data entered into an integrated database. Collection management personnel prepare and update the collection plan based on intelligence gaps and requests for information (RFIs). They validate RFIs, determine if they can be answered locally or should be forwarded up-echelon, and recommend tasking

combat assets. Targeting personnel support target nomination list compilation and ATO development. Targeteers provide inputs to the weaponeering effort. During the combat assessment phase, they evaluate mission effectiveness and make attack/reattack recommendations. Intelligence personnel supporting combat operations monitor enemy developments on a near-real-time basis. They provide ongoing intelligence assessments about changes to the battle situation and evaluate targets for immediate tasking.

4. Organization: Organization plays an important part in the effective production and dissemination of intelligence. Intelligence personnel work within Combat Plans and Combat Operations in order to provide direct support to ATO development and execution. Near-real-time intelligence is especially crucial to ATO execution in providing up-to-date targeting information. Similarly, the intelligence structure should be designed to provide and expedite intelligence, especially target materials, to subordinate units.

5. Peacetime Preparation. Many functions carried out during combat operations are not performed in peacetime locations on a day-to-day basis. Proficiency in theater analysis, database compilation, database management procedures and support (emphasizing collection management and BDA) and collection management from the JFACC perspective will enhance intelligence production. Similarly, focusing on automated all-source intelligence systems support and gaining familiarity with national level collection and production systems can improve intelligence responsiveness and throughput.

F. EXERCISE PREPARATION AND JFACC STAFF TRAINING. Exercises provide high-value opportunities for honing the combat skills of the staff. Field operations and command post exercises have differing strengths, but both types of exercises have the potential to improve the effectiveness of the JFACC's staff. In the preparation phase planners can tailor exercise plans to fit the needs and training levels of the command. The following five step checklist can help planners think ahead to get the most out of each exercise.

1. SITUATION: What's the scenario? Are friendly forces fighting a battalion, a division, or a nation? What is the threat? Joint exercises that focus at the force engagement level don't address strategy and therefore are poor models for joint warfighting -- they keep everyone thinking in tactical terms. CINCs need their staffs to grasp strategy. A national-level echelon can reflect the full scope of factors in any real operation: the President still gets briefed on small isolated operations, as do SECDEF and SECSTATE. In selecting military objectives to accomplish the NCA's goals, the JFACC serves two key roles -- providing expert advice on the feasibility of proposed courses of action, and suggesting additional ways to use military forces to accomplish national objectives.

2. MISSION: What are our objectives? Are they geographical or do they amount to defined war aims? Do they require a cooperative enemy? What is the Concept of Operations? Is a Concept of Air Operations required? If the exercise is designed for tactical training, this needs to be clear. There is a tendency to take the results of a small-

scale exercise or one with limited scope, and in turn project priorities, lessons, or doctrine for large-scale operations and high-intensity war. If there's no scope for fighting top-down parallel warfare, we give up a major strength. Decreasing the size and capabilities of the enemy forces can reduce potential conflicts between components, but when we fight outnumbered everyone has to fight smart.

3. EXECUTION: How do we intend to fight? How are the components organized? If an exercise is built around one component this needs to be clear. Often components act as training aids for the core unit. Administrative factors can determine command arrangements, instead of wartime urgencies. When forces aren't organized or operated the way they would be if we were fighting for our lives, we should be very reluctant to draw lessons from the exercise. Overall, you should be able to look at an exercise and determine in advance what kind of questions it can answer with valid results. In essence, if you can test variations within the subordinate forces and time available, you're at a valid scale. The need for flexibility and adaptation is a fact of warfare. Scripted exercises diminish the role of airpower, because fast-response operations and flexibility aren't needed.

4. LOGISTICS AND SUPPORT: How long does the exercise last? Are there any provisions to support operations if they last five times as long as planned? (That's often the real-world outcome.) Is there any flex in the flow for unplanned urgent requirements? To keep costs down, we send minimum forces to exercises. There's a profound difference between what people keep in their mobility kits day-to-day, what they take on a five-day exercise, and what they take on an open-ended deployment to possible combat. Similarly, what components do and don't deploy is a major issue. Air exercises require choices between enough forces for large-scale training and enough variety among the forces to reflect the way we fight -- using all the assets of the air component. Sustained air combat operations depend on deploying sufficient combat support capabilities for the duration of operations. In exercises we can't always afford to deploy all those assets and we know what the scenario will require. We might change some priorities when deploying for possible combat operations if the situation is uncertain. Given that we can't afford to send everything we'd like to, the best choice depends on how the exercise is scripted.

5. COMMAND AND SIGNAL: What are the command arrangements between components? What are the command arrangements within components? What are the details of JFACC, ACA, and AADC authority? What is the C3I architecture? The JFACC should be the commander of the component providing the preponderance of airpower and possessing the requisite command and control architecture to plan and conduct air operations. He should work closely and directly with the overall JFC and other component commanders and should propose concepts of air operations and coordinated apportionment recommendations directly to the JFC. In combat operations the ACA may have to work with national and regional authorities since every nation considers its airspace sovereign and we rarely want to shut down all other air operations -- the mail and supplies need to keep arriving. It's useful to reflect real-world airspace needs and the assets needed to control airspace while communicating with its users. We

can't afford to shoot down "innocents". the AADC organizes the area air defense effort, integrates surface-based air defenses with airborne DCA assets, and assigns weapons status. Air and missile defense shouldn't be considered in isolation -- it's part of the overall counterair and counterspace effort.

IV. DIFFERING PERSPECTIVES

Current joint doctrine development efforts address virtually every facet of military organization for warfighting. Joint doctrine covers subjects ranging from our broad fighting philosophy down to such specifics as radar beacon parameters, communications architectures, and bulk petroleum doctrine. The organizations tasked to draft these documents for the joint staff have different arrays of experience and interests. Inevitably, some emerging joint doctrine documents contain some ideas and approaches that serve some specialty or community at the expense of larger needs that the writers are unfamiliar with. The Air Force has concern with cases where proposed doctrine conflicts with the best evidence and sound military practices proven in war, not to stifle original thought, but to ensure that unproved ideas are not registered as our "default" procedures. All readers of this "primer" need to understand these concerns.

A. TARGETING

ISSUE: What is the best way to plan the theater offensive air effort?

AIRMAN'S PERSPECTIVE: The most likely way to identify the highest payoff options for attack operations is to use top-down planning. Top-down planning also identifies things that must be done before beginning a sustained offensive operation, such as suppressing air defenses or gaining effective control of the air. Attacks on distributed targets (such as a railroad system) can concentrate in purpose without massing in one location at one time: coherent operations of this type depend on centralized planning. Most fundamentally, air operations expose valuable aircrews and aircraft to risk; expert planning -- to include targeting -- can maximize the value of attacks while keeping inherent risks to a minimum.

ALTERNATE PERSPECTIVE: Commanders at all echelons need more than their organic firepower can provide at times. Fire support maximizes the potential of maneuver forces; it exists to enable our own forces to meet the enemy's maneuver forces with all the advantages possible. Maneuver commanders are in the best position to identify targets and plan supporting attacks to benefit their forces. When our own forces are engaged in decisive combat, there is no mission more important than supporting them. We need a fire support planning body at the Joint Force Command echelon to ensure targeting priorities support maneuver forces.

COMPARISON: These are two different views of a common concern. Maneuver commanders may tend to see air attacks as fire support, which is a staff function performed in each headquarters, from battalion to corps. In contrast, targeting is a command function to airmen -- it is the principal way air commanders orient their

offensive operations to accomplish assigned objectives. Objectives vary with circumstances, and supporting maneuver forces by attacking targets of their selection will often be a main objective for air operations. The means to plan and direct such supporting operations exist already in the JAOC's BCE, NALE, and SOLE. But the JFACC is situated to prosecute higher priority missions for the components, the joint force (or the war effort) as a whole in all cases. The JFACC and the staff in the AOC are trained and equipped to identify and conduct high-leverage missions that maneuver commanders may not know of. As an example, the greatest help the JFACC can give other components may be in preventing hostile air attack, or in preventing unengaged enemy forces from maneuvering to a position of advantage.

CONCLUSION: The one perspective all component commanders can share is the JFC's view. Coherent and effective air targeting doesn't require bureaucracies or new investment; it just takes clear communications between the JFC and the components, free dialogue among the components, and effective component liaison elements on the JFACC's staff. Targeting boards that constrict the operations of any commander or duplicate the actions of any staff are a burden on the joint force.

B. JFACC INTEGRATION OF ASSETS

ISSUE: The JFACC's ability to integrate air assets to accomplish theater objectives may be limited by other component's direct air support requirements as outlined in joint and service doctrine.

AIRMAN'S PERSPECTIVE: Unless there's specific JFC guidance to the contrary, joint and service doctrines/agreements give the JFACC control of only part of the total theater air assets available. If the JFACC is Air Force (for example) components will make the following assets available in the absence of additional JFC guidance:

- all USAF sorties PLUS
- Marine sorties for long-range interdiction, long-range reconnaissance and air defense PLUS
- Naval air in excess of maritime air operations requirements
- TLAM interdiction missions beyond Army boundaries
- Army Aviation and ATACMs interdiction missions beyond Army boundaries

ALTERNATE PERSPECTIVE: The following mission capable assets should be withheld as unavailable (unless the JFC issues guidance to the contrary):

--- Marine air in direct support of MAGTF ground forces
--- Naval air in direct support of maritime operations
--- Army air (with the possible exception of ATACMs)
--- All SOF air operations
--- TLAM missions

COMPARISON: If enough air assets are available to the JFACC, this is not a problem. If, on the other hand, insufficient assets are available to achieve campaign objectives, the JFC may need to adjust which assets are made available for apportionment. JFCs will also recognize that dividing control of theater air operations can create opportunities for the enemy, while uniting the theater air effort may underwrite more effective course of action.

CONCLUSION: From the early planning stages, the JFC must design the military strategy and the organizational arrangements to carry out that strategy. If the JFACC can not execute the strategy with the resources made available to him, he must advise the JFC, who will then make the trade-offs.

C. INTERDICTION AND DEEP OPERATIONS

ISSUE: Who should have responsibility for integrating the interdiction effort beyond the FSCL?

AIRMAN'S PERSPECTIVE: The component commanders with forces at risk beyond the FSCL are the JFACC and the Special Operations Component Commander. The JFACC's C3I architecture is uniquely capable of planning and controlling operations in territory occupied by hostile forces. The JFACC is responsible for a number of missions, none of which is geographically bounded. Responsibility for synchronizing theater interdiction assets should be vested in the commander who has the preponderance of attack assets and the C3I capability to conduct these operations; for interdiction it is normally the JFACC.

ALTERNATE PERSPECTIVE: Longer range weapons such as Army Tactical Missile System (ATACMS) and the ability to see deeper with systems like JSTARS increase the capabilities ground commanders possess to influence the battlefield at greater ranges. Corps Commanders should be responsible for controlling all operations within their areas of operations.

COMPARISON: Just as synchronization of all attack assets is critical to the land component commander (LCC) for all fires inside the FSCL, so it is critical to the Air Component Commander for all attacks beyond the FSCL. All operations inside the FSCL are restricted by control requirements for troop safety. For example, artillery fires use Danger Close procedures while air operations must be controlled by a Forward Air Controller. The FSCL should be placed to maximize risk to the enemy. In the late stages of the Korean War the "bomb line" was placed as little as 300 meters from the front line of troops. When the FSCL was placed beyond the Euphrates River, well in advance of friendly forces, in the last stage of DESERT STORM, this effectively created a sanctuary for Iraqi Republican Guards forces escaping the Allied advance. Maneuver force boundaries could also affect the joint force effort, depending on where they are placed and the maneuver commander's method of synchronizing maneuver, fire support, and supporting interdiction operations. Several factors influence maximizing risk to the enemy. Ground force artillery locations are influenced by enemy counterbattery

capabilities; longer range weapons are expensive and scarce; it becomes difficult or impossible to determine the effectiveness of artillery and missile systems when they fire at targets that can't be observed.

CONCLUSION: The most reliable way to maximize the enemy's risk is to place the FSCL at the range where artillery and missiles stop being the greatest threat to the enemy and air attack becomes the greatest threat. All operations beyond the range of observed fires should be under the purview of the JFACC when friendly forces aren't maneuvering.

D. THEATER AIR AND MISSILE DEFENSE

ISSUE: Maximizing the effectiveness of theater air and missile defense assets.

AIRMAN'S PERSPECTIVE: Air and missile threats have theater range; defeating enemy air and missile threats with limited resources requires theater-level organization, planning, and control. Centralized control of theater air and missile defense provides unity of effort, optimizes weapons systems and target pairing, minimizes possibility of fratricide, and ensures unity of command to prioritize competing demands for limited theater assets. Currently theater air and missile defense operations fall within established AF roles and missions; missile defense is a part of counterair. The existing Theater Air Control System (TACS), in conjunction with dedicated or prioritized communications into theater from strategic systems, provides the baseline capability to support theater air defense operations.

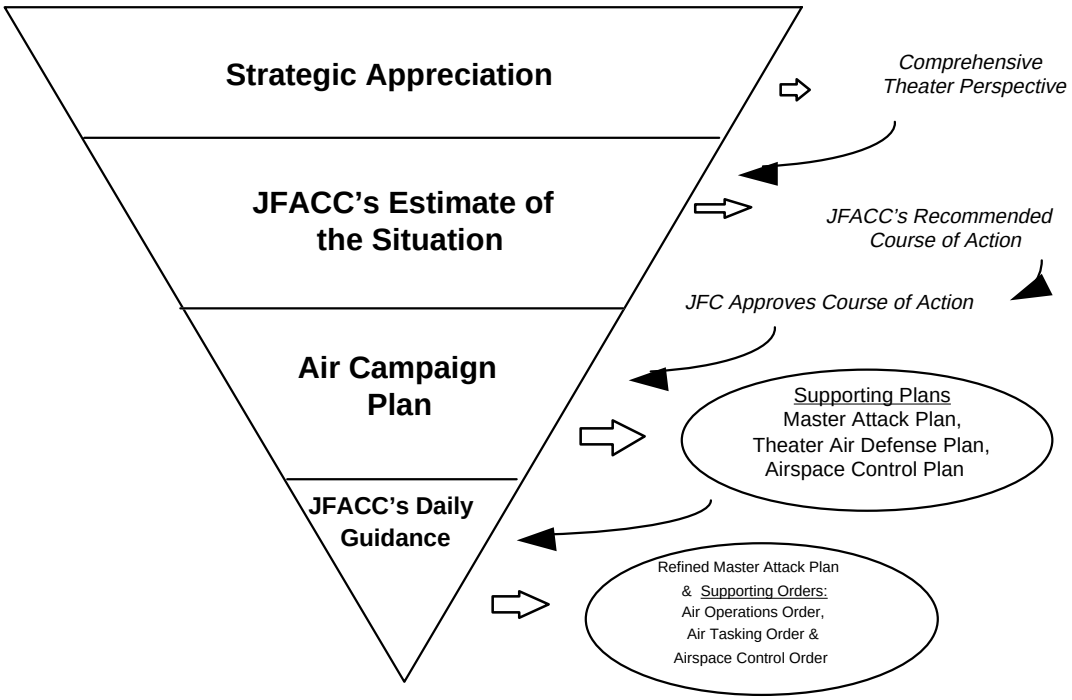
ALTERNATE PERSPECTIVE: All Services primary functions include air and missile defense (DOD Dir 5100.1) Many in the Army feel that missile active defense is separate from air defense of aircraft and separate from JFACC/AADC control. As a consequence, for missile defense the AADC provides only attack warning, but not fire control. This Army view holds that the planning for and execution of missile defense is different from air defense and is not part of the AADC's counterair operations responsibilities. Army air defenders view their Tactical Operations Center (ADTOC; the THAAD operations center) as the equivalent of the TACC. Consequently they propose to establish a stand alone air defense architecture for missile defense and alter the existing Army/AF relationship for missile defense (i.e., Army responsible for point defense/AF responsible for area defense).

COMPARISON: Joint Pub 3-01.2, "Joint Doctrine for Theater Counter Air Operations" defines counterair operations to include -- "the use of interceptors, bombers, and SAMs, to destroy the air or missile threat both before and after it is launched" and further states that "the authority to integrate air defense forces and operations in overseas land areas will be delegated to the AADC." The Area Air Defense Commander (AADC), who may also be the JFACC, is responsible for theater air defense (Joint Pub 3-01.2). As such, he needs the authority to integrate all air defense assets, to include missile assets, as parts of the overall effort to secure control of the air environment. At the same time, the AADC needs to provide for the security of all air defense assets and ensure each element retains its inherent capability and right of self-defense.

CONCLUSION: The JFACC, also normally the AADC, has the capability to interface with other components to conduct centralized planning and decentralized execution of theater air defense operations. Unified air and missile defense stems from a single responsible commander prioritizing all assets across the theater of operations in support of the JFC's campaign. The JFACC/AADC is situated to synchronize the force's counterair effort. The existing TACS architecture for missile defense should be utilized instead of inventing a new one.

Appendix Overview

CONCEPT OF AIR OPERATIONS DEVELOPMENT



The concept of air operations first develops and then communicates what the component's objectives are and how component forces will accomplish those objectives, in order to fulfill strategic objectives. The concept of air operations is embodied in air campaign plans, supporting plans and operations orders. A sound concept of operations is based on an in-depth **strategic appreciation** of the political, economic, military, and social forces affecting the theater. The JFACC uses the results of the strategic appreciation to devise the **aerospace estimate of the situation**; the estimate follows a systematic series of steps to formulate a **course of action**. When the JFACC's course of action is approved by the JFC, it becomes the basic concept of air operations -- stating "what" will be done. The "how" part of the concept of air operations is stated in the **air campaign plan** and supporting plans. The **JFACC's daily guidance** ensures that the concept of air operations effectively supports the strategic objectives while retaining enough flexibility to adjust to the dynamics of war.

APPENDIX A

THE STRATEGIC APPRECIATION

This five step process can help clarify the nature of the conflict. The goal is to understand the potential conflict and to conduct military planning with a sound appreciation of social, political and economic considerations. This process is applicable throughout the spectrum of crisis. The strategic appreciation can help to identify potential enemy and friendly centers of gravity early in planning.

1. Context. The first step is to assess the strategic context of the conflict. This requires an in depth assessment of enemy and friendly sources of national power. The examples and categories that follow are illustrative, not exhaustive.

a. Enemy strategic analysis: This analysis promotes an understanding of enemy interests and objectives. Effective control of the adversary leadership and associated power structure is the key to achieving strategic goals.

1) Political strengths, weaknesses and trends such as:
- -- Commitment of enemy powers to their alliance
- -- Additional potential allies and their vital interests
- -- Strength of central government, method of rule (by mandate, terror or both)
- -- General distribution of power: centralized or decentralized (legislative, military, security, financial, press, and tribal organizations and elites)
- -- Political frailties

2) Social strengths, weaknesses and trends such as:
- -- Assessment of national values
- -- Dominant political or religious ideologies
- -- Societal arrangements along religious, ethnic, tribal or political lines
- -- Commitment or obedience to national or ethnic leadership

3) Information flow factors such as:
- -- Control of media
- -- Reliance on verbal, written, radio and television media
- -- Public access to television and radio
- -- Potential influence of international media on the enemy's internal public support

4) Economic dependencies, sources of national power and trends such as:
- -- Industry/Agriculture/Transportation system
- -- Energy and water sources
- -- Reliance on international trade and imports of critical raw materials
- -- Banking, credit and import routes

5) Military strengths, weaknesses and trends such as:

-- Force structure (conventional/unconventional)
-- Proficiency and readiness
-- Sustainability and survivability
-- Doctrinal tendencies
-- Nuclear, biological and/or chemical weapons and delivery capability
-- Terrorist capability within the theater of operations or US

6) Unknowns: Specifically state what information we do not have on the enemy and potential allies

b. Assess the friendly strategic situation using the same variables listed above. This should help the planner identify possible friendly strategic weaknesses and centers of gravity.

2. Enemy and friendly objectives. Enemy objectives may have to be deduced -- avoid accepting their stated objectives at face value. From a friendly perspective, ideally the NCA and the JFC will set national and theater level objectives. When this is the case, it is normally advantageous to restate higher-level objectives verbatim. Realistically though, objectives are often ambiguous, especially early in the campaign planning process. Because of this, planners often have to infer national objectives. Even if strategic guidance is not clear or specific, military objectives must be written to clearly convey what the campaign is designed to achieve.

3. Assumptions. Explicitly state assumptions the campaign depends on. The most important ones are often the hardest to state. These may include expectations about public reaction, weather, training, willingness of the enemy to use weapons of mass destruction, duration of the campaign, and enemy reaction. Remember, our enemies often do not share our value system.

4. Capabilities. Compare absolute physical capabilities with limitations in training, adaptability, friction, and confusion to get a feel for realistic capabilities of both sides.

5. Costs. Assess what costs each national decision-making authority can bear, in money, casualties, equipment and force structure, and political influence.

If the strategic appreciation is easy, straightforward, and certain, it probably has been rushed. The greatest value of this effort is that it clarifies the complex strategic environment of the theater. **A solid understanding of the strategic environment lays a firm foundation for the concept of air operations.**

APPENDIX B

JFACC's ESTIMATE OF THE SITUATION

The "Estimate of the situation" uses a systematic approach to propose courses of action for solving a military problem.

1. OBJECTIVE(S). State the objective(s) assigned to you by higher authority or deduced by you from instructions from that source. These are usually stated from the point of view of the theater commander. In every case the first duty of a commander receiving a mission is to satisfy himself that he understands what is required of his command as a part of the larger team.

a. National Objectives. Overarching goals of the United States as articulated by the National Command Authorities.

b. Supported Theater Objectives. Objectives developed by the theater commander to achieve the National Objective.

c. Assigned Aerospace Objectives. Objectives specifically assigned to the JFACC by the JFC or those objectives which the JFACC can assume are required to conduct air operations. Each course of action developed will have its own specific objectives.

2. SITUATION AND COURSES OF ACTION. This step develops several courses of action which can be taken by aerospace forces. Each course should be substantially different in some respect. One course may use interdiction as the primary means to destroy the enemy's fielded forces, whereas in another it may only serve as a supporting function. Another method to differentiate courses of action is to change the phasing of air operations.

a. State commander's intent
   (1) Identify desired end state
   (2) Strategy (Blueprint or pattern). Describe underlying logic

b. State military objectives. For each objective:
   (1) Clearly state the objective
   (2) State how the objective supports theater and NCA objectives
   (3) Specify tasks to be achieved and associated standards of performance

c. Force assumptions (critical in a force projection scenario into an immature theater)
   (1) Total air forces potentially available to support course of action (AF, SOF, Navy, Marine, Army Aviation and Air Defense Artillery).
   (2) Reconnaissance assets required, both national and theater
   (3) Surface forces required to support the course of action

d. Estimate requirements

(1) Sorties and munitions required (by type aircraft where appropriate) to accomplish each task

(2) Time required to accomplish each task given the priority and phasing of the task

(3) Time permitting, sketch out the master attack plan (MAP). See Appendix C. **Caution: Both a. and b. have been traditionally underestimated**

(4) Essential supporting tasks from other components (air base protection, logistical support, maneuver to support interdiction)

e. Logistics required to support

(1) Deployment schedule and strategic lift requirements (TPFD)

(2) Daily logistics requirements (POL, weapons, water, spare parts)

(3) Intratheater lift requirements, both surface and air

f. Force capabilities and ratios. Consider the order of battle for both sides. This paragraph ends by describing the relative combat strength of the opposing forces.

(1) Friendly Forces. Factors to be considered are:

(a) Air/Space

-- Order of battle for air and space forces under your command and/or control (include Navy, Marine, and coalition as appropriate)
-- Operating capacity of friendly airfields
-- State of supply (POL, weapons, water) and replacements.
-- Effect of weather on flying and sortie generation capability
-- Logistics support available from allies/sister services (POL, water, surface transportation)
-- Range of friendly aircraft and refueling capabilities

(b) Ground/Naval.

-- Order of battle
-- Specify type (mechanized, light infantry, etc.)
-- Include coalition and SOF
-- Flow of forces into theater
-- Organic air defense capability
-- Availability of air and sea ports of debarkation
-- Potential naval operating areas

(2) Enemy Forces. Consider, from the enemy viewpoint, factors similar to those given in (1) above.

(a) C3

(b) Air/Space
-- Air, air defense, and space order of battle
-- Operating and reconstitution capacity of enemy airfields
-- Effect of weather on flying and sortie generation capability
-- Logistics support available and lines of communication
-- Range of enemy aircraft and refueling capabilities
-- Mobile and fixed missile forces

(c) Ground/Naval
-- Order of battle (specify type).
-- NBC weapons, delivery capability, and manufacturing capability
-- Organic air defense capability
-- Potential naval operating areas

(3) Relative Combat Strength. Compare the opposing forces from the point of view of the factors indicated above, and also from the point of view of physical condition, morale, amount of recent operations, doctrine, training, and combat experience.

--Air forces
---Ability to conduct offensive air operations. Consider your ability to counter IADS from a technological and aircrew proficiency standpoint
---Enemy ability to conduct offensive air operations
---Ability to conduct air and space reconnaissance operations
--Land forces
---Based on a.) current force structure and b.) the planned force structure
---Ability of enemy to conduct offensive operations
---Vulnerability to air interdiction
--Maritime forces
---Ability to gain and maintain sea control in theater and for strategic lines of communication
---General vulnerability to air and sea threats

g. Air component courses of action. State all feasible and acceptable courses of action open to the commander that can potentially accomplish the mission.

3. ANALYSIS OF OPPOSING COURSES OF ACTION. The air commander next assesses the intangible or abstract factor: the skill of the enemy commander. It is rarely possible to obtain direct information on the enemy's objectives, at least in time to use this information. Since they are a vital factor in the outcome, it is often necessary to deduce them.

a. Enemy Air/Space Options. State concisely the reasonable alternatives that the enemy air forces may adopt to oppose your mission. Given that it is impossible to foresee or construct the actual plan which the enemy air commander will follow, all reasonable and probable hostile alternatives for his employment of air power should be concisely stated and considered.

b. Enemy Ground/Naval Situation. Identify all reasonable surface force course of action that would support their objectives. Include guerrilla force options.

c. NBC Options. Include likely delivery options (aircraft, terrorist, artillery, cruise missile, ballistic missile).

d. Analyses Of Enemy Alternatives. Analyze each alternative given above and determine its practicability and the preponderance of its advantages over its disadvantages. State whether each alternative has a reasonable chance of success and whether if successful it will accomplish the enemy's probable objective. In analyzing each potential enemy alternative, it is important to maintain the enemy's point of view and not let your own wish "be father to the thought."

e. Most Probable Course(s) Of Enemy Action. Identify the alternative(s) available to the enemy which appear most suited to the enemy's probable intention. Include justification. When no one hostile plan appears to have a pronounced advantage over the others from the enemy viewpoint, select the one that seems most disadvantageous to friendly forces.

4. COMPARISON OF OWN COURSES OF ACTION. Compare each friendly course of action with each enemy course of action given above and determine its practicability and the preponderance of its advantages over its disadvantages. Determine likely enemy responses to each friendly course of action. For each friendly course of action assess its chance of success, whether if successful it will accomplish the strategic objective(s), and whether if successful it will favor future action of your own and supporting forces.

5. DECISION. State, in general terms, the plan for your command as a whole. The aim of the whole estimate of the situation is a sound decision. It should also be the basis for the subsequent air campaign plan.

APPENDIX C

CONCEPT OF AIR OPERATIONS AND MASTER ATTACK PLAN

Concept Statement. The heart of the effort, this is a greatly expanded version of the Commander's Estimate; it narrates **how the commander expects to conduct the operation.** Since this is the primary statement of intent and approach leading to the operations order, master attack plan, and subsequent steps, it should be clear and simple in statement. The Master Attack Plan is the basis for the offensive part of the concept. The Concept of Air Operations develops the course of action chosen in the Commander's Estimate of the Situation to the point where it can be expressed as the Execution step (step three) of the Operations Order.

MASTER ATTACK PLAN (NOTIONAL)

TOT	MSN#	TGT	DESCRIPTION	AC
H-15	63819	A011	CMD POST	1 F-117
H-10	6302C	A09	ALERT AFLD	2 F-117
0000	6554D	AS034	AIRCRAFT FUEL	4 F-15E
0000	43821	SAD32	EW/GCI PLATFORM	4 A-6E
	43822		AREA SEAD	4 EA-6B
	43823		AREA/HVA CAP	4 F-14
0025	0255U	CCC01	NATIONAL C3	2 F-117
0000	33717	INT37	RAILROAD BRIDGE	4 F-111
0115	3212A	INT16	POL STORAGE	2 F-15E
0125	2714G	BP014	CORPS HQ	4 F-15E

Figure IV. Notional Master Attack Plan

As part of the Concept of Operations, the Master Attack Plan provides theater level sequencing and resource inputs necessary for producing an ATO. The following factors, while not all inclusive, represent the primary considerations for developing the MAP:

1. Time Relationships Inherent In Air Objectives And Tasks. The Concept of Operations may envision a certain chain of events which will increase the vulnerability of enemy center(s) of gravity, increase the options available to friendly forces, or minimize the attrition of friendly forces. The Concept of Operations must therefore consider probable enemy reactions, and build flexibility into any projected sequence of objectives and tasks.

Some objectives and tasks do not require a particular sequence; in such cases, operations may occur simultaneously with a weight of effort to reflect the JFACC's and JFC's intent. At the Air Campaign level phasing allows the JFACC to prioritize and sequence events; the Concept of Operations should also guide prioritization and sequencing of objectives and tasks within each phase.

2. Target-Based Timing Requirements. The relative values of targets depend on their contributions to an enemy's capacity to function governmentally, militarily, or economically. The characteristics of targets may also dictate the assignment of timing requirements to their order of attack in the MAP. For instance, some targets are time-critical because not striking them first might allow the enemy an opportunity to inflict unacceptable losses on friendly forces. Other targets are of a fleeting nature; while their destruction may not be critical to success on the first day of the war, that may the only time they can be targeted. As an example, mobile targets are more readily targeted in garrison than after they are dispersed. Several other factors concerning individual targets may also drive timing requirements, such as the need for immediate battle damage assessment, the desire to limit collateral damage, or unique intelligence which relates the value and vulnerability of a target to a specific time.

3. Synergies To Minimize Attrition And Achieve Decisive Results. As a general rule, stealth, standoff weapons (to include TLAM), and specialized SEAD assets go in first to degrade C3I, EW/GCI, and lethal air defenses to provide less stealthy aircraft freedom of maneuver. Surprise is important, mass is useful, and unpredictability a healthy option when considering the principles of war used to decrease the friendly loss rate to enemy air defenses. While attrition risk drives the sequence of employing specialized assets to a great extent, events on the ground or near an area of concentrated attack may also dictate the order of attack. Air campaign plans may mass aircraft to maximize the impact of limited SEAD assets and exploit transitory weaknesses in enemy defenses. Another example of massing is attacking targets that are close together, even though they support different objectives.

4. Effects of Other Service Operations. Support to ground or naval forces may dictate the order of attack for a portion of the MAP. The MAP must be flexible to adapt to the changing battlefield situation throughout the theater. The MAP must also adjust to the changing availability of other service assets to ensure each task or target is assigned the best available capability. As a minimum, planners must track availability of missile and airborne assets of the other services. However, air campaign planners should be careful not to confine their planning to airborne assets alone, as the integration of surface maneuver units or special forces units in support of certain air objectives can produce decisive results.

5. Availability Of Friendly Air Assets. While this factor is a critical driver in determining the desired sequence in the MAP, it should not be the only one. Indeed, the availability of aircraft, weapons, skilled personnel, and support assets will limit the number of attacks in any one period of time as well as the number of certain types of targets that can be struck simultaneously. However, these considerations should fine tune

the MAP sequence, and not be the foundation for it. Consideration of friendly force availability provides a feasibility check for the MAP so that AOC planners may readily translate it into an ATO.

APPENDIX D

AIR CAMPAIGN PLAN OPERATIONS ORDER

Copy No
Issuing Headquarters
Place of Issue
Date/Time Group of Signature

THEATER AIR CAMPAIGN PLAN: (Number or Code Name) References: Maps, charts, and other relevant documents.

COMMAND RELATIONSHIPS. Briefly describe the command organization (composition and relationships) for the campaign. Detailed information may be included in the command relationships annex. Cover AFFOR, Joint Force Air Component Commander (JFACC), Area Air Defense Commander (AADC) and Airspace Control Authority (ACA) identities.

1. **SITUATION**. Briefly describe the situation that the plan addresses (see theater or commander's estimate). The related CONPLAN or OPLAN should be identified as appropriate.

a. Strategic Guidance. Provide a summary of directives, letters of instructions, memorandums, treaties and strategic plans including any global campaign plans received from higher authority, that apply to the plan.

(1) Relate the strategic direction to theater requirements in its global, regional, and space elements

(2) List the strategic objectives and tasks assigned to the command

(3) Constraints--List actions that are prohibited or required by higher authority (ROE, etc.)

b. Enemy Forces. Provide a summary of pertinent intelligence data including information on the following:

(1) Composition, location, disposition, movements, and strengths of major enemy forces that can influence action in the theater of war.

(2) Strategic concept (if known), should include enemy's perception of friendly vulnerabilities and enemy's intentions regarding those vulnerabilities.

(3) Major objectives (strategic and operational)

(4) Commander's idiosyncrasies and doctrinal patterns

(5) Operational and sustainment capabilities

(6) Vulnerabilities

(7) Strategic centers of gravity

NOTE: Assumed information should be identified as such. The intelligence annex may be referenced for more detailed information.

c. Friendly Forces. State here information on friendly forces not assigned that may directly affect the command.

(1) Intent of higher, adjacent, and supporting US commands: AMC, USSTRATCOM, USAFE, USSOCOM, USSPACECOM, etc.

(2) Intent of higher, adjacent, and supporting allied or other coalition forces: NATO, Spain, Italy, Egypt, etc.

d. Assumptions. State here assumptions applicable to the plan as a whole. Include both specified and implied assumptions.

2. **MISSION**. State the task(s) of the air component command and the purpose(s) and relationship(s) to achieving the strategic objective(s).

3. **AIR OPERATIONS**

a. Strategic Concept. (Based on the relevant major elements of theater strategy.) State the broad concept for the deployment, employment, and sustainment of major aerospace forces in the command including the concepts of deception and psychological warfare during the campaign as a whole. (This section is a summary of details found in annexes.)

(1) Theater air organization. Subordinate to JFACC.

(2) Theater air objectives.

(3) Beddown overview.

(4) Operational missions. Force application and force enhancement tasks.

(5) Phases of air campaign in relation to theater campaign.

(6) Timing and duration of phases.

b. Phase I. Provide a Phase Directive for each phase.

(1) Operational Concept. Include operational objectives, attack plan, and timing.

(2) General missions and guidance to subordinates and components. Ensure that missions are complementary.

(3) Forces, aerospace and surface, required by role or capability. Should consider Army, Navy, Air Force, Marine, Coast Guard, special operations, space forces, and allies.

(4) Tasks of subordinate commands and components.

(5) Reserve Forces. Location and composition. State "be prepared" missions. Include guidance on surge sorties if used as reserve capability.

(6) Mobility. Consider: transportation, ports, lines of communication, transit and overflight rights, reinforcement, reception and onward movement, and host-nation support arrangements.

(7) Deception.

(8) Psychological.

c. Phases II-XX(last). Cite information as stated in sub-paragraph 3b. above for each subsequent phase. Provide a separate phase directive for each step in the campaign which requires a major reorganization of forces or initiates another significant effort.

d. Coordinating Instructions. Place instructions applicable to two or more phases or multiple elements of the command as well as command standards (for example, for mapping, charts, and geodesy) here.

4. **ADMINISTRATION AND LOGISTICS**. Brief, broad statement of the sustainment concept for the campaign with information and instructions applicable to the campaign by phase. Logistic phases must be concurrent with operational phases. This information may be listed separately and referenced here. This paragraph should address:

a. Assumptions (including coalition requirements).

b. Supply aspects.

c. Maintenance and modifications.

d. Medical service.

e. Transportation.

f. Base development.

g. Personnel.

h. Foreign military assistance.

i. Administrative management.

j. Line(s) of communication.

k. Reconstitution of forces.

l. Joint and combined responsibilities.

m. Sustainment priorities and resources.

n. Inter-Service responsibilities.

o. Host-nation considerations.

5. **COMMAND, CONTROL AND COMMUNICATIONS**.

a. Command

(1) Command Relationships. State generally the command relationships for the entire campaign or portions thereof. Indicate any shifts of command contemplated during the campaign, indicating time of the expected shift. These changes should be consistent with the operational phasing in paragraph 3. Give location of commander, Air Operations Center, and command posts. Specify succession of command and conditions for succession.

(2) Delegation of Authority

b. Communications

(1) Communications. Plans of communications. (May refer to a standard plan or be contained in an annex.) Include time zone; rendezvous, recognition, and identification instructions; cryptology, authentication, and code standards; liaison instructions; and axis of signal communications as appropriate.

(2) Electronics. Plans of electronic systems. (May refer to standard plan or an annex.) Include electronic policy, spectrum management authority, and such other information as may be appropriate.

(3) Armament delivery recording (ADR) (bomb and gun camera imagery). Plan for ADR. (May refer to a standard plan or a combat camera annex.) Include digital still photo and motion video imagery transmission to the Pentagon's Combat Camera center.

(Signed) (Commander)

ANNEXES: As required

DISTRIBUTION:
SECURITY CLASSIFICATION:

APPENDIX E

Contingency TACS Automated Planning System (CTAPS)

CTAPS is a powerful, computer system architecture that adheres to joint standards. It consists largely of off-the-shelf hardware and software and is presently undergoing development, fielding, and upgrading.

1. CTAPS is being developed for three levels of application: the AOC, the ASOC, and the wing level.

a. CTAPS configuration for AOCs will include:

- International Standards Organization (ISO) 8' X 20' expanding shelters, expandable after shipping to 22' X 20'.

- Which can be set up by 4 people within 3 hours.

- Housing fixed equipment such as cryptological gear and local area network (LAN) hardware on racks within the shelters.

- With up to 12 SunSparc II workstations per shelter, either in the environmentally controlled shelter or remoted up to 1000' feet away.

- Each workstation has a communications set providing access to 16 TRITAC radio channels (with/without HAVE QUICK), 2 telephone lines, and 4 separate intercom-conference circuits.

- Workstations are on a fault-tolerant fiber-optic cable LAN.

- Shared services include EMail, systems alerts, USMTF preparation (with growth to parsing 2 QTR 93), common mapping system, and growth capability for a common imagery processing system.

- Automated plans, intelligence, and execution functions are being fielded for AOC-level CTAPS.

b. A prototype ASOC-level CTAPS architecture will be fielded in FY94; production and fielding of six ASOCs is programmed for FY95.

- ASOC prototype fielding will be very short because it will follow the more demanding AOC development.

- ASOC will use smaller shelters; they will be road-mobile and compatible with Army corps tactical operations centers.

- ASOC-unique software and hardware will be developed if needed. Requirements for integration of Digital Communications Terminals, Improved Data Modem, and interoperability with the Army's Maneuver Control System have been identified.

c. Wing CTAPS architecture features a base-wide LAN using the same standards the AOC uses. The goal is to permit one-time entry of all data, with all data available to all authorized users base-wide.

- Automating the interface between the wing and the AOC for automatic flow of wing status and logistics data to the AOC, and tasking and intelligence to the wing, is a future development task.

- Prototype wing systems are installed at Lakenheath and Misawa Air Bases.

- Twenty-one production installations are programmed for FYs 94-99.

2. Interoperability features of particular interest to the JFACC include integration with other force-level service C3I systems, including the Maneuver Control System (Army), the Naval Tactical Command System Afloat (NTCS-A) and the Advanced Tactical Air Control Center (USMC ATACC).

a. CTAPS will support automatic exchange of the ATO.

b. Common systems will support a common view of the air, land, sea, and space for component and superior commanders.

3. CTAPS standards are modern and suitable for interoperability. The current standards set corresponds to the Common Operating Environment (COE) established by JCS. Its standards include a UNIX operating system (with planned advancement to POSIX), relational databases using the Structured Query Language (SQL), Ada and C programming languages, Ethernet 802.3 local area network, TCP/IP communication protocol (with planned advancement to GOSIP), GKS and PHIGS graphics, and X-Windows man-machine interface (MMI). Standards for data compression algorithms and imagery systems are presently under consideration.

REFERENCES

JOINT PUB 0-2, UNIFIED ACTION ARMED FORCES (UNAAF) Dec 1986 (Lead Agent: J-7)

Guidance for commanders of unified and specified commands and other joint force commanders; prescribes doctrine for joint operations and training.

JOINT PUB 1-02, DEPARTMENT OF DEFENSE DICTIONARY OF MILITARY AND ASSOCIATED TERMS (Lead Agent: J-7) Dec 1989

DOD-approved definitions of military terms used by US and NATO forces. Contains the DOD definition of JFACC.

JOINT PUB 2-0, DOCTRINE FOR INTELLIGENCE SUPPORT TO JOINT OPERATIONS (Lead Agent: J-7) Oct 1993

Principles for gathering intelligence for joint operations.

JOINT PUB 3-0, DOCTRINE FOR JOINT OPERATIONS (Lead Agent: USA) Sep 1993

Provides operational and organizational guidelines for the exercise of command by commanders of unified and specified combatant commands through their subordinate commanders; establishes a conceptual framework for the preparation and execution of deterrence and warfighting.

JOINT PUB 3-01.2, JOINT DOCTRINE FOR THEATER COUNTERAIR OPERATIONS (Lead Agent: USAF) Apr 1986 (Formerly JCS Pub 26)

Establishes joint doctrine for the planning and employment of joint theater counterair operations. This publication applies to operations on or near overseas land areas; it addresses the integration and employment of all assets that can be used by the joint force commander in conducting counterair operations (Navy term: "antiair warfare").

It provides that the JFACC, designated by the JFC, can be the Area Air Defense Commander (AADC). The AADC establishes weapons control procedures and measures for air defense units assigned to Army corps, MAF, or lower maneuver echelons. Air Defense assets not assigned to Army corps, MAF, or lower maneuver echelons are normally under the operational control of the AADC.

This publication also provides for the JFC to appoint an Airspace Control Authority, who may be the JFACC. This publication will be combined with Joint Pub 3-01.3, Joint Doctrine for Air Defense from Overseas Land Areas.

JOINT PUB 3-01.4, JTTP FOR SUPPRESSION OF ENEMY AIR DEFENSE (SEAD) (Lead Agent: USAF) In Development

Publication will establish Joint Tactics, Techniques, and Procedures for planning and performing missions to suppress enemy air defenses.

JOINT PUB 3-01.5, DOCTRINE FOR JOINT THEATER MISSILE DEFENSE (Lead Agent: USA) In Development

Will establish doctrine to counter the non-nuclear tactical missile threat posed by conventional/chemical short-range ballistic missiles, air-to-surface missiles, and cruise missiles. The focus of this publication is applying a mix of mutually supportive measures, both passive and active.

Joint Pub 3-03 (TEST), DOCTRINE FOR JOINT INTERDICTION OPERATIONS (Lead Agent: USAF) Dec 1990

This publication provides guidance for conducting actions to divert, disrupt, delay, or destroy the enemy's surface military potential before it can be used effectively against friendly forces. All services can conduct interdiction operations with various resources which include: fighter/attack aircraft and bombers; ships and submarines; conventional airborne, air assault, or other ground maneuver forces; special operations forces; surface-to-surface, subsurface-to-surface; and air-to-surface missiles, rockets, munitions, and mines; artillery and naval gunfire; attack helicopters; electronic warfare systems; antisatellite weapons; and space-based satellite systems or sensors.

The JFC has the authority to organize forces for the interdiction campaign and establish broad planning objectives and guidance for interdiction of enemy forces. JFCs will normally delegate the authority to plan and direct interdiction to a suitable component commander. They may, however, use their staffs to conduct execution planning, coordination, and deconfliction of interdiction operations. If the JFC assigns this duty to a subordinate, whoever is designated must have a sufficient command and control infrastructure, adequate facilities, and ready availability of joint planning expertise. Commanders of air forces will most often possess the superior capability to execute interdiction. Therefore, the JFC will normally designate the JFACC to conduct detailed execution planning and coordinate the overall interdiction effort. The JFC may also assign another component commander this responsibility if he has the preponderance of interdiction capability. Principles of planning and execution are included in this publication, as well as requirements for unity of effort, coordination, and use of mission-type orders.

JOINT PUB 3-04, DOCTRINE FOR JOINT MARITIME OPERATIONS (AIR) (Lead Agent: USACOM) Jul 1991

Publication establishes guidance for air support for joint maritime operations (air) (JMO(AIR)). The objective of JMO(AIR) is to destroy, degrade, or neutralize enemy

warfighting capability in the maritime environment and to increase the combat effectiveness of the joint force through optimum use of all available JMO(AIR). JFCs will determine the command relationships and organization appropriate for each joint force operation. The JFC may designate a JFACC who will coordinate air operations for the joint force as a whole. In the maritime environment, if the JFC designates a JFACC he will normally be a naval commander.

JOINT PUB 3-05, DOCTRINE FOR JOINT SPECIAL OPERATIONS (Lead Agent: USSOCOM) Oct 1992

Basic doctrine for the joint employment of special operations forces (SOF). Missions and roles of SOF are addressed in this publication as well as capabilities and limitations. Generally, the publication (and legislation) provides for all SOF in CONUS to be assigned to a SOF chain of command. However, SOF may be placed under the operational control, tactical control, or in support of service or joint force component non-SOF commanders. The JFC may direct such an arrangement when the nature of the mission requires the special capabilities of SOF. When this occurs, command relationships of SOF must be worked out and clearly understood by both conventional and SOF commanders.

JOINT PUB 3-50.2, DOCTRINE FOR JOINT COMBAT SEARCH AND RESCUE (Lead Agent: USN) In development

This publication states that JFCs have primary authority and responsibility for CSAR in support of US forces within their AO including civilian personnel such as CRAF crew members and deployed technical representatives. JFCs normally delegate responsibility to recover personnel to the designated joint search and rescue center commander (JSRCC). The JSRCC is the JFCs designated representative with overall responsibility and authority for operation of the joint search and rescue center (JSRC) and for planning, coordinating, and controlling, joint SAR and CSAR operations within the geographical area assigned to the joint force using assets made available by the JFC. The JFC will normally task a component commander to accomplish the responsibilities of the JSRCC.

JOINT PUB 3-52, DOCTRINE FOR JOINT AIRSPACE CONTROL IN THE COMBAT ZONE (Lead Agent: USAF) Nov 1993

Provides for joint airspace control in a combat zone. The JFC normally designates a JFACC, Airspace Control Authority (ACA), and Area Air Defense Commander (AADC). Because of the integrated relationship between airspace control measures and air defense operations, ACA and AADC duties should normally be performed by the same person who may also be the JFACC. The ACA has the responsibility (on behalf of the JFC) of coordinating and integrating the use of the airspace control area. The AADC is responsible (on behalf of the JFC) for the successful conduct of air defense operations.

JOINT PUB 3-55, DOCTRINE FOR JOINT RECONNAISSANCE, SURVEILLANCE, AND TARGET ACQUISITION (RSTA) (Lead Agent: USAF) Apr 1993

Defines RSTA, provides a framework for interoperability of US forces, and provides a baseline for the development of joint tactics, techniques, and procedures.

JOINT PUB 3-56, TACTICAL COMMAND AND CONTROL PLANNING GUIDANCE AND PROCEDURES FOR JOINT OPERATIONS (INFORMATION EXCHANGE PLANNING GUIDANCE) (Lead Agent: US Army) In development

Will describe command and staff functions supporting joint operations and describe their information exchange requirements and standards.

JOINT PUB 3-56.1, COMMAND AND CONTROL FOR JOINT AIR OPERATIONS (Lead Agent: USAF) In development

Will establish fundamental principles for using a JFACC to provide unity of effort for employing air and other appropriate combat power for the benefit of the joint force as a whole, and tactics, techniques and procedures to accomplish those tasks in both continental and maritime environments.

JOINT PUB 3-56.23, TACTICAL COMMAND AND CONTROL PROCEDURES FOR JOINT OPERATIONS--JOINT INTERFACE OPERATIONAL PROCEDURES--AIR CONTROL/AIR DEFENSE PROCEDURES FOR JOINT SERVICES OPERATIONS (Lead Agent: J-6) May 1987

This CONFIDENTIAL joint publication contains procedures for coordinating the air effort in a joint operation. It establishes standard formats for the exchange of information during the air tasking process. It contains manual procedures, along with exercise and emergency procedures, for TADIL A, B, and C air control/air defense for use in joint tactical air operations. Procedures address description and formats, handover, identification criteria, air defense warning, IFF/SIF, backup to compensate for systems failure, employment of an Army flight operations center, and other activities integral to air operations.

JOINT PUB 3-56.24, TACTICAL COMMAND AND CONTROL PLANNING GUIDANCE AND PROCEDURES FOR JOINT OPERATIONS--JOINT INTERFACE OPERATIONAL PROCEDURES---MESSAGE TEXT FORMATS (Lead Agent: J-6) Oct 1991

This publication (CONFIDENTIAL) contains recommended procedures for command and control elements operating in a Joint Task Force. It contains message text formats the JFACC could use to send and receive air operations information.

AIR FORCE MANUAL 1-1, VOL I, II, BASIC AEROSPACE DOCTRINE OF THE UNITED STATES AIR FORCE Mar 1992

This manual provides guidance for preparing and employing aerospace forces. Volume I is a quick reference guide containing an outline of USAF basic doctrine, describing the Principles of War, Tenets of Aerospace Power, Roles and Missions of Aerospace Power, and Employment of Aerospace Forces in war. Volume II expands upon the doctrine foundation in Volume I.

AIR FORCE DOCTRINE DOCUMENT (AFDD)2 (DRAFT), THEATER AIR WARFARE Dec 1993 (Supersedes: AFM 2-1 (2 May 1968), AFM 2-7 (2 Feb 1979), and AFM 2-10 (25 May 1972)

This manual outlines operational objectives for theater air forces; command, control, communications, and intelligence requirements; and theater air missions. It applies the basic principles in AFM 1-1 to specific requirements for conducting theater air warfare.

This manual endorses the JFACC concept as defined in Joint Pub 1-02, and prescribes that the JFACC (normally the Air Force Component Commander) devise an air campaign to accomplish or support the theater military objectives. It states that the JFACC will normally be designated the Airspace Control Authority (ACA) and Area Air Defense Commander (AADC) due to the interrelationship of activities and the amount of coordination required to execute the air campaign and ensure unity of effort of other component commanders who operate in the same theater.

The manual defines JFACC responsibilities for recommending apportionment to the JFC; and after the JFC's decision, allocating air assets via the Air Tasking Order and controlling the air effort through the Theater Air Control System (TACS).

AFDD 23, NUCLEAR OPERATIONS (In Development) OPR: AF DOCTRINE CENTER

AFDD 35, SPECIAL OPERATIONS (DRAFT) Dec 1993

Describes the mission, force composition, and command relationships of Air Force Special Operations Forces (AFSOF). Provides guidance for direct participation with other Special Operations Forces (SOF) and conventional forces. These other forces may be supported by or in support of AFSOF. SOF missions include Unconventional Warfare, Direct Action, Special Reconnaissance, Counterterrorism, Foreign Internal Defense, Psychological Operations, and Collateral missions (such as Humanitarian Assistance, Counternarcotics, and Search and Rescue/Personnel Recovery).

AFDD 30, AIRLIFT OPERATIONS (In Development) OPR: AF DOCTRINE CENTER

Guides command and employment of airlift in theater operations.

ACC/PACAF/USAFE PAMPHLET 2-2, JOINT FORCE AIR COMPONENT COMMANDER (JFACC) CONCEPT OF OPERATIONS Aug 1992

This pamphlet contains the ACC/PACAF/USAFE JFACC Concept of Operations. It references joint doctrine for the JFACC and applies that doctrine in discussing operational level relationships, policies, and procedures for performing the duties of the JFACC.