

# Air Mobility Support



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10 November 1999

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## FOREWORD

Air mobility support is essential to national security. The air mobility system is a combination of airlift, air refueling, and air mobility support assets which enables rapid, decisive responses to global crises. Global air mobility support forces enable these operations. Air mobility, in its lethal and nonlethal applications, requires this support to accomplish national security objectives. *Fundamentally, air mobility support is about a warfighting support system—its link to the air mobility system confirms the United States can quickly project and sustain combat power anywhere, anytime.*

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# INTRODUCTION

## PURPOSE

Air Force Doctrine Document (AFDD) 2-6.3 provides Air Force doctrine for air mobility support and supports basic aerospace doctrine. This AFDD implements Air Force Policy Directive (AFPD) 10-13, *Air and Space Doctrine*.

## APPLICATION

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

## SCOPE

This document articulates fundamental Air Force roles for air mobility support and advises commanders on how to employ and integrate Air Force resources to achieve their mobility objectives. It includes a discussion of mobility support forces, their operating environment, command and control, and planning considerations.



## CHAPTER ONE

### GENERAL

*It is the particular competence of air and space forces to most rapidly provide what is needed, including weapons on target and an increasing variety of surface force components where it is needed.*

AFDD 1

### OVERVIEW

A nation's ability to project power and sustain its forces is a strong indicator of its capacity to protect national security interests. Mobility Air Forces (MAF) provide the National Command Authorities (NCA) these vital capabilities. These forces can be deployed at a moment's notice across the full spectrum of operations. *Successful accomplishment of mission objectives for MAF hinges on establishing and maintaining a global air mobility support system (GAMSS). These forces enable the deployment, employment, sustainment, and redeployment of forces regardless of the type of operation.*

A significant shift in US military strategy in the 1990s has been an emphasis away from forward basing to one of forward presence. The United States changed from a nation that protects its national interests by basing large military forces overseas to one that relies on continental US (CONUS)-based forces that rapidly deploy to overseas locations during crises. The United States no longer has forces stationed within striking distance of many threats to national security interests. The US presence is now projected into crisis areas to communicate national resolve and commitment. This transformation has altered the way forces respond to crises. The US Air Force has transformed into an expeditionary force that is stationed primarily in the CONUS and is prepared to deploy to any location where US interests are at risk. This new approach is entirely dependent upon a robust and responsive global transportation system whose foundation is the GAMSS.

## GLOBAL AIR MOBILITY SUPPORT SYSTEM (GAMSS)

*The GAMSS provides responsive, worldwide support to airlift and air refueling operations.* This support system is a set of permanent support locations and deployable units capable of augmenting the permanent locations or creating support locations where none exist. The permanent en route structure locations are at key CONUS and overseas bases and the deployable force is stationed in the CONUS and at selected overseas bases. This system is **flexible, contracting or expanding according to the requirements for operations across the spectrum of conflict.** The GAMSS permits continuous, global command and control over most of the MAF regardless of their location, thereby providing commanders with real-time information regarding the status of missions and assets and the location and disposition of transported personnel and materiel. *Collectively, the capabilities of the en route structure and deployable units allow airlift and air refueling forces to increase operations at existing locations or, by using the global reach laydown (GRL) strategy, initiate operations at austere locations.*

The GRL strategy calls for GAMSS units to rapidly deploy and establish operations anywhere in the world where little or no en route structure exists. Accompanied by command and control, planning, and execution elements, GAMSS enables seamless air mobility operations that coordinate and synchronize intertheater and intratheater operations. These include operations such as supporting an air bridge, managing an airlift “hub and spoke,” supporting “lily pad” operations, conducting airfield surveys for pending operations, and initiating host-nation support (HNS) for deployments into theaters. These units are capable of deploying with little notice and commencing immediate operations.

## GAMSS AND NATIONAL SECURITY STRATEGY

The GAMSS enables the MAF to meet the worldwide, rapid mobility and forward presence requirements set forth in the National Security Strategy (NSS). The ability to shape, prepare, and respond is dependent upon credible and superior military forces either strategically based, forward deployed, and/or ready to rapidly deploy forward from CONUS-based locations.

The permanent units provide established bases for routine air delivery of materiel and personnel in support of forward-based Service and joint

customers. The deployable units stand up major onload and offload locations through which deploying units can channel their materiel and personnel. Permanent and deployable support forces, available for tasking under the GRL strategy, are central to meeting the National Security Strategy's mandate that the Department of Defense (DOD) maintain a force structure and deployment posture enabling the United States to fight and win major wars in theaters distant from the United States. This ability to fight and win wars can only happen if the United States has the capability to forward-deploy forces and rapidly project power across great distances. GAMSS units provide the infrastructure that support lengthy lines of communication.



**GAMSS units are indispensable towards the accomplishment of the mobility movement.**

## **GAMSS AND NATIONAL MILITARY STRATEGY**

The National Military Strategy (NMS) requires US military forces to support the objectives of promoting peace and stability and, when necessary, to fight and win armed conflicts. The military accomplishes this strategy by taking actions which support NMS objectives of shaping the international environment, responding to the full spectrum of crises, and preparing now for an uncertain future. *The GAMSS supports NMS objectives in three ways: (1) by the presence our permanent support system provides, (2) by the force projection capabilities our deployable units offer, and (3) by the deployable unit's ability to support combat and mobility air forces in austere and hostile locations.* A US response to the full spectrum of crises is only possible if forces can be rapidly moved to the crisis location.

GAMSS units provide flexibility and enable the sustainment flow needed by military forces to successfully conduct operations across the spectrum

of conflict. Because GAMSS synergistically works with other air mobility forces (airlift, air refueling, and permanent GAMSS units), deployable units quickly move from one theater of operations to another and allow the US military to rapidly swing forces between theaters. GAMSS helps the United States to better prepare for an uncertain future and to meet the requirements set forth by the NCA.

## **KEY PRINCIPLES OF WAR AND TENETS OF AEROSPACE POWER**

The principles of war and tenets of aerospace power, as discussed in AFDD 1, *Air Force Basic Doctrine*, guide the employment of aerospace forces, including GAMSS forces. The GAMSS is a key airlift and air refueling enabler. Given the GAMSS' foundational role in underpinning the entire air mobility system, it is important for the joint force commander (JFC), the air component commander, and planners at all levels to fully understand how GAMSS forces support key principles of war and air and space tenets.

### **Principle of Unity of Command**

Unity of command means that all forces operate under a single commander with the requisite authority to direct all forces employed in pursuit of a common purpose. This principle emphasizes that all efforts should be directed and coordinated toward a common goal.

Command and control (C2) of the GAMSS and its forces consist of three independent structures that, when integrated, comprise the overall GAMSS C2 system. Unity of command is preserved within each portion of this system because each commander is charged with the responsibility to efficiently and effectively operate his forces in support of the JFC's objectives.

### **Principles of Mass and Maneuver**

GAMSS forces provide the support system that allows air mobility forces to achieve mass and maneuver. The *principle of mass* emphasizes concentrating combat power at the decisive time and place. The *principle of maneuver* emphasizes actions taken to place the enemy in a position of disadvantage through the flexible application of combat power.



**Personnel set up a mobile air reporting and communications (MARC) unit to maintain positive command and control (C2) with aerospace forces.**

*GAMSS forces, in concert with airlift and air refueling forces, exemplify mass and maneuver.* For example, during Operation DESERT SHIELD, mobility support forces enabled rapid deployment of large force packages and materiel to mass within the theater to deter further aggression. Maneuver was achieved during Operation DESERT STORM when mobility support forces enabled the JFC to outflank the enemy forces via the “left hook.” While this demonstrates the use of GAMSS forces to achieve mass and maneuver in a lethal role; humanitarian operations in Rwanda and Guam are examples of using GAMSS forces in nonlethal roles. Deployed units set up major offload locations allowing relief agencies to maneuver their assets to those in need and to achieve mass in terms of the relief and medical services they provided.

### **Principle of Economy of Force**

The *principle of economy of force* advocates keeping forces focused on their primary courses of action and allocating the minimum secondary

efforts towards nonessential combat efforts. GAMSS forces' limited numbers and their key role in deploying forces to austere locations mandate that a JFC use them in a prudent and economical manner lest his ability to maneuver other forces and achieve mass will be seriously degraded.

### **Tenets of Centralized Control and Decentralized Execution**

Aerospace forces should be centrally controlled by an airman to achieve synergy at the strategic, operational and tactical levels of war. The GAMSS, must be *centrally controlled* at the appropriate level and its tasks *decentrally executed* to ensure synchronized support to other MAF forces. Centralized control allows for coordinated efforts and is key to the successful execution of the GRL strategy. Centralized control enables limited assets to be managed most efficiently to achieve JFC objectives. *Decentralized execution* allows GAMSS forces to modify their efforts according to the missions transiting their location, thereby optimizing support to each aircraft.

### **Tenets of Flexibility and Versatility**

*Aerospace forces possess unique flexibility and versatility. Flexibility allows aerospace forces to exploit mass and maneuver simultaneously and to a far greater extent than surface forces.* It also includes the ability to rapidly shift from one campaign objective to another, quickly and decisively. *Versatility* of aerospace forces stems from the fact that they can be employed with equal effectiveness at the strategic, operational, and tactical levels of warfare.

At the strategic level, deployable GAMSS units can quickly move to new locations allowing the NCA to shift objectives quickly and decisively. Under the two major theater war posture, aerospace power assets are expected to halt an enemy in one theater and, once the sustainment phase begins, rapidly shift forces to another theater to halt an enemy's forces. At the operational level, deployable GAMSS units can be expanded or downsized based on changing JFC requirements. GAMSS units allow air power assets within a theater to change beddown locations to more effectively support changing theater objectives. GAMSS assets may be moved from one offload field to another to support the time-phased deployment of forces into the theater. This allows for more efficient use of GAMSS in the theater. At the tactical level, deployable GAMSS units can move with rapidly advancing ground forces, establishing major offload locations where

these forces can receive responsive resupply and thus out maneuver opponents.

### Tenet of Synergistic Effects



**Each component ensures the success of the other.**

independently then each would contribute less to the warfighter. For example, the air bridge concept allows airlift aircraft to fly nonstop to their final destination with the support of air refueling aircraft. In addition, loading and ground refueling of these aircraft requires the support of the GAMSS to ensure mission success.

*Aerospace forces produce synergistic effects by applying coordinated force to exceed the contributions of individual forces employed separately. In terms of air mobility support, the combined capabilities of GAMSS, airlift, and air refueling forces translate into a more capable MAF. If each MAF component operated*

### Tenet of Persistence

Aerospace systems are uniquely suited to persistent operations. Persistence equates to sustained and continuous operations. These operations require aerospace forces to have the potential or *permanent presence* anywhere on the globe. Persistence requires air mobility forces to maintain a continuous flow of personnel and equipment into the area of responsibility (AOR), whether it is an area of armed conflict or an area suffering the effects of a natural disaster. The GAMSS and its elements are central to the flow of these resources. *Usually, supported operations will not take place in or near permanent support locations so deployable units must establish the support needed at each offload location. The GAMSS then allows military forces to operate against an adversary by sustaining the application of military power through forward presence and assured access to reachback forces, materials, and follow-on forces.*

## Tenet of Concentration

Aerospace forces must be used to achieve concentration of purpose. Airmen must guard against the inadvertent or purposeful dispersion of aerospace power effects which could result from high demand. Demand for MAF assets, particularly GAMSS units, often exceed the available forces and results in fragmentation in an attempt to fulfill the JFC demands. Pressure to fragment GAMSS units often occurs because of the wide range of capabilities located within deployed units. These units which contain maintenance, C2, and aerial port specialties, are a tempting target for dismantlement and dispersal. This must not occur because GAMSS deployable units are subject to redirection with very little notice. It is this fact and the unique capabilities they can offer when their cohesion is not disrupted that mandates using them in a manner achieving concentration of purpose.

## Tenet of Priority

Aerospace operations must be prioritized. Limited resources require that aerospace forces be applied where they can make the greatest contribution to the most critical current requirements. GAMSS forces are normally in great demand; however, it is the finite nature of this resource that marks its most profound limitation. *Permanent locations are key to managing the intertheater movement of forces while deployable units are key to getting forces into the joint operations area (JOA) and moving them within the JOA.* Significant impediments to the JFC's maneuver scheme may occur if deployable units are placed incorrectly or are saturated with air-flow beyond their ability to manage it. Combatant commanders must understand that GAMSS forces are critical to the successful execution of the campaign plan, especially in those circumstances when movement of forces must be accomplished by air. *GAMSS forces allow air mobility forces to be applied where they can make the greatest contribution to the most critical JFC requirements.*

## Tenet of Balance

Often times, the situation at each level of war creates tension between guiding principles and tenets. The commander must objectively weigh the priority and importance of each level, principle, and tenet to formulate the correct course of action and properly allocate the right resources against each action. While the high demand and low-density nature of



**GAMSS forces are capable of operations from a fully robust installation or an austere location.**

GAMSS forces may limit their availability: their flexibility, versatility, and responsiveness still create options for the commander. GAMSS allows the intertheater and intratheater flows to be properly managed to meet the theater commander's requirements while still allowing Air Mobility Command (AMC) to meet any needs external to the theater. Specifically, the air commander, through GAMSS, can move military components rapidly to different locations so other forces can achieve an appropriate balance in operations at each level of war within a theater, between theaters, or globally.

## **GAMSS AND THE AIR FORCE CORE COMPETENCIES**

As detailed in AFDD 1, *Air Force Basic Doctrine*, the US Air Force's core competencies (air and space superiority, global attack, rapid global mobility, precision engagement, information superiority, and agile combat support) represent the combination of airpower expertise and professional and technical knowledge that, when properly applied, produces superior military capabilities. GAMSS units directly contribute to the core competencies and significantly enhance the options and capabilities available to the JFC. GAMSS forces support the air mobility onload locations, en route infrastructure, and offload locations needed in all stages of any conflict. These enable air mobility forces to transport the crews, maintainers,

## Operation JOINT ENDEAVOR



When the tanker airlift control element (TALCE) units arrived at Tuzla and Taszar air bases, there was virtually nothing. They started the enormous undertaking of running command and control and aerial port operations to aid the peacekeeping effort in Bosnia-Herzegovina and Hungary.

The airbases were small and in various stages of post-cold war neglect; consequently,

the TALCE faced one of their most challenging airhead operations ever. Area threats and limited ramp space were additional hurdles each TALCE unit had to overcome to ensure the valued aid would reach the peacekeeping troops. These limitations were overcome by using the engine-running offload (EROL) procedure to minimize an aircraft's time on the ground thus reducing its exposure time to hostile threats. TALCEs ultimately had to unload one aircraft so that another could land.

In their first month of operation, the TALCEs overcame lousy weather and barren living conditions to unload an average of over 400 tons of cargo, 40 vehicles and 130 passengers a day. They maintained the largest airlift operation in Europe since World War II without a single aircraft delay due to ground support.

This is their mission, setting up basic airfield operations anywhere in the world. As an integral part of the air mobility triad, GAMSS ensures airlift and air refueling forces run a seamless airlift operation and they allow the NCA to rapidly deploy a presence anywhere in the world.

support, and weapons that allow combat air forces to achieve **air and space superiority**. By providing critical support capabilities at key en route locations, GAMSS units support air refueling forces required for long range **global attack** missions and provide vital C2 links which add important oversight capabilities for commanders. By establishing airhead operations in austere locations and providing key communications support to special and civil affairs forces, human suffering and privation are relieved and **precision engagement** is epitomized. The GAMSS under-

pins **agile combat support** by establishing an en route structure that allows a responsive capability for any type of deployment. Finally, the GAMSS' most tangible contribution is to the **rapid global mobility** core competency. Rapid global mobility provides the nation its global reach and global presence which underpin the role as a global power and leader. The GAMSS units are **rapid** because, under the GRL strategy, they can deploy from their in-garrison location with short notice and quickly set up required en route locations or objective area major offload locations for immediate operations. GAMSS units are **global** because they are self-contained and can operate at any location in the world. GAMSS units are **mobile** because they are organized, trained, and equipped exclusively for these types of operations. They directly contribute to airpower's inherent attributes of speed, range, and flexibility; and their ability to present these attributes to the JFC increases his ability to maneuver forces relative to an opponent.

## **GAMSS COMPONENTS**

Air mobility is a system consisting of three major subsystems: airlift, air refueling, and the GAMSS. Maximum system efficiency is achieved when the subsystems synergistically operate in concert with one another. Like the larger air mobility system, the GAMSS consists of two distinct parts: the permanent en route structure and the deployable structure used under the GRL strategy. GAMSS forces are drawn from active duty, ANG and AFRC components. Collectively, these forces provide the permanent and deployable units.

### **Active Duty Component**

The majority of active duty GAMSS units are assigned to the functional combatant command of United States Transportation Command (USTRANSCOM); however, there are additional assets assigned to geographic combatant commands. These forces provide the core day-to-day en route support at permanent and deployed locations. **Active duty forces offer a combatant commander accessible and flexible GAMSS units available immediately for worldwide taskings.** While active duty GAMSS forces offer a great advantage in terms of availability, demand for deployable units consistently outpaces supply. As a result, great reliance is placed on ANG and AFRC assets to help meet the routine and contingency demands placed on the GAMSS.

## **Air National Guard and Air Force Reserve Command Components**

*The ANG and AFRC provide forces to augment active duty GAMSS units. These forces perform missions as part of the permanent support system and as part of deployable units deployed under the GRL strategy. ANG/AFRC forces are an important supplement to GAMSS forces.* During peacetime, the ANG/AFRC provide forces on a volunteer basis. When federalized/mobilized, ANG/AFRC units are placed on active duty status and may be used in the same manner as regular active duty units. ANG/AFRC forces train to and maintain the same mission ready status as their active duty counterparts.

### **SUMMARY**

The GAMSS is an important national resource and plays a key role in any US response to counter threats to our national security. Consisting of two portions, a permanent en route structure and deployable units, GAMSS forces stand ready to provide the infrastructure and support for any military action. Capable of supporting a US response to any tasking across the spectrum of conflict, under a variety of conditions, anywhere in the world-GAMSS and its associated forces are a vital component of rapid global mobility.

## CHAPTER TWO

# GLOBAL AIR MOBILITY SUPPORT SYSTEM

*If we lose the war in the air, we lose the war, and we lose it quickly.*

*Field Marshal Bernard Montgomery*

## GENERAL

*GAMSS provides air mobility C2, aircraft maintenance, aerial port services, and other air mobility support services as required to air mobility operations through the en route support system. The en route support system consists of an already existing permanent, but limited, infrastructure provided by air mobility support groups (AMSGs) and a deployable force normally sourced from air mobility operations groups (AMOGs) and airlift control squadrons (ALCSs).*

*Collectively, the capabilities of the permanent and deployable elements of the GAMSS give air mobility forces the ability to increase operations at existing locations or initiate operations at new locations. The underlying en route support system is comprised of permanent en route locations at key locations and a deployable force garrisoned in the CONUS and outside the continental US (OCONUS) at select overseas locations.*

## GAMSS EN ROUTE SUPPORT SYSTEM

### Permanent En Route Structure

Under the GRL concept, permanent en route locations provide limited support services to AMC aircraft. Specifically, en route locations provide command and control, passenger and cargo processing, aircraft servicing, and aircraft maintenance services to AMC aircraft transiting the en route location. Therefore, the en route support system may need augmentation by mobile GAMSS units during contingencies to ensure adequate mission support services.

## **Air Mobility Support Group**

*The AMMSG is the largest command element responsible for the permanent en route support system.* The AMMSGs direct the activities at overseas locations in their appropriate areas of responsibility. These activities include forming plans, establishing procedures, and directing the administration of the subordinate units in support of aircraft, cargo, passengers and patients. The AMMSG provides logistics, intelligence, and air transportation planning to meet mission requirements.

## **Air Mobility Support Squadron**

The air mobility support squadron (AMSS) is a component of the AMMSGs and is directly responsible for AMC mission support at each overseas location. The AMSS is the vital en route component of AMC's GRL concept. *The command and control element of the AMSS is the air mobility control center (AMCC).* The AMCC maintains constant communications with the tanker/airlift control center (TACC) which provides mission tracking for all overseas AMC mission activity. Passenger and cargo services at the AMSS are directed by the air terminal operations center (ATOC). The ATOC also coordinates aircraft servicing either through contract or air force fleet service personnel. Aircraft maintenance capabilities at AMSS en route locations normally provide basic marshaling, aircraft block-in and chocking, and refueling services. Additionally, AMSS aircraft maintenance capabilities at en route locations may include certain types of system repairs.

Capabilities resident in an AMSS at an en route location are normally based on a peacetime, routinely scheduled AMC mission throughput. The AMSS may need to be augmented by mobile GAMSS units during times of increased AMC mission throughput. Normally, augmentation is directed by the TACC and involves the mobile elements of GAMSS.

## **Deployable Structure**

### **Air Mobility Operations Group**

The largest and most diverse element of the deployable GAMSS is the AMOG. *The AMOG consists of an air mobility operations squadron (AMOS) and three air mobility squadrons (AMSSs).* These squadrons consist of per-

## Operation RESTORE HOPE



In August 1992, the President ordered relief supplies sent to Somalia to stop the famine running rampant through the country. Initially, the humanitarian assistance flown into Somalia did not reach the starving Somali people due to looting by clan members. The clans were stopping aid convoys and robbing them of their food; this food was then used as a weapon to gain supremacy over rival clans.

This development, and requests by the United Nations (UN) Security Council, prompted action by the President to deploy additional US troops to assist the operation and to stop the looting. The operation's initial intent was to secure airfields and expand security throughout the distribution infrastructure which would ultimately allow the relief to go unimpeded. One of the first units deployed to execute Operation RESTORE HOPE was an AMC TALCE unit from McGuire AFB, NJ. Their task was to ensure the air deliveries ran unhampered.

Upon arrival, the TALCE unit went to work and within hours had mapped out taxi routes and parking spots, set up a freight yard, and established a holding location for downloaded supplies. Next, 24-hour operations were established once the airfield lighting and navigational aids were installed by the combat control team. With these actions completed, preparation of the airfield started. Forklifts cleared runway and taxiway obstacles, then materials handling equipment (MHE), aircraft generators, and light carts were brought in for aircraft support. Mogadishu was now ready for a sustained intertheater airflow.

Following this groundwork the TALCE had more work to accomplish. Site inspections at surrounding airfields were completed amassing data on six additional airfields. The data maximized hard surfaces, identified airfield safety hazards and highlighted aircraft flow routing.

Once the intertheater airlift began, operations ran relatively smooth until the aircraft began to arrive more frequently causing bottlenecks at the airfield. As mentioned, real estate was precious and these bottlenecks only hampered the relief operations. The TALCE quickly solved this problem by establishing aircraft slot times which deconflicted the arriving aircraft. This proved invaluable to keeping the operation efficient and effective.

Overall, Operation RESTORE HOPE proved successful at ending Somali starvation. Had it not been for the heroic efforts of the GAMSS forces none of it would have been possible.

sonnel with operations and support Air Force specialty codes (AFSCs) who reside in-garrison within the AMOGs. The AMOGs report directly to their numbered air forces (NAFs).

One of the most important components of AMC's GRL concept is the AMOG's in-garrison capability, consisting of cross-functionally trained elements with the primary mission responsibility of providing C2 and mission support. These elements train in-garrison, and deploy as self-sufficient units capable of sustained operations up to 30 days without base operations support. *Deployable elements resident in an AMOG consist of: air mobility elements (AME), which are provided by the AMOS, TALCEs, which are provided by the AMS and mission support teams (MST), also provided by the AMS.*

### **Air Mobility Operations Squadron**

The AMOS provides most of the cross-functional core of the operations and operations support capabilities for the AME, air mobility control team (AMCT), airlift control team (ALCT), and an air refueling control team (ARCT), all of which form an Air Mobility Division (AMD) in a joint air operations center (JAOC). The AMOS provides the core capability of the AME to integrate and coordinate AMC intertheater assets. The AME is an extension of the TACC and remains under their operational control



**TALCEs provide the most robust capability of the GAMSS.**

(OPCON) to provide all the functionality of a deployed TACC. The AME ensures intertheater airlift and air refueling are published in AMC's or the theater's air tasking order (ATO) or integrated tasking order (ITO) as required. Intertheater airlift and air refueling missions will be coordinated through the AME and tasked by TACC. The AMOS can provide a core of personnel and equipment to augment the theater's AMCT and ARCT. Command relationships will be determined by operational requirements and applicable directives. The AME in concert with the ARCT, AMCT and the ALCT (intratheater airlift) will form the AMD to integrate all airlift and air refueling under the direction of the Director of Mobility Forces (DIRMOBFOR). Under some operations concepts such as humanitarian efforts (CONUS or OCONUS) the AMOS can be deployed independently as the AMD or the AOC. Under these scenarios the AME, AMCT, ALCT and ARCT remain OPCON to the TACC. Because the AMOS is not manned to provide intratheater airlift expertise, the ALCT augmentation would come from other organizations (TACC, air mobility operations control center [AMOCC], Reserves, or other force providers i.e., the commanders in chief [CINCs]). Overall the AMOS provides deployed integration of intertheater air mobility missions with air and space planning and provides in-garrison training and equipment for AMEs, AMCTs and ARCTs.

### **Air Mobility Squadron**

*The AMS provides the cross-functional core of operations and operations support capabilities for air mobility operations at a deployed location.* The core capabilities provided by the AMS are the TALCEs and MSTs. Capabilities provided by the TALCE include: command and control, aerial port passenger and cargo processing, aircraft servicing, and aircraft maintenance. Essentially, the TALCE provides a capability to support AMC's GRL strategy similar to AMC's permanent en route location AMSS's. Capabilities provided by the MST are similar to a TALCE, but based on less air mobility throughput. For planning purposes, a TALCE would normally be sourced for air-mobility operations at a deployed location where the throughput of AMC aircraft would not exceed a maximum on the ground (MOG) of 12 parked aircraft. Use of a MST would normally be based on a MOG of 4 parked aircraft.

### **Airlift Control Squadron**

The ALCS is an important component of GAMSS that does not organizationally fall under the AMOG but provides TALCE and MST capability.

The ALCS can normally support any TALCE or MST tasking requirement, but it normally requires aerial port and aircraft maintenance augmentation, functions organic to the AMS. Although ALCs are located at C-130 wings, they are able to provide the same full spectrum of TALCE and MST support as those belonging to AMSs.

### **Mission Support Element**

*A mission support element (MSE) is a team of specialists that are deployed to support operations at a deployed location.* The size and capabilities of the MSE are smaller than that found in a TALCE or MST. Typically, the MSEs are employed to handle specific mission requirements not available at the destination, where TALCEs are employed to operate.



**MSEs are an enabling force, delivering expertise to the field whenever needed.**

### **AIR MOBILITY DIVISION**

*The AMD may be established as part of a JAOC.* The AMD coordinates with the theater joint movement center (JMC) and manages and controls intratheater airlift and air refueling resources, coordinates with TACC to manage intertheater airlift and air refueling as it transits the theater, and incorporates airlift/air refueling schedules into the ATO. AMOS and theater personnel source the manning requirements for an AMD.

The AOC director ensures the AMD works as an effective division of the JAOC in the aerospace assessment, planning, and execution process. *The AMD is normally comprised of four elements: AMCT, ALCT, ARCT, and AME. The AMD coordinates with the JFC's movement requirements and control authority, the AMOCC, if established, and TACC as required to derive apportionment guidance, compute allocation, and collect requirements. As directed by the DIRMOBFOR, the AMD will task attached theater air mobility forces through wing and unit command posts when those forces operate from*

*permanent home bases or wing operations centers (WOCs), if forward deployed.*

Under direction of the DIRMOBFOR, the AMD has the following responsibilities:

- ★ Integrate and direct the execution of theater and USTRANSCOM-assigned mobility missions operating in the AOR/JOA and in support of the JFC's requirements/objectives.
- ★ Maintain the flow of theater and USTRANSCOM-assigned air mobility assets in support of JFC's objectives.
- ★ Coordinate air mobility support for mobility requirements identified and validated by the JFC's requirements and movement authority as appropriate.
- ★ Participate in the aerospace assessment, planning and execution process and coordinate with the AOC director to ensure the air mobility mission is incorporated in the ATO.
- ★ Identify intelligence, surveillance, and reconnaissance requirements in support of the air mobility mission.
- ★ Ensure air mobility missions are visible in the AMC standard command and control system and reflected in the air tasking order.

### **Air Mobility Control Team**

*The AMCT serves as the DIRMOBFOR's centralized source of air mobility command and control, and communications during mission execution.*

The DIRMOBFOR uses the AMCT to direct, or redirect as required, air mobility forces in concert with other aerospace forces to respond to requirement changes, higher priorities, or immediate execution limitations.



**GAMSS forces are an invaluable aid to an AOR's operations.**

The AMCT deconflicts all air mobility operations into, out of and within the area of operations. The AMCT maintains the execution process and communications connectivity for tasking, coordination, and flight following with the AOC combat operations division.

### **Airlift Control Team**

The ALCT is the source of theater expertise within the AMD. *The ALCT brings theater airlift functional expertise from theater organizations to plan, coordinate, manage, and execute theater airlift operations in the AOR/JOA for the Commander, Air Force Forces (COMAFFOR), or the joint forces air component commander (JFACC).* AMC personnel may augment the ALCT with theater airlift expertise. These two sources of airlift expertise integrate into a single ALCT within the AMD.

### **Air Refueling Control Team**

The AMD may have an ARCT to coordinate air refueling planning, tasking, and scheduling to support combat air operations or to support an airbridge within the AOR/JOA.

### **Air Mobility Element**

The AME deploys to the theater as an extension of the TACC. The AME is requested when a DIRMOBFOR is established, and AMC intertheater air mobility aircraft are employed supporting a contingency. It becomes an element of the AMD. The DIRMOBFOR is responsible for integrating the expertise of the theater air mobility planners with the expertise of the AME, to fulfill the JFACC's guidance to meet the JFC's objectives. *The AME provides air mobility integration and coordination of AMC intertheater air mobility forces.* The AME receives direction from the DIRMOBFOR and is the primary team for providing coordination with TACC. The TACC commander maintains OPCON of direct delivery missions during execution. The AME ensures the integration of strategic air mobility missions with theater and air space operations planning.

### **Aeromedical Evacuation (AE) Support**

The center of the AE GAMSS is the aeromedical evacuation control center (AECC). This AE element provides operational and communications network control for theater AE elements. The AECC, working with the AMD, manages the medical aspects of AE mission operations and is

the operations center where the overall planning, coordinating, and directing of theater AE operations are accomplished. Other major elements of AE support to the GAMSS are both the fixed and mobile aeromedical staging facilities where patients are provided care while awaiting movement on AE missions. Coordinating these actions with the medical customer is the aeromedical evacuation liaison team (AELT). This element provides AE expertise and AE coordination to Army, Navy, Marine, or Air Force medical treatment facilities. Lastly, the Aeromedical Evacuation Operations Team (AEOT) provides AE crews, inflight medical equipment, airfield operations, and medical logistics management. These elements working together provide vital coordination and management to ensure timely evacuation of patients.

## **CONCLUSION**

The GAMSS enables the US Air Force to rapidly deploy personnel and equipment to an AOR. The GAMSS is a permanent en route structure and deployable structure which, when employed, receives and loads personnel and cargo, transloads cargo and performs minor maintenance functions. The combined efforts of TALCEs, MSTs, MSEs, and C2 elements are essential in directing intertheater and intratheater missions. Centralized C2 of AMC GAMSS operations is normally maintained by the TACC, while theater assets are normally controlled by an AMOCC, thereby ensuring maximum integration of all global air mobility assets.



## CHAPTER THREE

# COMMAND AND CONTROL

*Success is to be obtained only by simultaneous effects, directed upon a given point, sustained with constancy, and executed with decision.*

**Archduke Charles of Austria**

### OVERVIEW

*Command and control is the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. It is a complex process, performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in accomplishment of the mission.*

### DEFINITIONS

It is critical that air mobility support planners and forces understand the command relationships and control authorities associated with the employment of US forces. Using standardized terminology and structures facilitates a rapid transition from peace to wartime operations. An understanding of the definitions of combatant command (COCOM), operational control (OPCON), tactical control (TACON), and administrative control (ADCON) is essential.

### JOINT MOVEMENT CENTER

**The joint movement center (JMC)** or theater movement control center (if established) operates as a part of the A-4/J-4 using the theater or JTF commander's guidance to **validate and prioritize movements (air, land and sea) of passengers and cargo**. A validated, prioritized movement request becomes a requirement. Airlift requirements (validated air movements) are handled as follows:

For intertheater requirements: *The JMC in coordination with the DIRMOBFOR sends the requirement to USTRANSCOM*. If USTRANSCOM

## HURRICANE MITCH



In late October 1998, Hurricane Mitch ravaged the Central American countries of Honduras and El Salvador. It left the countries with more than 10,000 dead and over 51,000 homes destroyed. Both Honduras and El Salvador's infrastructure were also decimated. Those whose lives were spared struggled to find food and clean water. US Southern Command was tasked with the responsibility of coordinating all US military assistance and established Joint Task Force Bravo (JTF-Bravo) to orchestrate the distribution of this aid.

US Southern Command had a three-phase approach to aid the countries of Central America. The first phase would deliver emergency food, water, medicine and other life-sustaining supplies to survivors. The second phase would rehabilitate the essential infrastructures of each country, and the third phase would support international efforts to restore the overall infrastructure of each nation.

In order to make the first phase of the operation a success, JTF-Bravo established an airlift hub at Soto Cano Air Base, Honduras, to receive and distribute the aid. One of the first units on the scene was the 640<sup>th</sup> Air Mobility Support Squadron from Howard Air Force Base, Panama. Within the first two weeks their efforts, along with the efforts of over 500 Air Force deployed personnel, included downloading and distributing over 6.8 million pounds of critical relief supplies. A typical day involved downloading 700,000 pounds of cargo and shipping over 500,000 pounds to relief points throughout Honduras.

In addition to JTF-B, JTF-Aguila was established to conduct humanitarian relief operations in El Salvador. With the establishment of another JTF, came the demand for additional Air Mobility Command personnel. The 621<sup>st</sup> Air Mobility Operations Group from McGuire Air Force Base, NJ, took on the task of managing this airlift hub. From Comalapa Air Base, El Salvador, aerial porters and forklift operators worked 24 hours a day ensuring the vital aid reached the devastated people.

By 16 December, nearly 20 million pounds of goodwill had reached the distraught regions of Central America. The effort truly joint, with airhead operations being led by dedicated Air Mobility Command personnel.

determines the mode of transportation should be air, AMC TACC will plan and execute the mission.

For theater requirements: *The JMC or equivalent sends the requirement to the AOC/AMD for coordination. The JMC must plan, coordinate and deconflict transportation, as well as establish and operate in-transit visibility (ITV) for transportation movements. (JP 4-01.3)* The JMC should assume the responsibility for monitoring the overall performance of the theater transportation system.

When theater requirements exceed their air mobility resources: *JMC should coordinate with the DIRMOBFOR and COMAFFOR/JFACC for reallocation of airlift in support of the JTF commander's guidance.*

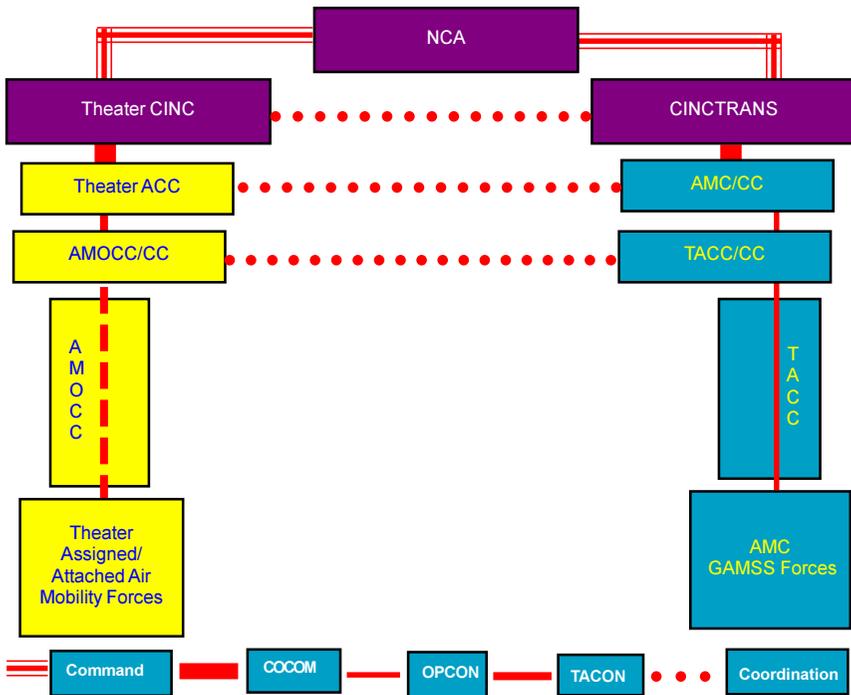
The movement of aircraft fulfilling the tasking requires mobility support forces. These forces can range from a MST to a TALCE. Command relationships for mobility support forces whether they deploy to augment the existing theater en route structure or set up stand-alone operations at austere airfields are essential for a seamless movement of personnel and equipment throughout the globe.

## COMMAND RELATIONSHIPS

**The peacetime assignment of common-user mobility support forces is divided between the commander in chief, United States Transportation Command (USCINCTRANS) and the theater commanders in chief.** COCOM of all common-user, CONUS-based mobility support forces is exercised by USCINCTRANS. OPCON is exercised by the AMC/CC who delegates OPCON of the forces to the TACC commander. COCOM of theater assigned forces is exercised by theater CINCs. The theater air component commander has OPCON of assigned forces and normally delegates TACON to the AMOCC commander, if established. Figure 3.1 depicts the basic distribution of GAMSS forces and their associated command and control lines. The command relationships between USTRANSCOM and Theater CINCs are illustrated below.

## GAMSS FORCES

Uses of GAMSS forces involve **forces deploying forward from the CONUS or theater to support air mobility operations for both intertheater and/or intratheater operations.** The deployable forces can augment the existing en route structure or set up stand-alone command and



**Figure 3.1. Command Relationships for GAMSS Forces**

control operations for airlift operations. *GAMSS forces provide their own unique C2 communications systems to accurately plan, flow and track air movements and provide ITV of equipment and passengers.* This capability provides initial C2 capability during deployments and redeployments when other forces are in transition from mobilization to operations. C2 should be integrated to the maximum extent possible with standardized theater and AOC systems. AMC assigned mobility support forces normally use this capability to report to the TACC, while theater assigned support forces normally report to their AMOCC.

## **INTERTHEATER AND INTRATHEATER COMMAND RELATIONSHIPS**

Due to the global nature of air mobility operations, attention must be given to balance GAMSS resources between national and theater requirements and priorities. In the course of meeting these requirements, air mobility systems performing intratheater and intertheater missions must coordinate with one another to provide seamless support to the supported commander. When GAMSS forces deploy to a geographic CINC's AOR, command and supported/supporting relationships should be specified before

operations begin. Specifically, they should specify the type and degree of control exercised by commanders in the theater, the TACC, and any theater C2 organizations. These relationships should also stipulate the flow of mission information between GAMSS forces and the appropriate C2 agencies and commanders.

Under normal circumstances, CINCs with COCOM of TALCEs, or their designated subordinate commanders, will retain OPCON over GAMSS forces. Typically OPCON is exercised through Air Component Commanders. Commanders grant tactical control (TACON) of TALCEs based upon the likely focus of their efforts, the supported commander's requirements, and the ability of a command element to effectively exercise this command authority. TACON may be delegated to and exercised by commanders at any echelon at or below the level of combatant command. One CINC can also grant TACON to another CINC. This delegation may also occur between subordinate commanders, preferably with specific or blanket authorization from their respective CINCs. Delegation of TACON should be done in writing.

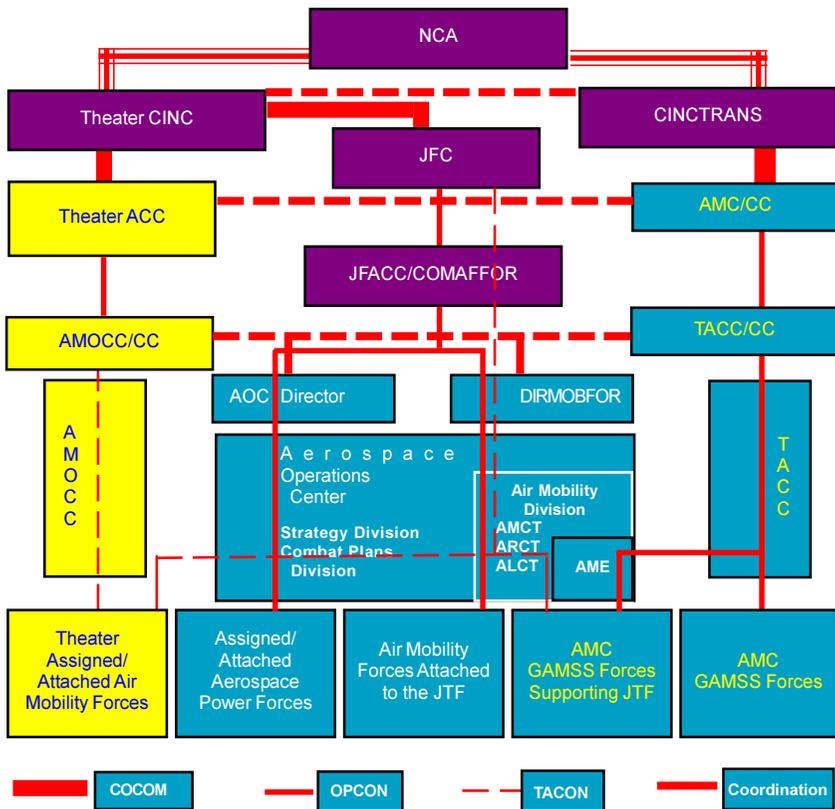
The decision to delegate TACON of GAMSS units (TALCE/MST) will be influenced by the presence of a suitable theater C2 capability. When theater C2 capability is suitable, a limited number of GAMSS forces may be transferred. For those theaters with an AMOCC, delegation of TACON will be fairly common. If a theater doesn't possess an AMOCC, then the delegation of TACON grants will normally only occur if a DIRMOBFOR and JAOC with AMD are in place. In such circumstances, TACON will normally be delegated to the COMAFFOR/JFACC and executed through the DIRMOBFOR. Typically, TACON delegations will be determined by the following circumstances.

a.) If a TALCE is supporting inter-theater operations exclusively then AMC/CC, through the TACC/CC, will normally retain OPCON and TACON.

b.) If a TALCE is primarily supporting intratheater operations (unified, sub-unified, JTF commands) then AMC/CC will normally delegate TACON to the supported component commander.

c.) If a TALCE will simultaneously support both intertheater and intratheater operations, then TACON and supporting/supported relationships will be determined following coordination between component commanders.

Geographic combatant assigned GAMSS units may support other combatant commanders. The circumstances for when they will support other commands are similar to those listed above. Figure 3.2 depicts the integration of air mobility forces into a joint task force (JTF) with an AOC and DIRMOBFOR.



**Figure 3.2. Command Relationships for Air Mobility Forces**

## SUMMARY

GAMSS maintains a robust support system capable of functioning throughout the spectrum of conflict. The peacetime support structure is readily adaptable to meet theater-specific needs during times of crisis. During a contingency, GAMSS assets can be attached or assigned to augment the existing en route support structure to ensure a smooth air mobility flow into and within an AOR. Their command and control system affords them the capability to set up stand-alone operations even if there is no existing en route support system. This flexibility makes GAMSS an integral part of the mobility triad.

## CHAPTER FOUR

# PLANNING FOR GLOBAL AIR MOBILITY SUPPORT

*Unity of command is not alone sufficient. Unity of planning, unity of common time procurement, and unity of doctrine are equally necessary.*

General of the Air Force  
Henry H. “Hap” Arnold

## BACKGROUND

Successful deployment of US forces and materiel depends upon the timely and accurate planning of all US support systems. *The global air mobility support system is an integral part of the air mobility triad and its integration into the initial deployment flow warrants consideration in the deliberate and crisis action planning processes.* Although relatively small in numbers, GAMSS forces fill a vital niche, and the successful accomplishment of the air mobility mission hinges upon this support.

*These forward-deployed forces manage the deployment and redeployment of intertheater and intratheater air mobility operations for AMC and/or the supported CINCs.* Their effectiveness is directly related to a commander's understanding of a number of planning factors. Each factor needs careful consideration to ensure the geographic combatant commander's requirements and objectives are achieved. All these factors are interrelated and, therefore, should not be considered in isolation. The following planning factors are **not all-inclusive** for every operation, but they give commanders the parameters involved in the proper use of GAMSS forces.

## FUNDAMENTAL CONSIDERATIONS

Within the overall mobility support-planning framework, there are four fundamental considerations: *mission, threat, core capabilities, and timing.*

The *mission* of the GAMSS essentially never changes, although specific circumstances and deployed locations are never constant. The basic

mission is to deploy GAMSS forces to a location where they either establish operations at a bare base or augment the in-place or permanent en route support system to conduct mobility support to worldwide DOD customers. Worldwide taskings for GAMSS forces center on this mission. As mentioned in Chapter One, the fixed infrastructure is composed of CONUS and overseas en route locations. This entire network is the foundation for GAMSS operations and their locations provide C2, logistics, and aerial port services to DOD customers. *While air mobility aircraft are used to project power, the GAMSS forces are the backbone of this power projection.*

The theater commander should always be alert to the possible **threats** facing GAMSS forces. This must be a particular concern during humanitarian support or crisis situations. Forces operating from austere bases, unimproved locations, or near crowded urban settings face threats to security from individuals and groups as well as military and paramilitary units. Threat assessments should be conducted in consultation with intelligence, security forces, counterintelligence forces, and in-country diplomatic and defense liaison personnel.

A provision for force protection is a natural corollary to the threat assessment. *A high threat will obviously require increased force protection. It also may be necessary to consider delaying deployments until the situation and area are stabilized.* It should be obvious that threats directly affect the



**Force protection measures are imperative for any operation.**

flow of air mobility operations and the objectives of the JFC. Although GAMSS forces are trained to protect themselves against both conventional weapons and weapons of mass destruction (WMD), they should be augmented by a dedicated force protection element whenever the assessed threat will effect mission accomplishment.

*The **capabilities** of the trained GAMSS forces are a third fundamental consideration. These forces are finite resources with unique capabilities.* They have multiple technical qualifications and are packaged as deployment modules. **They train as modules, and every effort should be made to deploy them as modules.** This training, experience, and organization makes them ready for autonomous operations in uncertain environments. Consequently, their finite nature drives the requirement for commanders to carefully manage their allocation against prioritized requirements.

Finally, ***the time and the timing of force movement*** are the fundamental considerations that need the most attention. GAMSS forces will preposition upon receipt of the Chairman of the Joint Chiefs of Staff (CJCS) warning/alert order. The HQ AMC TACC commander may preposition assets in anticipation of a warning/alert order depending on the nature of the contingency. **This early positioning is critical to enabling effective airlift and aerial refueling operations.**

If GAMSS forces are not prepositioned early, it is crucial that they be sourced early in the time-phased force and deployment data (TPFDD) of the Joint Operation Planning and Execution System (JOPEX). For large-scale mobility operations, this early integration in the deployment flow ensures aircraft are maintained, crews are rested, passengers and cargo are properly handled, and operations are as seamless as possible.

## **PRIMARY PLANNING FACTORS**

Global air mobility support is a system dependent on resources. The throughput of forces and materiel is a measure of the effectiveness and efficiency of this system. There are a number of specific planning factors which have varying degrees of influence on the ultimate success of the mobility system. Some planning factors are resources that may be regarded as *"throughput critical"* that is, they are key factors in the successful throughput of forces and materiel at any given location. Included in this category are *manpower, materials handling equipment (MHE), airfield capability, and petroleum, oils, and lubricants (POL)*. These items are critical

because they determine the maximum number of aircraft and amount of cargo which can be handled at a given location.

## Manpower

During the deployment and redeployment phases of any operation, manpower requirements are predictable for GAMSS. These requirements normally are identified in the TPFDD associated with a particular operation plan (OPLAN). Initial manpower allocations for TPFDDs are determined by force modules. *GAMSS forces are constructed into five different force modules: 1) onload, 2) contingency tanker task force, 3) stage/en route, 4) hub/transload, 5) spoke/offload. Each force module is comprised of the unit type codes (UTCs), personnel and equipment to sustain bare base operations.* These UTCs can be tailored to meet specific task requirements when the deployment is not aligned with an OPLAN. The manner in which forces are organized directly affects GAMSS responsiveness and versatility.

As the requirements and the tempo of operations change so does the GAMSS force structure. The result of this arrangement is an en route support system which can rapidly expand during contingencies or periods of intensive air mobility operations to meet the increased demand of airlift and aerial refueling aircraft. When the increased level of air mobility operations subsides, the en route support system shrinks back to levels that are based upon peacetime requirements.

## Materials Handling Equipment

*A second key resource critical to throughput of cargo and personnel is the materials handling equipment.* MHE includes all ground equipment necessary for cargo loading and unloading, a capability that must be analyzed during both the deliberate and crisis action planning processes. *Direct coordination between planners and the tasked GAMSS force commander ensures tasked GAMSS forces arrive with the proper MHE to support the mission.* Likewise, the GAMSS force commander should pare and tailor the deployable equipment to meet each tasking. Not only must MHE be a planning factor, it needs to be properly identified for insertion in the TPFDD for early deployment in the air mobility flow. When war reserve materiel (WRM) is being planned for use, MHE must be fully operational, tasked for sufficient quantity, and of the correct type. An assessment of host-nation MHE capability is a key factor that must be considered. MHE available at a forward location should lessen airlift requirements.



**Prior assessment of an airfield's MHE capability is critical to any airlift operation.**

### **Airfield Capability**

*Airfield capability is a third primary factor.* The airlift planners should consider runway length and width, as well as taxiway and ramp dimensions. The planners should also consider operating surface conditions, load bearing capacity, and other factors that impact maximum on ground (MOG). MOG limits the number of aircraft that can cycle through an airfield in a given time period. Arrival slot time coordination between the AME and ALCT ensures the MOG is not exceeded. Preplanned aircraft arrival slot times avoid ramp congestion and foster the synergistic effect of the entire rapid global mobility system. The TPFDD may not efficiently flow if mobility aircraft are unable to land at the destination airfield.

*An airfield's infrastructure also impacts the support GAMSS forces can provide the air mobility flow.* The hours of operation, weather forecasting, flight planning support, airfield lighting systems, airfield navigational aids,

and communications are all requirements that need consideration during planning phases. Augmentation by GAMSS forces can alleviate these limitations if the host nation allows it.

### **Petroleum, Oils, and Lubricants**

*Finally, petroleum, oils and lubricants (POL) planning/requirements should include the amount needed for aircraft and ground equipment.*

Forethought from deliberate/crisis action planners on POL storage capacity, fueling system condition and type, dispense rates, as well as POL acquisition, either from the host nation or by resupply is crucial. Aircraft fuel is the most important consideration and should be the primary focus. At austere locations, aerial refueling can lessen the effects of shortages in ground refueling capabilities.

## **SECONDARY PLANNING FACTORS**

A second tier of resources contributes to throughput but is not considered critical to operations. These include aerospace ground equipment (AGE), aircraft spares, and specialized support equipment. Although they are not considered critical to mobility operations, significant shortages can significantly impact airflow.

### **Aerospace Ground Equipment**

*AGE, both powered and unpowered, is necessary to support maintenance and ground operation of aircraft systems.* An analysis must be completed prior to deployments to ensure sufficient quantity and operational status of the airfield's AGE. Augmentation of the existing capability may be necessary if the required equipment is unavailable or nonoperational. However, due to the high multi-Service competition for airlift resources during the early phases of deployment and the Air Force objective of minimizing the deployed footprint, logistic planners should, whenever possible, minimize or delay forward deployment of equipment. Also, when possible, planners should consider "reaching back" to main support bases for specific pieces of equipment if and when required, rather than forward deploying any equipment that "might" be required.

### **Aircraft Spares**

*Aircraft spares are parts needed for repairs. Typically, GAMSS forces deploy with readiness spares packages sufficient to support the expected airflow*

*for a given amount of time.* However, for operations that start with a high ops tempo soon after arrival of combat forces and then continue for an extended duration, time-definite delivery of replacement spares must be established early in the deployment sequence. Nonavailability of spare parts can cause an aircraft to become nonmission capable (NMC). NMC aircraft occupy valuable ramp space and negatively impact throughput.



**Keeping aircraft mission capable requires a coordinated effort by all GAMSS forces.**

### **Specialized Support Equipment**

Specialized support equipment or other resources unique to a particular circumstance or location can also impact throughput. For example, a lack of snow removal equipment at a cold-weather airfield during operations can cause a bottleneck. Items such as these should be accounted for on a case-by-case basis.

## OTHER PLANNING CONSIDERATIONS

There are additional planning considerations (*footprint, base operating support, host nation support, and diplomatic clearances*) which may impact the throughput calculation and may affect the campaign objectives.

### Footprint

*The number of people, the amount of equipment deployed for the GAMSS mission and the physical space they occupy on the ground, comprises the footprint of the force.* The scale of any operation will determine the footprint, but the proper balance of people and equipment and using the “reachback” concept can minimize the footprint of deployed forces. *As GAMSS footprint size increases, more airlift is required to support these forces and less airlift is available to meet other JFC requirements.*

Diplomatic restrictions may affect the size of a footprint. A host nation may limit the number of foreign personnel on its soil, making the need for “reachback” support even more crucial. Paring forces based on the in-place infrastructure can also reduce the footprint. The complementary outcome is the reduction in airlift required to deploy the GAMSS force. This reduction will allow airlift assets to be reassigned for other priority taskings.

### Base Operating Support

After the GAMSS force is deployed, *base operating support (BOS) should be provided by the supported theater's Air Force component command.* Although GAMSS forces do not plan to deploy with BOS assets, they can fill these requirements when tasked. If tasked to augment theater-assigned BOS personnel, the GAMSS force commander can plan for and deploy with additional support personnel. However, GAMSS UTCs do not include the capability to support such additional force taskings. These additional tasks negatively impact mission accomplishment.

*Along with the ability to support BOS requirements, GAMSS forces also deploy with command and control communications capability.* The integration of this capability into the theater's infrastructure is necessary for the efficiency of the GAMSS system and for effective in-transit visibility.

## Host-nation Support



**GAMSS forces are vital in ensuring the smooth flow of passengers.**

*Obtaining local labor support from the host nation affords US forces economy of force. The force multiplying effect is the reduced airlift required for force support.* Footprint size is also dramatically reduced when HN services and support are used to the maximum extent possible.

## Diplomatic Clearances

Diplomatic clearances are additional planning considerations. These type of clearances include aircraft overflight and landing rights, communications connection approval, visas and other entry requirements. *Without these clearances, the ability of GAMSS forces to enable rapid global mobility can be halted.* Diplomatic clearances impact footprint, throughput, force protection, and ultimately, mission accomplishment.

Deployed operations always rely, to a certain extent, on HNS. HNS can include diplomatic clearances, airspace access, billeting, messing, and communications support. Assessment of HNS is a critical consideration in the planning phases. Shortfalls in host-nation support will have to be overcome. If this assessment is not accurate, forces will not have adequate support to conduct operations, or valuable lift space will be wasted on cargo already available at the deployed location.

*The use of HNS agreements can be an effective force enabler and force multiplier.*

## **CONCLUSION**

For GAMSS forces to effectively and efficiently support the nation's strategy of global engagement, understanding the planning considerations of mobility support and integrating these factors is vital. This basic understanding will ensure a responsive air mobility system that meets the needs of the nation.

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# Glossary

## Abbreviations and Acronyms

<b>AE</b>	aeromedical evacuation
<b>AECC</b>	aeromedical evacuation control center
<b>AELT</b>	aeromedical evacuation liaison team
<b>AEOT</b>	aeromedical evacuation operations team
<b>AFCC</b>	Air Force Component Commander
<b>AFDD</b>	Air Force Doctrine Document
<b>AFPD</b>	Air Force Policy Directive
<b>AFRC</b>	Air Force Reserve Command
<b>AFSC</b>	Air Force specialty code
<b>AGE</b>	aerospace ground equipment
<b>ALCS</b>	airlift control squadron
<b>ALCT</b>	airlift control team
<b>AMC</b>	Air Mobility Command
<b>AMCC</b>	air mobility control center
<b>AMCT</b>	air mobility control team
<b>AMD</b>	air mobility division
<b>AME</b>	air mobility element
<b>AMOCC</b>	air mobility operations control center
<b>AMOG</b>	air mobility operations group
<b>AMOS</b>	air mobility operations squadron
<b>AMS</b>	air mobility squadron
<b>AMSG</b>	air mobility support group
<b>AMSS</b>	air mobility support squadron
<b>ANG</b>	Air National Guard
<b>AOC</b>	aerospace operations center
<b>AOR</b>	area of responsibility
<b>ARCT</b>	air refueling control team
<b>ATO</b>	air tasking order
<b>ATOC</b>	Air Terminal Operations Center
<b>BOS</b>	base operating support
<b>C2</b>	command and control
<b>CINC</b>	commander in chief
<b>CJCS</b>	Chairman, Joint Chiefs of Staff
<b>COCOM</b>	combatant command (command authority)
<b>CONUS</b>	continental United States

<b>DIRMOBFOR</b>	Director of Mobility Forces
<b>DOD</b>	Department of Defense
<b>EROL</b>	engine running offload
<b>GAMSS</b>	global air mobility support system
<b>GRL</b>	global reach laydown
<b>HN</b>	host nation
<b>HNS</b>	host-nation support
<b>ITO</b>	integrated tasking order
<b>ITV</b>	in-transit visibility
<b>JAOC</b>	joint air operations center
<b>JFACC</b>	joint force air component commander
<b>JFC</b>	joint force commander
<b>JMC</b>	joint movement center
<b>JOA</b>	joint operations area
<b>JOPEX</b>	Joint Operation Planning and Execution System
<b>JTF</b>	joint task force
<b>MAF</b>	Mobility Air Force
<b>MARC</b>	mobile air reporting and communications
<b>MHE</b>	materials handling equipment
<b>MOG</b>	maximum on ground
<b>MSE</b>	mission support element
<b>MST</b>	mission support team
<b>NAF</b>	numbered Air Force
<b>NCA</b>	National Command Authorities
<b>NMC</b>	nonmission capable
<b>NMS</b>	National Military Strategy
<b>NSS</b>	National Security Strategy
<b>OCONUS</b>	outside the continental United States
<b>OPCON</b>	operational control
<b>OPLAN</b>	operation plan
<b>POL</b>	petroleum, oils, and lubricants
<b>TACC</b>	tanker/airlift control center
<b>TACON</b>	tactical control
<b>TALCE</b>	tanker airlift control element
<b>TPFDD</b>	time-phased force and deployment data

<b>USTRANSCOM</b>	United States Transportation Command
<b>UN</b>	United Nations
<b>UTC</b>	unit type code
<b>WMD</b>	weapons of mass destruction
<b>WOC</b>	wing operations center
<b>WRM</b>	war reserve materiel
<b>TACC</b>	tanker/airlift control center
<b>TACON</b>	tactical control
<b>TALCE</b>	tanker airlift control element
<b>TPFDD</b>	time-phased force and deployment data

## Definitions

**aerospace power.** The use of lethal and nonlethal means by aerospace forces to achieve strategic, operational, and tactical objectives. (AFDD 2)

**air bridge.** An airborne line of communication linking the CONUS and a theater, or multiple theaters. (AFDD 2-6)

**airlift.** Operations to transport and deliver forces and materiel through the air in support of strategic, operational, or tactical objectives. (AFDD 1)

**air mobility element.** The air mobility element is an extension of the Air Mobility Command, Tanker Airlift Control Center deployed to a theater when requested by the geographic combatant commander. It coordinates strategic airlift operations with the theater airlift management system and collocates with the air operations center whenever possible. Also called **AME**. (JP 1-02)

**air refueling.** The capability to refuel aircraft in flight, which extends presence, increases range, and allows air forces to bypass areas of potential trouble. (AFDD 1)

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

**assign.** 1. To place units or personnel in an organization where such placement is relatively permanent, and/or where such organization con-

trols and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel. 2. To detail individuals to specific duties or functions where such duties or functions are primary and/or relatively permanent. See also **attach**. (JP 1-02)

**attach**. 1. The placement of units or personnel in an organization where such placement is relatively temporary. 2. The detailing of individuals to specific functions where such functions are secondary or relatively temporary, e.g., attached for quarters and rations; attached for flying duty. See also **assign**. (JP 1-02)

**combatant command**. (Command Authority) The nontransferable command authority established by title 10, ("Armed Forces"), United States Code, section 164, exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or the Secretary of Defense. Combatant command (command authority) cannot be delegated and is the authority of a combatant commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command. Combatant command (command authority) should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Combatant command (command authority) provides full authority to organize and employ commands and forces as the combatant commander considers necessary to accomplish assigned missions. Operational control is inherent in combatant command (command authority). Also called **COCOM**. (JP 1-02)

**command and control**. The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. Also called **C2**. (JP 1-02)

**core competency**. The basic areas of expertise or the specialties that the Air Force brings to any activity across the spectrum of military opera-

tions whether as a single Service or in conjunction with the core competencies of other services in joint operations. Core competencies represent both air and space power application theory and physical capability represented in a well-trained and equipped air force. (AFDD 1)

**director of mobility forces.** Normally a senior officer who is familiar with the area of responsibility or joint operations area and possesses an extensive background in airlift operations. When established, the director of mobility forces serves as the designated agent for all airlift issues in the area of responsibility or joint operations area, and for other duties as directed. The director of mobility forces exercises coordinating authority between airlift coordination cell, the air mobility element, the tanker/airlift control center, the joint movement center, and the air operations center in order to expedite the resolution of airlift problems. The director of mobility forces may be sourced from the theater's organizations, United States Transportation Command, or United States Atlantic Command. Also called **DIRMOBFOR**. (JP 1-02)

**doctrine.** Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application. (JP 1-02)

**global reach laydown.** When operations must transit or terminate at locations where little or no support capability exists, a deployable en route support structure is used to fill the gap.

**intertheater.** Between theaters or between the continental United States and theaters. (JP 1-02)

**intertheater airlift.** Airlift that operates between the continental United States and a theater or between theaters. *[Formerly called strategic airlift]* (AFDD 1)

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

**intratheater.** Within a theater. (JP 1-02)

**intratheater airlift.** The common-user air transportation and delivery of personnel and equipment within a CINC's AOR. [*Formerly called theater airlift*] (AFDD 1)

**joint doctrine.** Fundamental principles that guide the employment of forces of two or more Services in coordinated action toward a common objective. It will be promulgated by the Chairman of the Joint Chiefs of Staff, in coordination with the combatant commands, Services, and Joint Staff. See also **doctrine.** (JP 1-02)

**joint force.** A general term applied to a force composed of significant elements, assigned or attached, of two or more Military Departments, operating under a single joint force commander. See also **joint force commander.** (JP 1-02)

**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. Also called **JFACC.** See also **joint force commander.** (JP 1-02)

**joint force commander.** A general term applied to a combatant commander, subunified commander, or joint task force commander authorized to exercise combatant command (command authority) or operational control over a joint force. Also called **JFC.** See also **joint force.** (JP 1-02)

**joint task force.** A joint force that is constituted and so designated by the Secretary of Defense, a combatant commander, a subunified commander, or an existing joint task force commander. Also called **JTF.** (JP 1-02)

**logistics.** The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations which deal with: (a) design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; (b) movement, evacuation, and hospitalization of personnel; (c) acquisition or construction, maintenance, operation, and disposition of facilities; and (d) acquisition or furnishing of services. (JP 1-02)

**military strategy.** The art and science of employing the armed forces of a nation to secure the objectives of national policy by the application of force or the threat of force. (JP 1-02)

**National Command Authorities.** The President and the Secretary of Defense or their duly deputized alternates or successors. Also called **NCA**. (JP 1-02)

**national strategy.** The art and science of developing and using the political, economic, and psychological powers of a nation, together with its armed forces, during peace and war, to secure national objectives. See also called **strategy**. (JP 1-02)

**operational control.** Transferable command authority that 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). Operational control may be delegated 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 missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces, as the commander in operational control considers necessary to accomplish assigned missions. Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. Also called **OPCON**. (JP 1-02)

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

**strategy.** The art and science of developing and using political, economic, psychological, and military forces as necessary during peace and war, to afford the maximum support to policies, in order to increase the probabilities and favorable consequences of victory and to lessen the chances of defeat. (JP 1-02)

**supported commander.** The commander having primary responsibility for all aspects of a task assigned by the Joint Strategic Capabilities Plan or other joint operation planning authority. In the context of joint operation planning, this term refers to the commander who prepares operation plans or operation orders in response to requirements of the Chairman of the Joint Chiefs of Staff. (JP 1-02)

**supporting commander.** A commander who provides augmentation forces or other support to a supported commander or who develops a supporting plan. Includes the designated combatant commands and Defense agencies as appropriate. See also **supported commander**. (JP 1-02)

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

**tactical control.** Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed and, usually, local direction and control of movements or maneuvers necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised at any level at or below the level of combatant command. Also called **TACON**. (JP 1-02)

**tactics.** 1. The employment of units in combat. 2. The ordered arrangement and maneuver of units in relation to each other and/or to the enemy in order to use their full potentialities. (JP 1-02)

**Tanker/Airlift Control Center.** The Air Mobility Command direct reporting unit responsible for tasking and controlling operational missions for all activities involving forces supporting US Transportation Command's

global air mobility mission. The TACC is comprised of the following functions: current operations, command and control, logistics operations, aerial port operations, aeromedical evacuation, flight planning, diplomatic clearances, weather, and intelligence. Also called **TACC**. See also **Tanker Airlift Control Element**. (JP 1-02)

**Tanker Airlift Control Element.** A mobile command and control organization deployed to support strategic and theater air mobility operations at fixed, en route, and deployed locations where air mobility operational support is nonexistent or insufficient. The Tanker Airlift Control Element provides on-site management of air mobility airfield operations to include command and control, communications, aerial port services, maintenance, security, transportation, weather, intelligence, and other support functions, as necessary. The Tanker Airlift Control Element is composed of mission support elements from various units and deploys in support of peacetime, contingency, and emergency relief operations on both planned and “no-notice” basis. Also called **TALCE**. (JP 1-02)

**theater.** The geographical area outside the continental United States for which a commander of a combatant command has been assigned responsibility. (JP 1-02)

**war.** Open and often prolonged conflict between nations (or organized groups within nations) to achieve national objectives. (AFDD 1)

