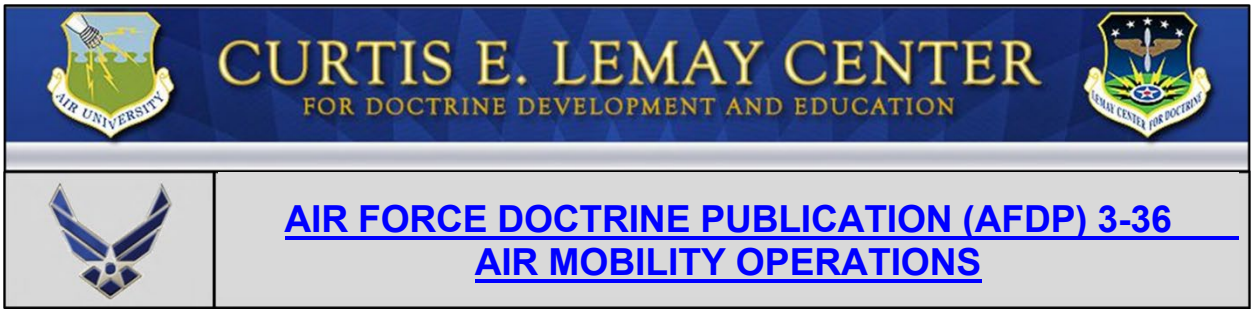
AIR FORCE DOCTRINE PUBLICATION 3-36

AIR MOBILITY OPERATIONS

U.S. AIR FORCE

28 June 2019



CATALOG OF DOCTRINE TOPICS

Last Updated: 28 June 2019

CURTIS E. LEMAY CENTER
FOR DOCTRINE DEVELOPMENT AND EDUCATION

AIR FORCE DOCTRINE PUBLICATION (AFDP) 3-36 AIR MOBILITY OPERATIONS

INTRODUCTION TO AIR MOBILITY OPERATIONS

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Air mobility operations doctrine is constantly evolving. It should guide us to effectively organize and employ through the complexities of counterinsurgency and steady-state operations, and help us re-learn the lessons of large-scale peer- and near-peer conflict in contested environments. As we continuously improve our airpower capabilities and capacities in air, space, and cyberspace, our ability to revolutionize air mobility operations and incorporate new concepts and technologies will identify the new best practices that shape future air mobility doctrine. The range of military operations, from peacetime through large-scale combat operations, is always a consideration when determining the best practices for our Air Force; consideration of peer/near peer competition is a continuing necessity for doctrine as the Air Force supports the joint fight. Every Airman is an innovator and is integral to this continuous development process – we must all connect, share, and learn together to succeed.

Air mobility operations doctrine represents an accumulation of best practices and lessons learned, from World War II to the most recent operations. Air mobility operations support all of the geographic combatant commanders and functional combatant commanders. The foundational components of air mobility operations—airlift, air refueling, air mobility support, and aeromedical evacuation—work with other combat forces to achieve national and joint force commander objectives. Future air mobility operations in a contested environment against a peer adversary requires the air component to be more adaptive, resilient, and agile in its deployment and employment plans and leadership philosophies.

Joint doctrine defines air mobility as “the rapid movement of resources to and from, or within, a theater by air” (Joint Publication [JP] 3-36, *Joint Air Mobility and Sealift Operations*[1]). The Department of Defense (DOD) transportation mission involves many transportation communities, assets, services, and systems owned by, contracted for, or controlled by the DOD. US Transportation Command serves as the manager of the transportation community and is supported by the Air Force’s Air Mobility Command, the Army’s Military Surface Deployment and Distribution Command, and the Navy’s Military Sealift Command.

[1] Common Access Card enabled site

Mobility air forces (MAF) provide rapid global mobility and conduct air mobility operations. These forces deliver the global reach and global power necessary to achieve US national objectives. The US military is called upon by national leaders to perform their functions around the globe either directly accomplishing national objectives or supporting other agencies. All Services and US government agencies rely upon Air Force MAF to rapidly move personnel and resources, and be able to provide resilient and redundant airlift capabilities in an environment of peer competition.

To discuss air mobility operations properly, the Air Force builds on the joint definition to include discussion on the support required to conduct air mobility operations.

GLOBAL MOBILITY ENTERPRISE

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The global mobility enterprise (GME) is an integrated series of nodes that support air mobility operations. The four components of the enterprise are Airmen, equipment, infrastructure, and command and control (C2). The GME optimizes the capacity and velocity of the air mobility system to support the combatant commanders (CCDRs). In a dynamic, complex, or contested environment, the enterprise requires global situational awareness through collaboration, coordinated operations, and adherence to processes and support disciplines to assist CCDR objective accomplishment. Overall, the GME represents the Department of Defense's (DOD's) Defense Transportation System, providing airlift and air refueling for DOD and non-DOD common-users. Collectively, US Transportation Command (USTRANSCOM) and geographical combatant commanders (GCCs), with assigned and attached air mobility forces, execute movement of common-user requirements within the Defense Transportation System.

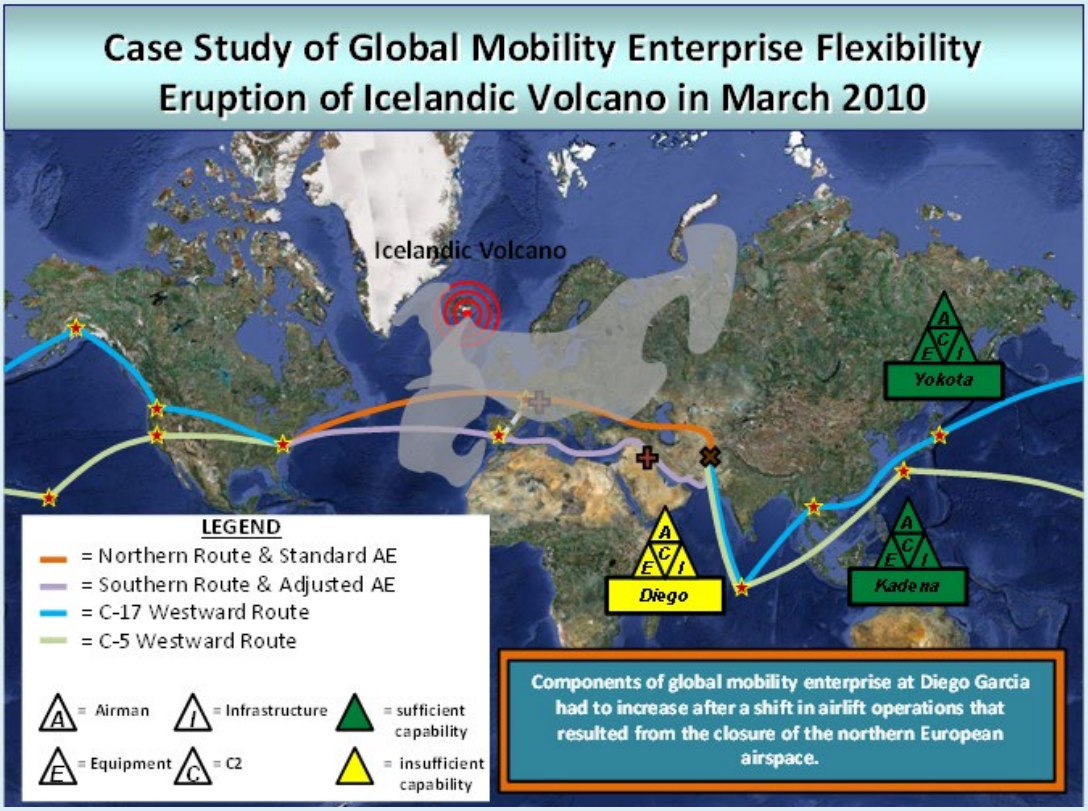
When contingencies arise, planners identify key nodes and resources to support common-user requirements managed through the Defense Transportation System. These nodes are activated as aerial ports of embarkation, aerial ports of debarkation or hubs, intermediate staging bases, and forward operating sites. Through mission assessment, planners adjust the nodes and mobility resources to drive greater velocity and thus effectiveness and efficiency throughout the GME. Most importantly, restricting any component or failing to protect all lines of communication from physical or cyberspace attacks can jeopardize the GME's ability to support air mobility operations.

Airmen are the first critical component of the GME. Due to their unique skill sets, Airmen should be positioned quickly to key nodes to ensure the success of the transportation flow throughout the system.

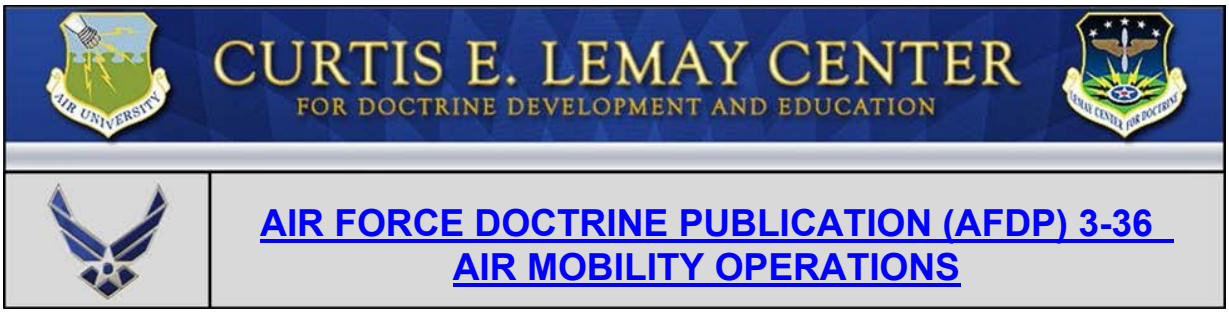
Planners ensure each node has the right resources to support the Defense Transportation System common-user customer. Tanker aircraft are pivotal to the United States' ability to project power around the globe and influence theater operations while airlift aircraft deliver the intended effects to warfighters worldwide. To ensure the precise operations required for mission effectiveness, all mobility air force aircrafts should have the most capable equipment. Although airborne assets represent a visible aspect of the enterprise, equal importance lies in possessing the right equipment for ground support operations such as material handling equipment.

Global Mobility Enterprise Adjustment during Icelandic Volcano Eruption

In 2010, a volcanic eruption in Iceland severely disrupted the airways connecting North America and Europe. USTRANSCOM tasked aircraft were delivering mine-resistant and ambush-protected vehicles, transporting warfighters, and providing humanitarian aid in the wake of disaster. Despite the eruption of Iceland's Eyjafjallajokull volcano on April 16th, nearly 400 airlift, tanker, and aeromedical evacuation missions controlled by the 618th Air Operations Center (Tanker Airlift Control Center) were rerouted around the ash cloud that closed much of Europe's airspace. In the first days of the eruption, the global mobility enterprise diverted its northern European destinations further south. Airmen and equipment were moved from the fixed en route structures at Ramstein and Spangdahlem Air Bases to staging locations in Spain. Planners mitigated the extra distance with air refueling assets, preventing the disruption of troop, patient, and cargo movements for surge operations in Afghanistan and Iraq. When the volcano sent more ash towards the southern Europe routes, the mobility enterprise flexed again and diverted the cargo flow westward through mobility units in the Pacific. In the end, the command rerouted over 600 missions and moved over 17,000 short tons and over 47,000 people.



Without sufficient infrastructure to support the GME, there would be a considerable decline in operations. Once departing the continental US (CONUS), mobility aircraft typically pass through a fixed en route node. Presently, two air mobility operations wings have multiple geographically separated subordinate units that establish the fixed en route structure. These units are strategically placed across the globe and provide mission control authority, aerial port, and aircraft maintenance services. Likewise, GCCs with air mobility forces executing Defense Transportation System missions use these same CONUS or en route nodes to support Defense Transportation System movements. When common-user requirements drive the use of a location that is not established or increase a location's capability or capacity, mobility planners use global and theater contingency response units to open airfields that provide the same core competencies as fixed en route locations, albeit for a limited time, until the operation has concluded or longer-term forces are properly tasked and deployed. For more detailed information on basing considerations in a contingency, including adaptive basing considerations on how to employ the force's capability to project power into and from bases in peer- and near-peer contested and highly contested environments, see AFDP 4-0, *Combat Support*, and Joint Publication 4-04, *Contingency Basing*.



AIR MOBILITY CORE FUNCTIONS

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Air mobility allows forces to reach destinations quickly, thereby opening opportunities for the joint force to seize the initiative via speed and surprise, and by providing follow-on sustainment of critical materiel. The four core functions of air mobility are:

- **Airlift.** Joint doctrine defines airlift as "the movement of personnel and materiel via air mobility forces to support strategic, operational, and tactical objectives" (Joint Publication [JP] 3-36, *Joint Air Mobility and Sealift Operations*[2]). Airlift provides rapid, flexible, and secure transportation. Because airlift is a high demand asset, it should be used carefully when satisfying warfighter requirements.

- **Air Refueling (AR).** AR is defined in joint doctrine as "the in-flight transfer of fuel from a tanker aircraft to a receiver aircraft in support of strategic, operational, and tactical objectives" (JP 3-36[3]). AR extends presence, increases range, and serves as a force multiplier. AR significantly expands the options available to commanders by increasing the range, payload, persistence, and flexibility of receiver aircraft.

- **Air Mobility Support.** Joint doctrine describes air mobility support as "the command and control , aerial port, and maintenance ground support provided to air mobility forces operating around the world" (JP 3-36[4]). Air mobility support is part of the Global Air Mobility Support System (GAMSS). The GAMSS consists of a limited number of permanent en route support locations plus deployable forces that deploy according to a global- or theater-reach laydown strategy.

- **Aeromedical Evacuation (AE).** The joint definition of AE is "the movement of patients under medical supervision to and between medical treatment facilities by air transportation" (JP 4-02, *Joint Health Services*). AE provides time-sensitive in-flight care of patients or casualties to and between levels of care using predominantly mobility air forces aircraft or contracted aircraft (civilian air ambulance) with medical aircrew trained specifically for this mission. AE forces can operate as far forward as aircraft are able to conduct air operations, across the full range of military operations, and in all operating environments. Specialty medical

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teams may be assigned to work with the AE aircrew to support patients requiring more intensive en route care. This clarifies that, to provide patient care in the aeromedical environment, Air Force AE crewmembers and specialty medical teams receive advanced training and education on the stresses of flight, altitude physiology, and medical equipment designed for the en route care system.

INTERTHEATER AND INTRATHEATER AIR MOBILITY OPERATIONS

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Air mobility operations are described as either intertheater (operations between two or more geographic combatant commands) or intratheater (operations exclusively within one geographic combatant command). Differences exist between intertheater and intratheater operations. Effective integration and synchronization of intertheater and intratheater air mobility operations is crucial to air mobility support to the warfighter. A combination of intertheater and intratheater air mobility operations requires close coordination and cooperation between the 618th Air Operations Center (AOC) (Tanker Airlift Control Center) and the respective geographic air operations center.

SOURCES OF MOBILITY AIR FORCES

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Air Mobility forces are drawn from regular Air Force forces and the air Reserve Component (ARC). Additionally, a significant portion of America's air mobility capability relies on contracted airlift options including the Civil Reserve Air Fleet (CRAF).

Regular Forces

Regular Air Force forces comprise approximately half of the air mobility force and typically provide the initial response to support any contingency or humanitarian assistance / disaster relief operation.

Air Reserve Component

ARC forces are an integral part of the total air mobility force and conduct operations supporting daily taskings. Peacetime access to ARC forces is provided through the mechanism of volunteerism. Peacetime use of ARC forces, however, requires funding either through long-term manpower authorization (also known as man-days) and/or the Transportation Working Capital Fund in order to execute missions. ARC members volunteer to serve during contingencies and non-contingency operations to supplement regular component forces for a specified period of time. During crises, volunteers and mobilized ARC units augment the regular component, providing a major portion of the Air Force's airlift, air refueling (AR), air mobility support, and aeromedical evacuation (AE) forces. When air mobility requirements exceed regular component capability and ARC volunteerism, the Secretary of Defense (SecDef) may direct the ARC to mobilization. Refer to AFDP 3-36, "Command Relationships" doctrine topic module for further guidance.

Contracted Airlift Operations

Supplemental air mobility capability may be obtained through the CRAF or through additional, selectively contracted options.

Civil Reserve Air Fleet

A significant part of the nation's mobility resources resides in the CRAF. Selected

aircraft from US airlines, contractually committed to CRAF, may support Department of Defense (DOD) airlift requirements in emergencies when the need for airlift exceeds military capabilities.

The CRAF has two main segments: international and national. The international segment is further divided into the long-range and short-range sections and the national segment into domestic and Alaskan sections. Assignment of aircraft to a segment depends on the nature of the requirement and the performance characteristics needed. The long-range international section consists of passenger and cargo aircraft capable of transoceanic operations. The role of these aircraft is to augment intertheater aircraft during periods of increased airlift needs, from minor contingencies up through full national defense emergencies. Medium-sized passenger and cargo aircraft make up the short-range international section supporting near offshore airlift requirements. The domestic section is designed to satisfy increased DOD airlift requirements in the US during an emergency.

Three stages of incremental activation allow for tailoring an airlift force suitable for the contingency at hand. Stage I is for regional crises, Stage II would be used for major theater war, and Stage III for periods of national mobilization. Commander, US Transportation Command (CDRUSTRANSCOM), with approval of the SecDef, is the activation authority for all three stages of CRAF. During a crisis, if Air Mobility Command (AMC) (under delegated operational control) has a need for additional aircraft, Commander AMC would request CDRUSTRANSCOM take steps to activate the appropriate CRAF stage. Each stage of the CRAF activation is only used to the extent necessary to provide the amount of civil augmentation airlift needed by DOD.

Additional Contracted Capabilities

AMC has standardized freight tenders for most modes of transportation. The tender structure allows for companies participating in CRAF the freedom to carry cargo internally or via subcontractors, a practice known as CRAF prime. Tenders offer many advantages. These include less than full-planeload movement flexibility, lower overall airlift costs, enhanced economic development (in line with national airlift policy), and swift redeployment. Companies cover beddown and aircrew issues. As opposed to military aircraft, carriers enjoy fast overflight clearance processing since they are not required to undergo extensive diplomatic clearance procedures. The use of civilian aircraft for military means usually lowers the overall theater profile of military aircraft. This method however, may be difficult or impossible in a peer, contested operational environment, and requires considerable planning by the COMAFFOR staff.

Theater Express (THX)-Contract

Under this concept, regional commanders enlist commercial air cargo companies to move theater air cargo in single pallet increments. THX uses international air freight tenders to transport DOD freight. The THX program is advantageous since it uses civilian aircraft to facilitate expeditious force and logistics movement. Advantages of THX include relieved burden on organic airlift and faster cargo delivery. This type of airlift is usually hired in single pallet loads and small passenger movements versus hiring a whole aircraft. This gives commercial carriers the capability to blend their commercial and military freight, resulting in economies of scale and lower costs.

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THE AIRMAN'S PERSPECTIVE ON AIR MOBILITY OPERATIONS

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The following statements present themes central to air mobility capability from the Airman's perspective:

- Air mobility enables joint force commanders (JFCs) to simultaneously exploit mass, maneuver, and surprise (flexibility), thereby influencing effects at the strategic, operational, or tactical levels of war (versatility).

- The preferred command relationship for intertheater mobility air forces is for the functional combatant command to support the geographic combatant commander. Under certain circumstances, the preferred command relationship can change. See AFDP 3-30, *Command and Control*, for details. Command and control of air mobility aircraft performing multiple role missions on the same sortie should be vested in one authority, normally the commander, Air Force forces to whom these forces are attached or assigned.

- Effective integration of intertheater and intratheater air mobility operations is critical to efficient and timely air mobility support to the warfighter.

- Prioritization of airlift and air refueling requirements ensures effective use of limited air mobility forces. US Transportation Command priorities are based on the Department of Defense (DOD) Transportation Movement Priority System to meet requirements between the geographic combatant commands, while theater requirements are prioritized based on JFC objectives and intent.

- Because air mobility supports multiple competing common-users (whether DOD or theater level), the necessity to prioritize and apportion limited resources favors centralized control of intertheater and intratheater air mobility operations by the appropriate functional or theater command and control agency.

- Successful employment of the airlift and air refueling (AR) force is contingent upon establishing and maintaining an air mobility support force enabled by the core capabilities provided by combat support. In a contested environment against a peer adversary, the planning challenges (e.g., austere and agile basing, alternate

logistics lines of communication, etc.) of ensuring continuity of operations requires careful consideration by the COMAFFOR.

- Airland delivery, as opposed to airdrop, is the preferred method of delivery when conditions permit, because it is the more efficient, safer, and less expensive way to deliver personnel and cargo.

- The prepositioning of Global Air Mobility Support System forces should be accomplished ahead of combat force deployment (whether Air Force or other Service).

- AR significantly expands the force options available to a commander by increasing the range, payload, persistence, and flexibility of other aircraft.

- The success of air mobility operations depends on the combined efforts of regular forces, air Reserve Component, Air Force civilians, and civilian air transportation partners.

COMMAND RELATIONSHIPS

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Air mobility serves all combatant commanders as well as other government agencies, so global optimization is best addressed by a single functional combatant command, US Transportation Command (USTRANSCOM). In some instances, the nature of the operation requires a transfer of mobility air forces from USTRANSCOM, the functional combatant command, to a geographic combatant command, to synergize regional unity of command and unity of effort.

The President's Unified Command Plan (UCP) specifies Combatant Commander's (CCDR's) roles and responsibilities. The Secretary of Defense (SecDef) supports these CCDR roles and responsibilities and optimizes support for the Department of Defense (DOD) and non-DOD common-users by assigning mobility air forces through the *Forces For Unified Commands Memorandum* and assignment tables in the SecDef's Global Force Management Implementation Guidance.

The UCP designates the Commander, USTRANSCOM (CDRUSTRANSCOM) as the DOD Single Manager for Transportation (other than Service-unique or theater assigned assets). Nevertheless, this does not mean USTRANSCOM is solely responsible for execution of all airlift and air refueling requirements. To this end, geographic CCDRs (GCCs) use assigned and attached air mobility forces to support their theater's requirements using the Defense Transportation System.

To meet validated CCDR requirements and taskings, the SecDef may allocate additional forces regardless of current assignment. The SecDef's force allocation decisions are routinely communicated in a Chairman of the Joint Chiefs of Staff (CJCS) deployment order called the Global Force Management Allocation Plan (GFMAP), which orders force providers to transfer forces from supporting CCDRs and Secretaries of Military Departments to the supported CCDR. The primary goal of the allocation process is to assist CCDRs achieve their combatant command plans and operations while balancing operational and force provider risks to potential future operations. Command relationships of allocated forces is also specified in the GFMAP.

When supported CCDRs determine that additional mobility air forces, over and above those previously assigned or attached, are required to support operations they may

submit a request for forces (RFF) to the SecDef through the CJCS. The SecDef balances the mobility air forces needs of the requesting CCDR against the force needs of other competing CCDRs. When approved, the SecDef determines the command relationship and specifies the authority through an execution order (EXORD). Refer to Joint Publication (JP) 1, *Doctrine for the Armed Forces of the United States*, CJCS Manual (CJCSM) 3130.06B, *Global Force Management Allocation Policies and Procedures*, and CJCSM 3122.01A, *Joint Operations Planning and Execution System (JOPES) Volume 1, Planning and Policy Procedures* for further guidance.

GCCs requesting allocation of additional mobility air forces from the SecDef should first address the following conditions:

- The GCC will use the forces at or near 100 percent of their capability with little or no residual capability for other global missions.

- The forces will be used regularly and frequently over a period of time, not just for a single mission employment.

- The GCC has the ability to effectively command and control (C2) the forces.

If the answer to all three conditions above is "yes," then the functional forces should be attached to the requesting combatant command. If any of the above conditions are answered "no," then the functional forces should remain under the operational control (OPCON) of the USTRANSCOM's commander, Air Force forces (COMAFFOR) and be tasked in support.

Air Reserve Component (ARC) Forces:

Control of ARC forces differs from that of regular forces depending on their activation status. Under volunteerism, control of the ARC units and individuals may be shared between the applicable major command (MAJCOM) or Service component and their home command (Air National Guard [ANG] Readiness Center or Air Force Reserve Command [AFRC]). During either selective or partial mobilization, control is exercised through the applicable Service component as described below. After full mobilization, ARC forces' C2 relationships are the same as regular component forces.

- **Air Force Reserve Command.** When AFRC air mobility resources are activated for USTRANSCOM missions they come under the combatant command of the CDRUSTRANSCOM. CCDRs can exercise or delegate OPCON. In this situation, CDRUSTRANSCOM delegates OPCON over AFRC forces to the assigned Air Force Service component commander, the Air Mobility Command Commander (AMC/CC). Administrative control (ADCON) for personnel and administrative support usually remains with AFRC. When AFRC forces are activated and allocated to a GCC, the GCC gains OPCON (which the GCC will normally then delegate to the theater COMAFFOR) and the theater COMAFFOR exercises specified elements of ADCON.

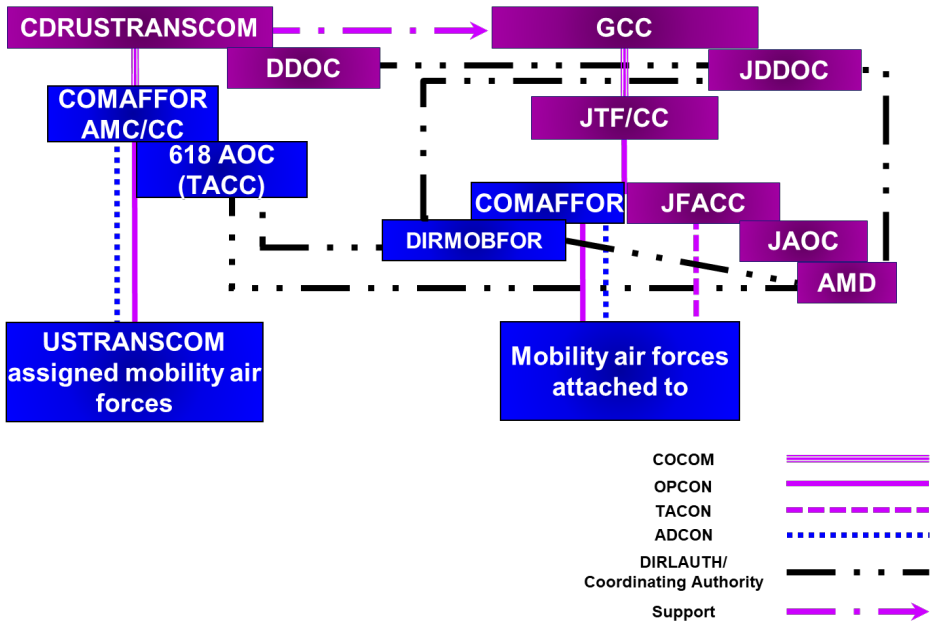
- **Air National Guard / Air National Guard of the United States.** Special considerations exist in determining the command relationships for the ANG and the ANG of the United States when federalized. ANG units operating outside of the US must be in Title 10, United States Code (USC), *Armed Forces*, status. The COMAFFOR to CDRUSTRANSCOM exercises OPCON of applicable continental US (CONUS)-based ANG forces when they are federalized under Title 10, USC. ANG forces based outside the CONUS are under OPCON of the GCC's theater COMAFFOR when federalized. CONUS-based ANG forces transferred to a GCC by the SecDef via the GFMAP or RFF process are also normally attached with specification of OPCON to the GCC. ADCON for discipline, personnel support, and administration for these federalized units is retained by the ANG Readiness Center, or if full mobilization has occurred, is given to the gaining MAJCOM. ANG forces may be involved in training for the federal mission without being activated to Title 10 status. This is defined under Title 32, USC, *National Guard*. Command of ANG forces operating in Title 32 status remains with the state authorities. Guard members fall under the command authority of the adjutant general (TAG) of their state and therefore their governor. When ANG members are involved in training for the federal mission (Title 32 status) the gaining MAJCOM commander may exercise training and readiness oversight, but not command. If Guard members operate in Title 32 status outside of their state, but within the US, command authority will remain with the TAG, but will be subject to any coordinating authority, or state-to-state agreements. If no pre-negotiated agreement exists, responsibilities such as support and force protection should be coordinated between applicable commanders.

See JP 1 for further information on command relationships.

Air Operations Center (AOC) Command and Control:

AOCs are responsible to the CCDR's Air Force component commander for the planning and execution of missions. On behalf of the COMAFFOR or joint force air component commander (JFACC), AOCs execute command and control of airlift (including aeromedical evacuation) and air refueling missions supporting common-user requirements, using their CCDR's assigned or attached mobility air forces. C2 is not possible without specification of OPCON or tactical control, which also provides the authority to approve waivers (e.g., aircrew, aircraft equipment, and acceptable levels of risk) for operational missions.

Airpower is best employed through centralized control and decentralized execution. That is, centralized C2 is by the AOCs (operational level); whereas, decentralized execution is through the air mobility wings (tactical level). AOCs communicate directly with air mobility wings, command posts, aircrews, en route bases or locations, and intermediate staging locations during all phases of missions. Inherent to all AOCs is the ability to plan, coordinate, task, execute, and assess air mobility missions under their C2. Due to mission sensitivity, distinguished visitor missions supported and executed by the 89th Airlift Wing are under the C2 of that wing.



AMC – Air Mobility Command
AMD – Air Mobility Division
AOC - Air Operations Center
CC – Commander
COCOM – combatant command
COMAFFOR - commander, Air Force Forces
DDOC – deployment and distribution operations center
DIRLAUTH - direct liaison authorized

DIRMOBFOR - director of mobility forces
GCC – geographic combatant commander
JAOC - Joint Air Operations Center
JDDOC - joint deployment and distribution operations center
JFACC - joint force air component commander
JTF - joint task force
OPCON - operational control
TACC – tanker airlift control center
TACON – tactical control

Mobility Air Forces Command and Control

US TRANSPORTATION COMMAND

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US Transportation Command (USTRANSCOM) provides the air, land, and sea transportation for the Department of Defense (DOD), as well as other government agencies. The Commander, USTRANSCOM serves as the single manager of the Defense Transportation System and is designated by the Secretary of Defense as the global synchronization and distribution process owner. The Defense Transportation System includes USTRANSCOM's three Service components: Air Mobility Command (AMC), Military Surface Deployment and Distribution Command, and Military Sealift Command. USTRANSCOM provides common-user airlift for the entire DOD. Common-users are military Services and other DOD or non-DOD agencies.

The USTRANSCOM Operations Directorate (J-3) receives, processes, and sources all transportation requests that are not the responsibility of the geographic combatant commander. The USTRANSCOM/J-3 determines the best modes and nodes to meet mission requirements. Requirements that must move by air, based on mission timing or security, are tasked to its air component command, AMC.

AIR MOBILITY COMMAND

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Air Mobility Command (AMC) is the Air Force major command primarily responsible for providing the four core functions of airlift, air refueling, air mobility support, and aeromedical evacuation. AMC, in its Service component role, organizes, trains, equips, and employs its assigned and attached forces to meet worldwide air mobility requirements. As the air component to US Transportation Command (USTRANSCOM), AMC prepares those forces to meet global air mobility taskings. The AMC commander (AMC/CC), serving as the commander, Air Force forces (COMAFFOR), normally retains operational control (OPCON) of assigned wings. AMC/CC exercises command and control through its functional air operations center (AOC), the 618th AOC (Tanker Airlift Control Center [TACC]).

AMC plans, coordinates, and manages the Civil Reserve Air Fleet (CRAF) program that provides a pool of civil airlift capability made available to the Department of Defense in times of crises. When the CRAF is activated, relevant carrier mission information and changes are directed by AMC via USTRANSCOM's airlift contracting function. AMC monitors the carriers' mission execution via the 618 AOC (TACC). The individual commercial carriers retain control of crews, aircraft, and support.

AMC is the designated lead command for Air Force air mobility issues and works closely with the theater air component commands from each geographic combatant command with assigned mobility air forces (MAF) to establish appropriate standards enabling a smooth transition to contingency operations. In this capacity, AMC develops weapon system standards and integrates command and control processes for the entire MAF enterprise. As lead command, AMC ensures the enterprise's processes, procedures, and weapon systems are standardized across the MAF.

18th Air Force (AF)

18 AF is AMC's numbered AF. AMC/CC normally delegates administrative control (ADCON) to 18 AF/CC for assigned wings with a flying mission.

Air Force Expeditionary Center

The Expeditionary Center focuses on all organize, train, and equip aspects for

contingency response, expeditionary combat support training, en route and installation support, and building partnerships missions. With this structure, AMC/CC delegates ADCON of assigned wings with airbase contingency response, or en route missions to the Expeditionary Center Commander.

GEOGRAPHIC ORGANIZATION AND CONTROL

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A geographic combatant commander (GCC) exercises operational control (OPCON) over assigned and attached forces and normally delegates OPCON of these forces to the theater commander, Air Force forces (COMAFFOR). For example, Commander, US Indo-Pacific Command (CDRUSINDOPACOM) delegates OPCON of assigned and attached mobility air forces to the commander, Pacific Air Forces (PACAF), who is the theater COMAFFOR to CDRUSINDOPACOM.

> *There will usually be a tension between regionally organized forces and functionally organized forces. The former seeks effectiveness at the point of their operation, while the latter seeks effectiveness and efficiency across several regions. At critical times, the requirement for effectiveness may trump efficiency, and additional functional forces may be transferred to the regional command and organized accordingly. These situations require careful and continuing dialogue between competing senior commanders and their common superior commander.*
>
> **—AFDP 3-30, *Command and Control***

The COMAFFOR executes command and control of assigned and attached Air Force mobility forces through the air operations center (AOC). One of the AOC divisions, the air mobility division (AMD), plans, coordinates, tasks, executes, and assesses intratheater air mobility missions and operations and, when required, plans, coordinates, tasks, executes, and assesses intertheater missions and operations to meet requirements established by the GCC. The AOC coordinates intertheater air mobility support operations with the 618 AOC (Tanker Airlift Control Center [TACC]). A theater COMAFFOR may designate a director of mobility forces (DIRMOBFOR) as a coordinating authority between the 618 AOC (TACC), the geographic AOC's AMD, and joint task force specified command and control nodes to meet all validated intertheater air mobility requirements. The COMAFFOR and DIRMOBFOR should ensure intratheater mobility air forces are organized to properly interact with other intratheater and intertheater forces.

AIR OPERATIONS CENTER

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A geographic air operations center (AOC) plans, tasks, and schedules attached and assigned aircraft within and outside an area of responsibility to meet geographic combatant commander (GCC) requirements. The AOC establishes a routine battle rhythm by publishing air operations directives (AODs) and air tasking orders (ATOs) on a predetermined cycle (daily, weekly, etc.) to meet its mission requirements during normal operations, and may publish an ATO more frequently during wartime and other contingency operations.

Establishing a routine battle rhythm for air operations is essential to create successful measures of effectiveness, especially in rapidly changing conditions. These situations often require a high level of cargo and personnel throughput and the necessity of quickly constructing a routine command and control (C2) battle rhythm for air assets becomes critical to rapid global mobility.

Air Mobility Division

The air mobility division (AMD) plans, coordinates, tasks, and executes theater air mobility missions. The AMD tasks intratheater mobility air forces (MAF) through wing and unit command posts and through applicable C2 nodes deployed forward. The AMD works for the AOC commander and coordinates closely with the director of mobility forces (DIRMOBFOR). The AMD coordinates with the theater deployment and distribution operations center (DDOC) and the 618 AOC (Tanker Airlift Control Center [TACC]). The DIRMOBFOR should be collocated with the AOC to facilitate coordination with the AMD and the other AOC divisions as applicable.[5]

The AMD is normally comprised of four core teams: the airlift control team (ALCT), the air refueling control team (ARCT), the air mobility control team (AMCT), and the aeromedical evacuation control team (AECT). A fifth team, the air mobility support team (AMST) may also be established if required. Major products include airlift apportionment plans and air refueling (AR) inputs to the AOC's AOD, master air attack plan, ATO,

[5]See AFTTP 3-3.AOC, *Air Operations Center,* and JP 3-30, *Command and Control of Joint Air Operations*, for details of AOC operations. For a listing of responsibilities, see AFI 13-1AOC, Vol 3, *Operational Procedures–Air Operations Center*.

airspace control order, and special instructions.

- **Airlift Control Team.** The ALCT provides intratheater airlift functional expertise to plan, coordinate, manage, and execute intratheater airlift operations in support of the commander, Air Force forces.

- **Air Refueling Control Team.** The ARCT coordinates AR to support ongoing air operations or to support a strategic airbridge.

- **Air Mobility Control Team.** The AMCT directs or redirects air mobility forces in response to requirements changes, higher priorities, or immediate execution requirements.

- **Aeromedical Evacuation Control Team.** The AECT provides mission planning, scheduling, and execution of theater aeromedical evacuation missions and position of aeromedical evacuation ground forces.

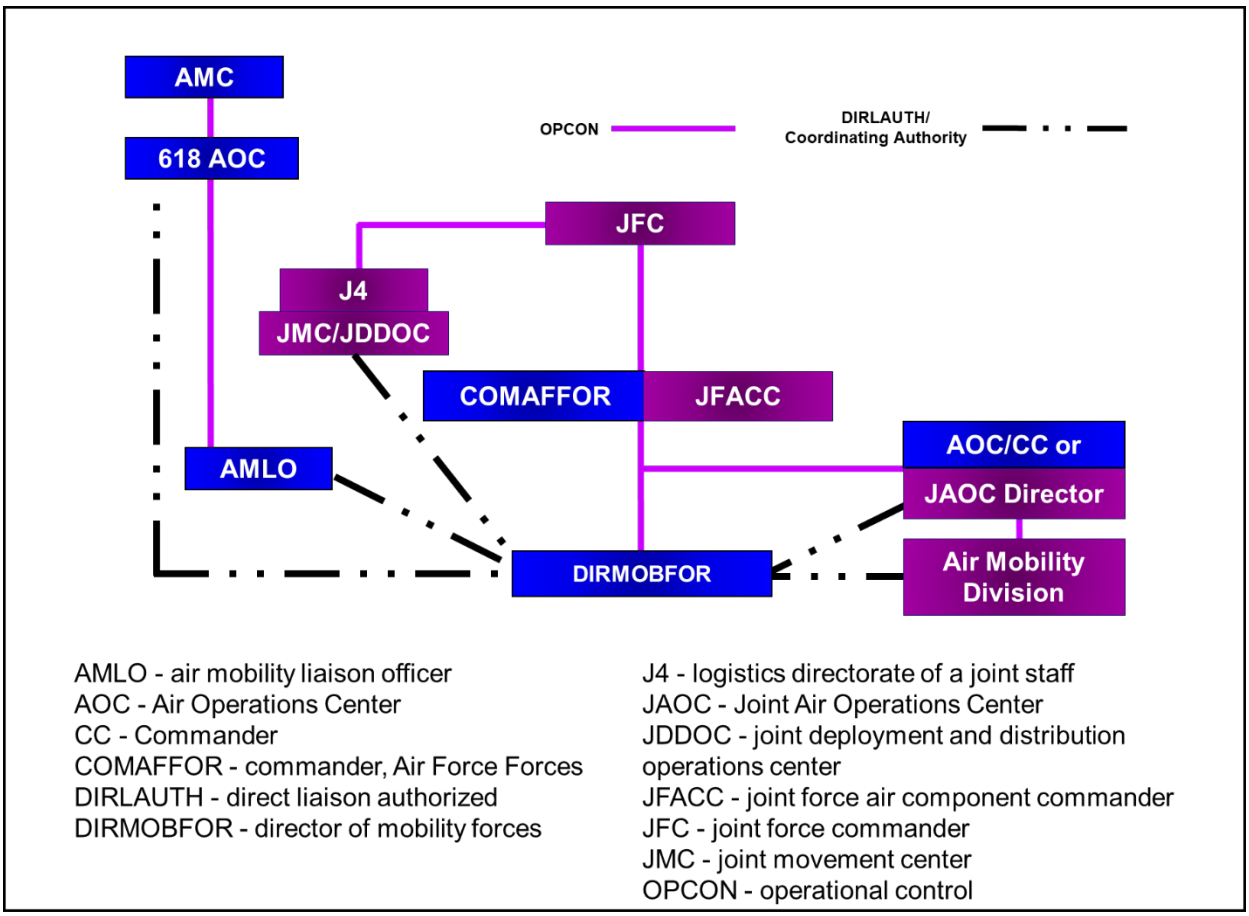
- **Air Mobility Support Team.** The AMST may be established to facilitate reports, briefs, and analysis to the AMD chief and provide support to the four AMD teams.

DIRECTOR OF MOBILITY FORCES

Last Updated: 28 June 2019

The director of mobility forces (DIRMOBFOR) is normally a senior officer who is familiar with the area of responsibility (AOR) and possesses an extensive background in air mobility operations. The commander, Air Force forces (COMAFFOR) may appoint a DIRMOBFOR from within their Air Force Service component or request one from Air Mobility Command (AMC). Normally, the DIRMOBFOR is attached to the COMAFFOR's special staff and should be given appropriate liaison authority. The DIRMOBFOR exercises coordinating authority for air mobility with commands and agencies within and external to the joint force for US Transportation Command (USTRANSCOM) supporting missions. Specifically, the DIRMOBFOR coordinates with the Air Force forces staff, theater air operations center (AOC), 618 AOC (Tanker Airlift Control Center [TACC]), the geographic combatant commander's (GCC's) logistics directorate (J-4), and the joint movement center (JMC) / joint deployment and distribution operations center (JDDOC) to expedite the resolution of air mobility issues. Additionally, the DIRMOBFOR provides advice to the air mobility division (AMD) on air mobility matters that should be responsive to the timing and tempo of AOC operations. The AMD remains under the control of the AOC director who manages the execution of operations for the COMAFFOR. In the event a DIRMOBFOR is not appointed, the AOC AMD chief fulfills the DIRMOBFOR duties.

The figure, "DIRMOBFOR Coordination", illustrates the various agencies with which the DIRMOBFOR may coordinate during an operation.



DIRMOBFOR Coordination

Specific duties of the DIRMOBFOR include the following:

- Coordinates the integration of intertheater air mobility capability provided by USTRANSCOM.
- Coordinates with the AOC director and AMD chief to ensure USTRANSCOM intertheater operations supporting the joint force commander (JFC) are integrated into the air assessment, planning, and execution processes, and are deconflicted with intratheater air operations.
- Assists in the integration and coordination of the multinational air mobility plan.
- Coordinates with 618 AOC (TACC) to ensure air mobility support requirements are met.
- Serves as member of the joint logistics coordination board, chaired by the GCC's J-4.
- Serves as the senior air mobility officer point of contact for USTRANSCOM

intertheater movements with the GCC's JDDOC, AMC, 618 AOC (TACC), GCC J-4, and the USTRANSCOM deployment and distribution operations center.

- Performs other duties as specified by the COMAFFOR.

OTHER AIR MOBILITY OPERATIONS

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This section discusses other air mobility-related operations including homeland and nuclear operations.

Homeland Operations

Domestic emergencies often call for the use of air mobility assets to support civil authorities. The air mobility capabilities of the Department of Defense (DOD) far exceed that of state and local resources, and therefore are a crucial piece of the operational planning in response to civil crises. DOD can provide specialized skills and assets that can rapidly stabilize and improve a situation in support of, and in coordination with, civil authorities to meet the needs of the populace. The focus of defense support to civil authorities (DSCA) is to save lives, prevent human suffering, and mitigate property damage. Geographic combatant commanders prepare plans to support the employment of Title 10 DOD forces, providing DSCA, in accordance with the National Response Framework, a guide to how the nation conducts all-hazard response. DSCA command structures and requirements are unique and call for specialized support from the mobility air forces. DSCA does not include Air National Guard forces formally operating under command and control (C2) of the governors of their respective states. See AFDP 3-27, *Homeland Operations*, for additional information.

Nuclear Operations

For nuclear operations, Air Mobility Command, as US Transportation Command's (USTRANSCOM's) air mobility component, supports nuclear operations conducted by US Strategic Command (USSTRATCOM). Air refueling (AR) forces supporting airborne nuclear C2 aircraft change operational control (OPCON) to the commander, USSTRATCOM (CDRUSSTRATCOM). The CDRUSTRANSCOM maintains OPCON of remaining AR forces and provides AR in a supporting role to the CDRUSSTRATCOM. For theater nuclear operations, C2 of USTRANSCOM forces mimics conventional theater operations to the greatest extent possible. However, if political considerations warrant that all tanker support to theater nuclear operations must originate from the continental US, the CDRUSTRANSCOM maintains OPCON of tankers and provides AR in a supporting role to the CDRUSSTRATCOM. USSTRATCOM provides C2 of air mobility support to nuclear operations via the Nuclear Command, Control, and

Communications weapon system. The Air Force transportation Nuclear Execution Force includes tankers, nuclear-certified tanker crews, and nuclear-certified C2 personnel. Tankers provide the global reach aspect needed by nuclear bomber and airborne command center aircraft. Specially certified nuclear C2 personnel provide the critical linkage between CDRUSSTRATCOM and tasked tanker crews. The CDRUSTRANSCOM delegates tactical control to the CDRUSSTRATCOM of those tankers allocated to USSTRATCOM for planning. Specified airlift assets change OPCON to the CDRUSSTRATCOM and support critical aircraft regeneration team requirements during execution of strategic nuclear operations. See AFDP 3-72, *Nuclear Operations*, for additional information.

Airlift missions executing nuclear weapons logistic operations are categorized as either prime nuclear airlift force (PNAF) or emergency nuclear airlift operations (ENAO). PNAF missions involve specially qualified and certified crews operating under additional restrictions. PNAF provides the critical air transportation component of the planned logistical movement of nuclear weapons and related material positioned around the world, and is necessary to facilitate international treaties and weapons life-cycle sustainment requirements. When directed, any airlift asset can augment this capability via ENAO to enable DOD custody of nuclear weapons during emergency operations.

AIR MOBILITY PLANNING STRATEGIC GUIDANCE

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Following the joint planning process from Joint Publication (JP) 5-0, *Joint Planning*, and AFDP 3-0, *Operations and Planning*, air mobility planning should begin with the strategic guidance from the political and military leadership. This guidance includes the global force management process, the *Joint Strategic Campaign Plan*, as well as other strategic documents, to assist in developing contingency plans. There are several factors that affect air mobility planning at the strategic level, to include political, physical, and threat environments. The complexity of planning increases across the spectrum of conflict and requires careful consideration in peer/near peer contested environment.

US Transportation Command (USTRANSCOM) and Air Mobility Command (AMC) develop, analyze, and issue planning guidance for operational plans. Such plans balance requirements, capacity, and priorities to adjust the air mobility enterprise to meet the needs of the combatant commanders (CCDRs) and other airlift users in accordance with the Chairman, Joint Chiefs of Staff priority system and USTRANSCOM allocation. AMC planners consult with CCDRs on the development of standing operation plans, operation plans in concept format, and other contingency plans to ensure overall integration of the air mobility operations enterprise into the supported commander's campaign. For additional overall planning guidance, see AFDP 3-0 and JP 5-0. For tactical level planning considerations, see AFTTP 3-3.IPE, *Combat Aircraft Fundamentals - Integrated Planning and Employment*.

GENERAL PLANNING CONSIDERATIONS

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The US must be prepared to confront and defeat a peer/near peer competitor as well as be prepared in any scale contingency to meet our national security objectives. This section focuses on the general planning considerations of the political environment, physical environment, and threat environment that will ensure air mobility success in any contingency. Air mobility operational planners should take these considerations into account when developing air tasking orders (ATO), airspace control orders (ACO), special instructions (SPINS), rules of engagement (ROE), rules for the use of force, and other applicable operation plans (OPLANs) and contingency plans (CONPLANs) according to a commander's intent and objectives.

Political Environment

As with any military operation, regional politics can have a significant effect on air mobility operations. With a majority of air mobility operations occurring over foreign territories, the decisions made by US political leaders and those of our allies may affect the options available to the air mobility planners. The following are some of the more significant factors.

Partner Nation Support

Support from the countries involved in air mobility efforts is essential, since deployed air operations rely on host nation support to grant access and to promote a smaller footprint. Legal advisors should be consulted to determine what agreements and treaties exist and whether there is a status-of-forces agreement (SOFA) in place. The geographic combatant commander's (GCC's) logistics directorate (J-4) and commander, Air Force forces (COMAFFOR)/A4 should be consulted for acquisition and cross-servicing agreements and mutual logistics support agreements that may exist. SOFAs normally include status of personnel, as well as operating rights and responsibilities and may include waivers of landing fees, duties, taxes, or personnel entry requirements. Failure to adequately ascertain host nation support and provide for any required augmentation can result in significant roadblocks to mission accomplishment.

The ability to obtain diplomatic clearance for both overflight and landing is crucial. Past

conflicts have demonstrated that challenges obtaining diplomatic clearances have far-reaching impacts on every air mobility effort. The importance of partner nation support cannot be underestimated. This support is also crucial with regard to petroleum, oils, and lubricants availability due to high consumption rates.

Access

A successful air mobility operation depends on access to networks of facilities and usable destinations, which include airfields and drop zones. Access to theater airspace and airfields throughout the world presents a major limiting factor to air mobility operations especially in a peer/near peer contested environment. In underdeveloped regions of the world, aircraft often use austere airfields. These may be limited in one or more of the following ways: runway condition and size, taxiway systems, ramp space, fuel (resupply, storage, quality, and handling capabilities), security, materials handling equipment, marshalling and storage capability, aircraft servicing, maintenance, navigation aids, weather observing sensors, and communications. Additional limitations based on access that should be considered include routing restrictions, flow control, terminal instrument procedure restrictions, host base support, and other airfields' infrastructure.

Communications

Air mobility missions should be flexible and responsive to the users' requirements. Because of their extended loiter capacity, airborne tankers and airlifters can be redirected if their primary mission is changed or canceled. To accomplish this, air operations center (AOC) elements should maintain flight following of air mobility aircraft to be able to contact them. This should normally be accomplished by the air mobility division (AMD) in the theater or the 618th Air Operations Center (AOC) (Tanker Airlift Control Center) if outside the theater. In addition, in a contested communications environment, operational requirements and communication capabilities may dictate that another airborne or ground control element relay a new tasking. Bolstered communications security (COMSEC) procedures and mandated low emissions control (EMCON) environments may make it difficult for control elements to maintain contact with airborne assets. Retasking procedures and frequencies should be thoroughly explained in the SPINS or the ACO to ensure coordination between aircrews and command personnel. Regardless of the command relationships, aircrew must adhere to the theater operational procedures that are normally found in the SPINS. Planners should consider the challenges air mobility operations will face in a peer contested environment and have appropriate branch plans to consider broken lines of communications or rapidly changing basing considerations.

Base Operating Support

Except in the case of self-sustaining short-term contingency response forces, base operating support (BOS) for deployed forces enhancing the Global Air Mobility Support System should be provided by the GCC's Service component responsible for the

airfield or by the host nation when no component has a presence. When insufficient host base BOS exists, deploying air mobility support forces normally are augmented by the appropriate BOS unit type codes drawn from across the command or the Air Force as a whole.

Airspace Control

The use of air mobility in any theater should be integrated into the airspace control plan and any civilian or international airway control system. Air mobility planners should coordinate with the airspace control authority's staff, and obtain diplomatic clearances to ensure airlift and air refueling activities comply with all routes and procedures through any area they may transit. The nature and intensity of the air operation may require the establishment of specific air traffic corridors and air refueling tracks.

Diplomatic Clearances

Diplomatic clearances include aircraft overflight and landing rights, communications connection approval, personnel visas, and other entry requirements. Customs, immigration, and quarantine requirements (or waiver thereof) can also be critical. Time-phased force and deployment data (TPFDD) flow cannot occur without appropriate clearances obtained in advance. Diplomatic clearances impact footprint, throughput, force protection (FP), and ultimately, operational success, and should be acquired prior to execution of a TPFDD or deployment order.

Legal Issues (Principles of International Law)

Global air mobility operations are governed by international and domestic laws (US and partner nation). International law governs the rights, privileges, and immunities of aircraft. Privileges and immunities differ depending on the status of the aircraft (i.e., “state” or “civil”). Military aircraft are state aircraft. Aircrews and those planning and managing missions outside the continental US should consult the *Department of Defense Foreign Clearance Guide* for current, country-specific information. In addition, aircrew and mission planners / managers should be aware of and abide by the applicable ROE.

Medical

The global reach laydown (GRL) team includes medical capabilities designed to reduce the impact of disease and non-battle injuries on mission accomplishment in contingency operations and provide limited medical support. The GRL team and associated equipment package deploys with the contingency response group or contingency response element and assesses health risks associated with environmental and occupational health hazards for deployed personnel, in support of establishing a potential main operating base in a forward deployed location.

Multimodal Ports and Hubs

Planners should be aware of multimodal ports when designing airlift plans. Ninety percent of intertheater cargo goes by sea, often with intratheater airlift as the final segment. Multimodal hubs act as a force multiplier, enabling maximum efficiency for high demand airlift assets and provide resiliency of logistics through alternate delivery channels.

Physical Environment

The physical environment will have a considerable impact on air mobility operations. The following are significant factors planners should consider.

Geography

Some areas of the world are isolated geographically, and therefore air mobility remains the best source of supply. Operations in such areas naturally increase the demand for airlift. Multimodal options in these areas are often reduced.

Climatology and Weather

Weather effects on air mobility operations present ongoing challenges. Incorporating the impact of climate and weather effects on air mobility operations should be part of planning for all activities. For example, weather greatly reduced airlift for Bosnia in 1996 and tanker capability in Kosovo in 1999, and extreme heat limited airlift execution in Kuwait during Operation IRAQI FREEDOM. For additional information, see AFDP 3-59, *Weather Operations*.

Threat Environment

Mobility air forces (MAF) operate in a wide variety of threat environments across the spectrum of conflict, performing a variety of missions. Air mobility operations can be flown in threat environments that include conventional military forces, insurgents, and terrorists. Adversary capabilities can range from basic small arms to later-generation man-portable air defense systems or even radar-guided surface-to-air missiles and anti-aircraft artillery. While conducting operations in a peer/near peer contested environment, air mobility planners should understand air mobility operations depend upon friendly forces to suppress enemy air defenses, provide escort, and provide threat warning support. However, during contingency or peacetime operations, friendly FP and intelligence, surveillance, and reconnaissance (ISR) support may be limited. Planning factors for chemical, biological, radiological, or nuclear threat environment operations should include operational and clearance decontamination levels for aircrew and aircraft. MAF planners should consider applicable elements within the electromagnetic spectrum and cyberspace domain to ensure maximum visibility and response options during operational planning and execution.

ISR

ISR support is required to effectively and accurately describe the battlespace and threat environment, and their impact on air mobility operations.

Threat Working Group

The AMC and theater threat working groups (TWGs) are the air mobility focal point for coordinated global and theater risk analysis and for developing recommendations to mitigate identified threats and vulnerabilities. The TWGs conduct annual reviews of the threats to air mobility operations that establishes baseline risks, sets risk assessment production requirements, and determines minimal FP recommendations. In addition, the TWGs monitor for changes to the threat environment; conduct risk analysis to support new operations, missions, and requirements; and review daily OCONUS missions for new or emerging FP concerns. Assessments and recommendations are then shared amongst the TWGs.

Threat Mitigation

Timely and accurate intelligence reduces vulnerabilities and is essential to air mobility mission planning. Intelligence personnel provide information about enemy composition, vulnerabilities, capabilities, intentions, and probable courses of action for air movement operations. Employing proper EMCON, operations security, and COMSEC procedures helps to ensure that the information environment of any military operation is kept secure. Mitigation recommendations cover a variety of options and can include the requirement for defensive systems and aircraft armor to mitigate the surface-to-air fire threat, restrictions on remaining overnight, requirements to carry Phoenix Raven or Fly Away Security Team (FAST) personnel to protect the crew and aircraft while on the ground, or restrictions on allowing contract and Civil Reserve Air Fleet commercial flight operations.

CONCEPT DEVELOPMENT

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Concept development is part of the planning process, and is driven by the end state established for an operation. When considering how to meet customer needs, operational planners should address command and control (C2), distribution plan, intelligence, aircraft and force allocation, airlift planning, air refueling (AR) planning, air mobility support planning, aeromedical evacuation (AE) planning, and multiple fuel and energy planning considerations. A team of cross-functional subject matter experts may be convened to determine the range of options and address limitations in preparation of staff estimates, develop courses of action (COAs), or satisfy other planning requirements.

Command and Control

Once the distribution plans and force allocation decisions have been made, commanders can focus on the best C2 structure to use for the air mobility assets in a given operation. This structure may vary depending on whether they include intertheater or intratheater air mobility assets.

Distribution Plan

Before determining proper employment concepts, planners should first determine the distribution plan, to include where air mobility assets plan to operate, and the restraints and constraints to those air mobility assets. The considerations in this area increase in complexity as the level of threat increases from a possible peer competitor. Areas to consider include continuity of operations, resilient lines of communications, aircraft dispersal, and alert status.

Intelligence

Timely and accurate intelligence reduces vulnerabilities and is essential to air mobility mission planning. Intelligence personnel provide information about enemy composition, vulnerabilities, capabilities, intentions, and probable COAs that could impact air mobility operations. Intelligence professionals develop priority intelligence requirements (PIRs) to address the specific information needs of commanders. PIRs can include threat from air defenses, threats and vulnerabilities at airfields transited by air mobility aircraft, and

changes to the operational environment that could impact air mobility plans or operations. Critical information should include:

- Recent enemy order of battle data.
- Enemy integrated air defense system capabilities.
- Enemy information operations capabilities.
- Area of responsibility (AOR)-specific airfield, drop zone, and landing zone information.
- AOR-specific maps, charts, and imagery for air mobility mission planning and execution.
- Chemical, biological, radiological, and nuclear (CBRN) threat information.
- Vulnerabilities to information and information systems that support airlift operations.

Aircraft and Force Allocation

Once requirements are validated and air mobility forces are apportioned, planners can allocate airframes based on the commander's priorities. It is important for planners and commanders to understand the distinct phases of the tasking process. From a theater perspective, common-user requirements that cannot be supported by the geographic combatant commands assigned or attached air mobility forces are forwarded to US Transportation Command (USTRANSCOM) for validation and tasking.

Combatant commanders (CCDRs) request airlift and AR support based on the tasks to be performed. Deployments should be managed via a time-phased force and deployment data (TPFDD) or time-phased force and deployment list, with passengers and cargo normally moved by contingency airlift, while channel missions normally move sustainment. Deployment of combat aircraft requiring AR support is also managed via a TPFDD. The supported CCDR, in coordination with supporting CCDRs and Services, establishes movement requirements. Requirements for Joint Chiefs of Staff (JCS) exercises or contingencies are scheduled through the joint planning process, after which a TPFDD or deployment order (DEPORD) is developed. Prior to movement, the CCDR validates the TPFDD or DEPORD transportation requirements. USTRANSCOM evaluates the supported command's validated requirements, then passes this requirement on to Air Mobility Command (AMC) for identification and scheduling of intertheater airlift requirements. The geographic combatant commanders (GCCs) use their air components to plan and execute intratheater requirements.

Commanders and planners should consider the following to request and task airlift and AR: They should:

- ✪ Identify the requirements and prioritize the movements.
- ✪ Validate the requirements and allocate the number and types of aircraft needed.
- ✪ Task the appropriate units and coordinate actions among the user, unit, and planners.
- ✪ Schedule the movement process.
- ✪ Assess the results through review of the transportation effects.

When planning air mobility operations supporting directed contingency operations, there are several factors to consider before deploying forces to include the supported joint force commander (JFC) requirements and the capabilities and limitations of the supporting forces. See the *Aircraft Employment Methods* section of the "Airlift Operations" doctrine topic module for additional information.

Airlift Planning

Airlift planning applies to the full spectrum of air mobility missions and is designed to enable mobility air forces (MAF) to sustain critical operations in any environment. Airlift planners should consider aircraft capabilities; mobility planning factors; aircrew limitations; overflight restrictions; chemical, biological, radiological, and nuclear risk; and en route infrastructure to effectively plan support for campaigns, operations, and missions.

Air Refueling Planning

The amount of cargo, distances involved, and availability of intermediate fueling locations in intertheater airlift operations may make AR necessary. AR may reduce the aircraft's initial fuel requirement, allow for heavier cargo loads, increase aircraft range, and shorten the mission duration. AR enables aircraft to overfly bases with limited capability and recover at more suitable airfields. Planners should plan for the impact of adding AR to the basing and other support needs required by added AR support.

The efficient use of tankers and fuel is secondary to mission accomplishment. However, every attempt should be made to use these scarce resources efficiently. AR capability can be increased without increasing the number or size of tanker aircraft by matching tanker aircraft types against receiver mission requirements. This involves judicious use of refuelable reliability tankers, assigning individual tankers to multiple receivers or receiver sets, and ensuring receiver AR requests accurately reflect their mission requirements. The considerations for daily, steady-state allocation decisions are much the same as for contingency allocations. When developing daily tanker allocations, planners should consider boom versus drogue requirements, emphasis on total offload versus booms in the air, use rate, altitude requirements of the receiver, and special operations forces or sensitive reconnaissance operations aircraft requirements.

Delivering AR offloads more efficiently allows customers to do more with the same number of tankers. An efficient tanker support plan delivers more fuel per sortie, allowing strike packages to loiter longer and strike deeper into enemy territory, thereby enhancing the air superiority mission. By enhancing their effects, customers can use fewer resources or rededicate those assets to unmet requirements to increase their combat impact further.

Air Mobility Support Planning

Successful deployment and employment of US forces and materiel depend upon the timely and accurate planning of all US support systems. The Global Air Mobility Support System (GAMSS) enables air mobility, so air mobility support forces are effectively integrated into the initial deployment flow for effective steady-state or contingency planning. See AFDP 3-0, *Operations and Planning,* for additional planning factors.

These forward forces manage the deployment of intertheater and intratheater assets for USTRANSCOM and the supported CCDRs and, when a contingency is complete, the redeployment of US forces. All factors should be considered to ensure the JFC's requirements and objectives are achieved. All factors are interrelated and therefore should not be considered in isolation. Coordination between theater planners and air mobility support forces normally ensures adequate force support.

There are a number of specific planning factors having varying degrees of influence on the ultimate success of the MAF. Some planning factors are regarded as throughput-critical—key factors in the successful throughput of forces and materiel at any given location. Included in this category are manpower; crash, fire, and rescue services; materials handling equipment; airfield capabilities; and petroleum, oils, and lubricants (POL). These factors are critical because they determine the maximum number of aircraft and amount of cargo or passengers that can be handled at a location. Coordination by planning staff should include all combat support-related capabilities to ensure installations are capable of supporting mission elements.

Patient Evacuation Planning

Patient evacuation planning requires the integration of joint- and Service-specific capabilities into the JFC's concept of operations. Theater Aeromedical Evacuation System (TAES) managers are an integral part of the airlift planning team and should build appropriate patient evacuation support into the en route care structure. The medical planners should interface with the airlift and logistics planners to ensure the bedlift plan integrates airflow and medical capabilities along airlift routes.

Airlift routes should be identified to establish potential patient evacuation plans. Theater evacuation policy, airframe considerations, airfield capability, potential hostile or terrorist location, Phoenix Raven security forces, base operating support, communications, crew support, and interface with special mission forces are several factors to consider when

planning the en route care laydown.

A TAES manager should be incorporated into the air operations center's (AOC's) air mobility division (AMD) to outline, develop, and coordinate theater patient evacuation plans along airlift routes, including number and location of AE assets needed to support operational requirements. Additional support may be requested from AMC/A3O and the AMC Surgeon General via reachback to support the operation. Medical planners also assist geographic and component commands, as required.

A senior officer with extensive AE experience and knowledge of plans and operations should be considered for the chief of the aeromedical evacuation control team (AECT) in the AOC's AMD. This individual directs the actions of the AECT and offers patient evacuation planning and execution guidance to the AMD Chief.

Patient Movement Items and Aeromedical Evacuation Support Equipment

Patient movement items (PMI) are the jointly assigned supplies and equipment necessary to support patient movement within the en route care system. Medical logistics and AE personnel manage inventory availability at PMI centers, cells, and nodes and ensure asset visibility and flow of PMI through available transportation methods to meet requirements. Asset visibility is provided via the PMI asset tracking system (PMI-ATS). Deployed PMI system teams collocate at key interface points and theater medical treatment facilities to provide initial patient evacuation capability, sustain patient evacuation operations, and minimize equipment turnaround time. During contingency operations, PMI assets and PMI-ATS requirements are initially identified by the CCDR and pushed to support patient movement at key patient insertion points in the AE system. Steady-state PMI support is supplied by the combatant command as required. See AFTTP 3-42.8, *Expeditionary Medical Logistics System* for additional information.

POL and Energy Planning Considerations

As part of the larger maneuver force that comprises the modern military, air mobility is dependent on aviation fuel to perform the mission. Tanker aircraft cannot support airbridge or combat operations if their fuel supply is constrained or made unavailable by the adversary. Every effort should be made to conserve and protect this critical resource.

Ideally, fuel should be readily available at beddown locations as well as air cargo hubs. Lack of fuel at enduring or contingency locations has a tremendous impact on cargo throughput as airlift aircraft displace needed cargo with turn-around fuel. Operations at contingency locations should be limited in scope and duration or a reliable source of aviation fuel should be quickly obtained for larger or extended operations.

Tanker bases should be located as far forward in the operational area as possible while remaining tethered to a robust and secure fuel source. The greater the distance fuel is

delivered limits offload, increases flight time, and results in greater operational fuel burn by MAF aircraft. It may increase the overall number of tankers and crews needed to support the demanded offload requirements and multiply the number of bases and MAF support needed in the operational area, thereby further expanding the logistics footprint and mission cost.

POL planning and requirements should include the amount needed for both aircraft and ground equipment. Planners should consider POL storage capacity, fueling system condition and type, dispense rates, as well as POL acquisition, either from the host nation or by resupply. Aircraft fuel is usually a major limiting factor and should therefore be the primary focus.

PLAN DEVELOPMENT

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Once the strategic guidance and concept development are complete, air mobility planners can begin to look at cross-sectional factors which affect plan development. These include aircrew and operations support; air mobility support; materials handling equipment (MHE); petroleum, oils, and lubricants (POL); aerospace ground equipment (AGE); replacement spares package; special support equipment; patient movement items and aeromedical evacuation (AE) support equipment; weather; and working maximum on ground (MOG). Planners should reference each of these when developing the overall air mobility operation plan (OPLAN) or concept plan (CONPLAN).

Cross-sectional Air Mobility Planning Development Factors

This section addresses supporting equipment and service factors that should be considered when developing an air mobility plan.

Air Mobility Support

During the deployment and redeployment phases of any operation, manpower requirements for the Global Air Mobility Support System (GAMSS) are normally predictable. These requirements are identified in the time-phased force and deployment data (TPFDD) associated with a particular OPLAN, or identified as precursor movements if a deployment order (DEPORD) is used. The GAMSS is composed of five different tasks: onload, contingency tanker task force, stage / en route, hub / transload, and spoke / offload. 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 that rapidly expands during contingencies or periods of intensive air mobility operations to meet increased demands of airlift and air refueling (AR) aircraft. When the increased level of air mobility operations subsides, the en route support system shrinks back to peacetime requirement levels.

Materials Handling Equipment

A key resource critical to throughput of cargo and personnel is MHE. MHE includes

all ground equipment necessary for cargo loading and unloading, a capability that should be analyzed during both steady-state and contingency planning. Commanders and planners should coordinate closely to ensure the right types and quantities of MHE are available to support successful operations. It is essential to get MHE / GAMSS items in the TPFDD early to increase throughput and facilitate overall TPFDD efforts. Likewise, the GAMSS force commander should pare and tailor the deployable equipment to meet each tasking. Not only should MHE be a planning factor, it should be properly identified for TPFDD insertion for early deployment within the air mobility flow. The TPFDD should be evaluated for any over or outsize cargo or equipment to determine if aircraft loader requirements (i.e., multi-pallet trains) exist. When planning war reserve materiel for use, MHE should be fully operational, tasked in sufficient quantity, and be of the correct type. An assessment of host-nation MHE capability is a key factor to consider. MHE available at a forward location should lessen airlift requirements.

Aerospace Ground Equipment

AGE, both powered and unpowered, is necessary to support maintenance and ground operation of aircraft systems. Planners should normally complete an analysis prior to deployments to ensure sufficient quantity and operational status of the airfield's AGE. It may be necessary to augment the existing capability if the required equipment is unavailable or non-operational. However, due to the high multi-Service competition for airlift resources during the early phases of deployment and the objective of optimizing the deployed footprint, logistics planners should, whenever possible, minimize or delay forward deployment of equipment. When possible, planners should consider reachback to main support bases for specific pieces of equipment if and when required, rather than forward deploying any equipment that "might" be required.

Replacement Spares Package

Aircraft spares are parts needed for repairs. Typically, mobility air forces deploy with readiness spares packages sufficient to support the expected airflow for a given amount of time. However, for operations that begin with a high tempo soon after arrival of combat forces and then continue for an extended duration, time-definite delivery of replacement spares should be established early in the deployment sequence. Non-availability of spare parts can cause an aircraft to become non-mission capable (NMC). NMC aircraft occupy valuable ramp space and negatively impact throughput. Additionally, in a contested environment against a peer adversary, the COMAFFOR staff should have proactive and redundant logistics readiness plans that enable continued resupply, while an adversary may use capabilities to degrade or disrupt those lines of communications.

Special Support Equipment

Special 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.

Aircraft Rescue and Firefighting

Mission planners should determine what aircraft rescue and firefighting capabilities exist at the airfield, and if they are sufficient for the planned operation. Degraded or non-existent firefighting capabilities limit aircraft airfield suitability requirements.

Weather

Accurate and timely weather information is essential in all phases of air mobility operations. The climatology for an area is an important consideration during the planning of airlift and AR operations. Historic measurements of temperature, precipitation, ceiling, visibility, etc., impact equipment or supply requirements (e.g., navigation aids and deicing or snow removal equipment) that should be programmed into the OPLAN. During planning and execution of air mobility missions, accurate and timely weather information identifies weather conditions that could potentially limit or enhance operations. This information provides planners and operators the opportunity to adjust aircraft flow, cargo loads, and timing to ensure effective, efficient, and safe task accomplishment. Additionally, space and atmospheric weather conditions have a significant impact on communications for command and control (C2). Anticipating space and atmospheric weather impacts and creating alternate plans when necessary enhance air mobility operations. See AFDP 3-59, *Weather Operations*, for additional information.

Working Maximum on Ground

The maximum number of aircraft at a given location that can be turned simultaneously is called working maximum on ground (MOG). Parking MOG is the physical parking spaces available for Department of Defense airlift aircraft and contract carriers. It should not exceed the number of spots identified on the most current parking plan and may be limited by factors such as host or partner nation agreement, hazardous parking spots available, or other infrastructure limitations. Local commanders determine working MOG based on the most restrictive of multiple planning factors (e.g., manpower, servicing equipment, etc.) and notify appropriate C2 and planning agencies for dissemination.

AIRLIFT EFFECTS

Last Updated: 28 June 2019

Airlift provides the core of the Air Force's ability to deploy and sustain itself as well as the other Services and government agencies worldwide. Transport aircraft as well as air refueling aircraft perform airlift operations. Airlift forces provide the joint force with rapid global mobility, generating strategic, operational, and tactical effects across the range of military operations. Whether projecting combat power in new operations, providing logistics for sustainment of current operations, aeromedical evacuation, or conducting humanitarian assistance missions, airlift is a vital component for success.

Mobility forces allow the joint force to respond rapidly to military operations around the globe. Airdrop and airland delivery operations meet the fundamental principles of speed, mass, and maneuver. They deliver combat power throughout operations, including initial combat deployment, airdrop of personnel and equipment, and forcible entry. The effect is constant pressure on adversaries. Airlift sustains joint forces through combat support. Military and commercial aircraft provide rapid and responsive resupply of personnel and equipment into areas that may not be reachable by other modes of transportation. These forces also provide retrograde movement of equipment and injured personnel. The effect is persistence of combat operations across the operational area. Airlift forces can support humanitarian relief operations and noncombatant evacuation operations (NEO). These missions provide flexible support through airdrop and airland operations delivering medical care and relief supplies. They may also execute NEO from hazardous environments. The effects are lives saved and rapid recovery.

AIRLIFT OPERATIONS

Last Updated: 28 June 2019

Airlift conducts several basic operations: passenger and cargo movement including operational support aircraft, combat employment and sustainment, aeromedical evacuation (AE), nuclear airlift, and special operations support. Air Force airlift forces perform these operations to create strategic, operational, and tactical level effects that support national objectives across the range of military operations.

Delivery Options

Payloads are delivered via two methods: airland or airdrop. Each method has its distinct advantages and disadvantages.

Airland Delivery

Airland delivery occurs when a transport or tanker aircraft lands and unloads its cargo. Airland is the preferred method of delivery because it is usually the most efficient, safest, and least expensive way to deliver personnel and cargo. Airland operations also allow for back-haul capability, including AE. Airland can be conducted in austere airfields with minimal ground support and security on a limited contingency basis. Extended basing operations require secure, suitable, and conveniently located airfields with appropriate air mobility support assets to facilitate offload. Sound operational procedures, well-planned base defense, and rapid offloading and onloading techniques associated with various airlift aircraft can minimize some of the constraints of airland delivery. Commanders should view airland delivery as the method of choice for most air movements.

Advantages of Airland over Airdrop Delivery:

- ✪ Provides greater unit integrity and rapid unit deployment after landing.
- ✪ Eliminates payload dispersal associated with airdrop.
- ✪ Carries the least risk of injuring personnel and damaging loads.
- ✪ Requires minimal specialized training and equipment for transported personnel.

- Requires less special rigging and packaging of materiel than airdrop.
- Permits the maximum use of allowable cabin loads by eliminating the volume and weight penalties of preparing loads for airdrop deliveries.
- Maximizes the opportunity to backhaul cargo and evacuate personnel.

Constraints of Airland Delivery:

- Requires suitable airfields or assault landing zones (ALZs) that are moderately level, unobstructed, able to sustain the aircraft's weight, of appropriate length, and available for the anticipated operation.
- Increases intervals between aircraft deliveries depending on an airfield's infrastructure and support capability.
- May require mission support such as ground-handling equipment, transportation assets, and onward movement and distribution networks.
- Prolongs exposure to air or ground attacks.
- Most effective with suitable lighting and instrument-approved equipment for anything other than day operations in good weather.

Operation DESERT STORM's Left Hook

From 18–28 January 1991, C-130s airlifted elements of the XVIII Airborne Corps from King Fahd International Airport to Rafha, in northern Saudi Arabia, near the Iraqi border. This intense airlift supported General H. Norman Schwarzkopf's flanking maneuver to the west, which he described as a "Hail Mary Pass." C-130s flew mission corridors at 10-minute intervals in radio silence. During the airlift, C-130 sorties increased from 200 to more than 300 daily and peaked at more than 350 sorties in one 24-hour period. Nearly 14,000 troops and over 9,300 tons of cargo were moved. General Schwarzkopf said of this fast-paced demonstration of air mobility: "I can't recall any time in the annals of military history when this number of forces has moved over this distance to put themselves in a position to attack."

—Air Mobility Command Historian

Operation VITTLES

In February 1948, a Soviet-backed coup seized power in Czechoslovakia tightening communism's grip on Eastern Europe. West Berlin remained as a lone democratic holdout in the communist sea. In June of that year Soviet forces closed all overland routes into West Berlin, isolating the city from the outside world. This development led to the first humanitarian airlift of the Cold War, and the largest in history. "We are going to stay, period!" remarked President Truman. The US would sustain the city through the air.

Before the blockade, the city imported 15,500 tons of materiel daily to meet its needs. Minimum requirement for survival was estimated at 4,000 tons a day. C-47s and C-54s were only able to airlift 80 tons of supplies on the first day of the operation. However, once maintenance inefficiencies, turn-around delays and air traffic flows were ironed out, tonnage airlifted increased. With the help of airlifters from the Royal Air Force, the daily tonnage to Berlin climbed to nearly 13,000. Operation VITTLES would eventually bring over 1.5 million tons of food, medicine, coal, and other supplies into West Berlin. For 462 days, the allies provided an airborne lifeline to West Berlin. By September 1949 the Soviets conceded that its blockade had failed, and reopened the roadways into Berlin.

Operation VITTLES preserved West Berlin, which became a democratic foothold in East Germany. This historic effort proved that joint and combined airlift capability could be massed under a single airlift task force commander to sustain an isolated city-sized population through only three airfields. Besides demonstrating US political commitment, the airlift proved the impetus for an expanded long-range heavy airlift fleet.

***—Airlift Doctrine,* Lt Col Charles E. Miller, USAF**

Airdrop

Airdrop[6] is defined as "the unloading of personnel or materiel from aircraft in flight." Most airdrop procedures use parachutes to deliver loads to the ground, such as heavy equipment, container delivery systems, and personnel. This delivery method allows rapid insertion of combat forces to numerous target areas. Another airdrop procedure is free fall delivery. This involves dropping relatively small items, such as packaged meals or unbreakable objects like hay bales without the use of a parachute. Airdrop allows commanders to project and sustain combat power into areas where a suitable airfield, ALZ, or a ground transportation network may not be available.

[6] Common Access Card enabled site

Advantages of Airdrop over Airland Delivery:

- ✪ Uses principle of surprise in supporting combat operations.
- ✪ Minimizes aircraft and personnel exposure to threats at the target area.
- ✪ Permits sustainment deliveries to units operating away from airfields and ALZs.
- ✪ Permits the delivery of combat forces and materiel, concentrated and in mass, in minimal space and time.
- ✪ Permits the delivery of personnel and materiel in conditions that would prevent airland delivery operations.
- ✪ Eliminates the need for airlift ground support infrastructure and personnel.

Constraints of Airdrop:

- ✪ Carries an increased risk of injury to personnel or damage to cargo.
- ✪ Requires special training for riggers, transported personnel, and aircrew.
- ✪ Limits cargo loads because additional rigging is required for airdropped materiel.
- ✪ May decrease aircraft range due to low-level ingress or egress and formation tactics employed.
- ✪ Increases mission planning time and complexity; requires additional intelligence preparation.
- ✪ Increases cost of resupply due to decelerators, rigging, and lost opportunity of the additional cargo that could have been carried on an airland mission.
- ✪ Increases likelihood of dispersed airdrop cargo vs. airland delivery
- ✪ More susceptible to unfavorable weather conditions that may reduce the effectiveness of airdrop.

Operation ENDURING FREEDOM

Since 2005, yearly airdrop requirements have nearly doubled each year, from approximately 2 million pounds delivered in 2005 to an estimated 97 million pounds in 2011. Airdrop requirements will continue to grow as US and Coalition troops remain in forward operating bases (FOBs) over the course of the long war.

Not only have airdrop requirements increased, but they have also become much more challenging with the complex terrain, weather, an adept adversary, and the proximity of civilian populations to the FOBs. The MAF has met this challenge with more precise, flexible, survivable, and sustainable tactics, techniques and procedures (TTPs). As this airdrop requirement continues to grow, and we gather lessons learned from these missions, the TTPs will continue to adapt to the changing environment.

--2011 International Airdrop Symposium

Airlift Missions

There are a variety of airlift missions conducted across the range of military operations. The nature of what is to be carried drives the type of airlift mission. These missions are not mutually exclusive, and may be accomplished even on the same sortie. Different types of missions require differing levels of support, planning, experience, crew qualifications, equipment, and resources to complete. Missions may be subject to different constraints and operational guidance. Airlift missions at their core move people and cargo.

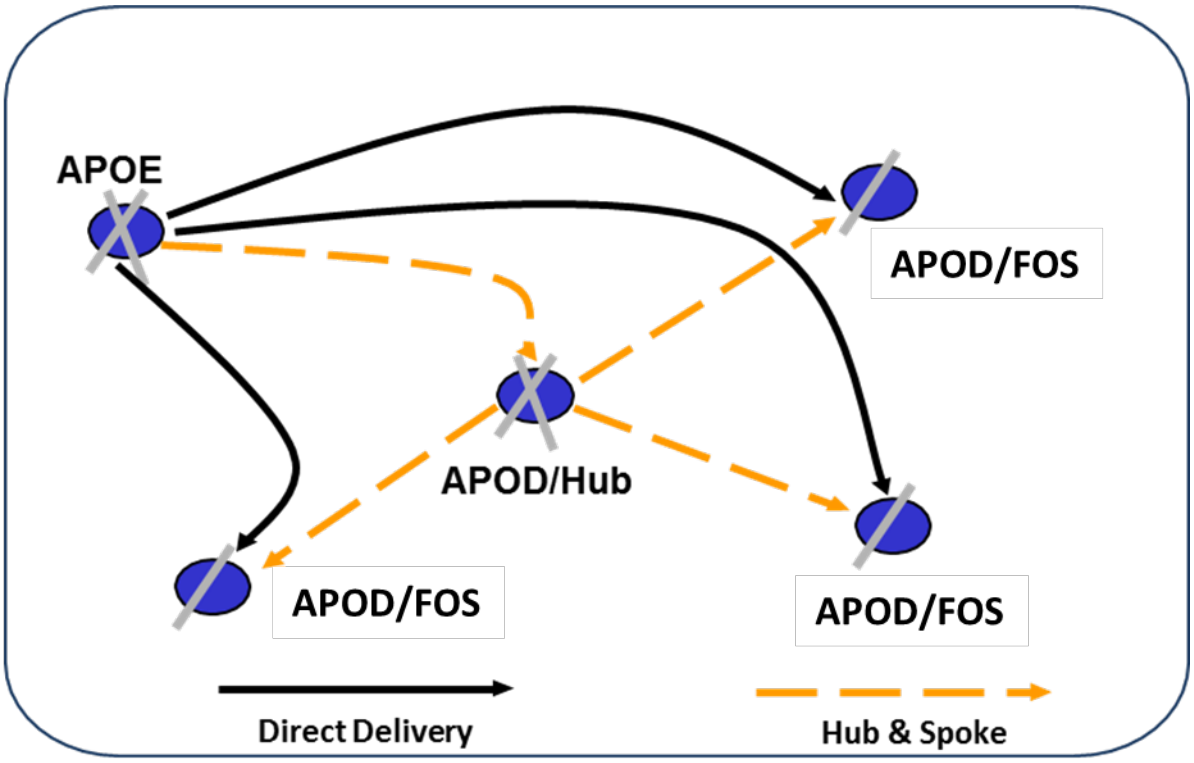
Airlift Employment Methods

The commander, Air Force forces (COMAFFOR) normally determines how best to employ intertheater and intratheater airlift operations in the theater or joint operations area (JOA) and when, based on the type of airlift operations and the dynamics of the environment, to assume command and control of intertheater airlift operations. The COMAFFOR may recommend that the joint force commander (JFC) request additional forces from the Secretary of Defense to meet the JFC's intent and objectives. The following discussion presents the different employment and delivery methods for airlift operations.

Hub and Spoke

Hub-and-spoke operations integrate both intertheater and intratheater airlift

operations. See the figure, “Employment methods; Direct Delivery and Hub & Spoke,” for an illustration of the hub and spoke concept. Starting from an aerial port of embarkation (APOE), the movement of cargo and personnel progresses through one or more en route staging bases to arrive at a main operations base (the hub) or aerial port of debarkation (APOD) within a theater.



Employment Methods: Direct Delivery and Hub & Spoke

APOD - aerial port of debarkation
APOE - aerial port of embarkation
FOS - forward operating site

The hub is the focal point for follow-on intratheater airlift missions. Cargo and personnel are processed and readied for transshipment by intratheater assets to forward operating sites (FOSs)—the spokes—throughout the theater. The hub and spoke method optimizes air mobility operations when supporting multiple operational commanders and operations. It permits load consolidation to maximize lift capability and allows for transload to specialized aircraft (e.g., landing zone (LZ)-capable, defensive system equipped, smaller aircraft, etc.). This method is comparable to a move that goes from door to central warehouse to door.

During contingency operations, especially against a peer- and near-peer adversary in a contested environment, intertheater hub-and-spoke deliveries may be restricted from landing at a particular APOD or FOS due to JOA dynamics (e.g., threats) and

consequently required to land at another location. In these scenarios, intertheater movements typically transload to intratheater forces for movement onward to the destination. To ensure this process flows properly, the director of mobility forces (DIRMOBFOR) should deconlict intertheater hub-and-spoke operations with the COMAFFOR.

Intertheater airland operations normally offload personnel and materiel at a main operating location within the theater. Subsequently, intratheater airlift moves designated personnel and equipment to forward operating sites. Units should consider the required materials handling equipment and transportation assets needed to transfer personnel, equipment, and cargo from one aircraft to another.

Intertheater Direct Delivery

Direct delivery is normally an intertheater flight that can bypass en route stops by airlifting personnel and materiel from the APOE directly to final destinations within a theater. It serves as the method of choice for timely, effective delivery of cargo and passengers. As with hub-and-spoke deliveries described above, during contingency operations, intertheater direct deliveries may be restricted from landing at a particular APOD or FOS due to JOA dynamics (e.g., threats) and consequently be required to land at another location. In these scenarios, intertheater movements typically transload to intratheater forces for the movement onward to the destination. To ensure this process flows properly, the DIRMOBFOR should deconflict intertheater direct delivery operations with the COMAFFOR.

Direct delivery has advantages and disadvantages associated with its effectiveness. The advantages include quicker arrival and an avoidance of transloading cargo to intratheater aircraft at an intermediate staging base. Direct delivery shortens in-transit time, reduces congestion at main operating bases, and enhances the sustainment of contingency locations. It also reduces cargo handling and transloading. The disadvantages include limited aircraft maintenance, cargo and passenger handling, parking, and less fuel servicing capability than a hub airfield, which may complicate mission planning. It also emphasizes the need for a full load going to a location to maximize lift capability. Direct delivery may also necessitate longer, less flexible flight profiles, which can reduce payload capability or require air refueling (AR) and augmented airlift aircrews, thereby increasing resource requirements. Direct delivery is at its optimum when carrying a full cargo load. This method is comparable to a move that goes from door to door.

Intratheater Direct Support (Theater Direct Delivery)

Direct support intratheater air mobility missions are coordinated between the air operations center's (AOC) air mobility division (AMD) and the joint deployment and distribution operations center (JDDOC), if one exists, and tasked by the appropriate AOC.

Stage, or "Lily Pad" Operations

Aircraft ranges, crew requirements, and mission limitations may dictate the need for intermediate stops, referred to as stage or “lily pad” operations. The final leg into the operational area may terminate at the final destination or at a theater hub. These intertheater operations leverage existing en route support locations and may place a heavier burden on the Global Air Mobility Support System. In a contested environment, these “lily pad” locations may need to be used as more permanent basing options.

Intratheater Channel or Round Robin

Intratheater channel or Round Robin operations are regularly scheduled intratheater missions. These missions typically follow the same routing on the same days and allow predictability for users and planners, though may not always be efficient. This concept should be used when requirements are stable and predictable enough to allow sufficient use of the asset. The predictable nature of these missions may present an elevated threat risk in hostile or contested environments. The benefit is that no requirement to stop en route is necessary.

Contract Airlift

Contract airlift is a cost-effective method for delivery of combat supplies when US military assets are unavailable or unsuited for the mission. Several contract carriers now exist that specialize in logistics support. Their smaller, specialized aircraft are often more suitable for missions in remote areas where it is unsafe or ineffective to operate larger aircraft. The larger assets can provide alternative outsized cargo delivery options comparable to C-5s or C-17s.

Transload Operations

Transload is a concept for deploying into a high-threat operational area under conditions that restrict the use of strategic deployment assets (i.e., large aircraft such as the C-5 or KC-10 or Civil Reserve Air Fleet [CRAF] aircraft). In coordination with the affected geographic combatant commander, US Transportation Command (USTRANSCOM) establishes a transload operation outside the operational area at a safe installation permissive to civilian Department of Defense contract or CRAF operations. From this forward transload operation, MAF military aircraft equipped with aircraft defensive systems, if required, are used to complete the sustainment, evacuation, or delivery of personnel and materials on aircraft that can operate on more austere airfields. MAF use one or a combination of three deployment options: direct delivery to the theater, air-to-air transload, or air and sea transload (multimodal transload).

Transload operations are how the hub and spoke works. While an airbridge supports the movement of airlift aircraft from one location to another, transload operations involve

the transfer of assets from one aircraft or mode of transportation to another.

Multimodal Operations

USTRANSCOM conducts multimodal operations when combatant commanders place requirements moving large equipment items in volume. Recent examples entail moving US Army combat aviation brigade helicopters or several hundred vehicles to landlocked operational areas. Multimodal operations serve as USTRANSCOM's effort to achieve effectiveness and efficiency. An example of a multimodal operation is where equipment departs CONUS via sealift (the most economical means for transporting large equipment items) and arrives at a permissive seaport near the operational area. Success in seaport selection lies in securing an adjacent airfield capable of supporting wide-body aircraft operations. Upon port arrival, USTRANSCOM uses its ground transportation options in moving equipment from the seaport to the airfield. USTRANSCOM then uses cargo aircraft for the final leg placing the equipment in the operational area. This blend of sealift, ground transportation, and airlift serves as the most efficient and effective method of moving large numbers of large equipment items.

Airlift Control in Vietnam

The airlift system which evolved over the years spanned the entire country of South Vietnam. This enabled the US forces to exploit the inherent flexibility of airlift and ensure rapid response to priority and emergency requirements.

The system was tailored to the in-country logistics patterns. Basically, Vietnam comprised four logistics "islands," with shipping lanes and Military Airlift Command airlift channels connecting them to the [continental US] or Western Pacific supply sources….

From the Air Force point of view the key to responsive airlift was the centralized command and control structure which unified the various control elements into an airlift system. Objectives were positive control, continuous customer liaison, deployed turn-around capability, and real time monitoring of aircraft and cargo movements. A centralized control structure permitted the airlift commander to be in immediate contact with all flying units, operating locations, customer representatives, and aircraft in flight. The commander could redirect the airlift effort as required and thus respond to tactical demands.

—*Tactical Airlift in Southeast Asia*, a Project CHECO (Contemporary Historical Examination of Current Operations) Report, 1972

AIR REFUELING EFFECTS

Last Updated: 28 June 2019

Air refueling (AR) is the passing of fuel from an airborne tanker aircraft to a receiver aircraft. It is an integral part of air mobility and brings added capability to combat, combat support, and air mobility for all airpower operations. AR enhances the unique qualities of airpower across the range of military operations. It is equally applicable to all stages of a contingency: deployment, employment, sustainment, and redeployment; as well as to ongoing, steady-state, and shaping operations. It serves as a force enabler and multiplies the effects of operations at the tactical, operational, and strategic levels of war. It allows air assets to reach any location around the world rapidly with less dependence on forward operating sites. Furthermore, AR significantly expands the force options available to a commander by increasing the range, payload, persistence, and flexibility of other aircraft performing missions like combat air patrol or intelligence, surveillance, and reconnaissance operations. The ability of AR to extend the range of aircraft and airborne forces and provide presence and persistence occurs through its force enabling, force multiplier, and force extension capabilities. These provide the joint force commander the ability to maneuver and mass forces to deter, dissuade, or destroy the enemy at a time and location where they are least prepared.

AR is a force enabler permitting aircraft to remain airborne beyond their unrefueled ranges. It is a crucial part of global strike and global mobility operations. Positioning forces outside the enemy's reach permits a greater portion of combat assets to concentrate on offensive rather than defensive action, thereby enhancing initiative, force protection, and economy of force. It is also a force multiplier permitting receivers to maximize payload without jeopardizing endurance.

Force extension is the AR of one tanker by another. Consolidating fuel from one tanker to another effectively increases flexibility and reduces the number of airborne tankers required while maximizing offload capability. This capability can also be used whenever the fuel requirements of an escorting tanker and its receivers exceed the tanker's takeoff fuel capacity. Since the takeoff fuel load decreases as the amount of payload carried increases, tankers operating "dual role" as airlifter and tanker (transporting a combination of passengers and cargo while performing AR) may require force extension. A number of tanker aircraft are equipped as receivers and can be force extended. Force extension provides the benefit of extending the deployment range of

receiver packages by ensuring the supporting tankers do not have to make en route fuel stops.

Although other Services and nations maintain some organic capability, mobility air forces possess the overwhelming preponderance of common-user tanker assets. These assets are capable of refueling most Air Force, Navy, Marine, and coalition aircraft and can accommodate many foreign aircraft.

Operations ODYSSEY DAWN and UNIFIED PROTECTOR

During March 2011, Moammar Ghadafi's regime began firing on Libyan civilians in an attempt to quell civil unrest. On March 19th, coalition forces began enforcing U.N. Security Council Resolution 1973 to protect civilians and civilian populated areas under threat of attack. In preparation for kinetic strikes, the US quickly deployed several KC-135 tankers to Moron Air Base, Spain. Air refueling enabled coalition fighter aircraft to use distant bases that otherwise would not have been within range of the targets. Highlighting the tanker force projection and force enabling concept, three B-2 bombers flew from Whiteman Air Force Base, each refueling four times, enabling them to destroy hardened shelters used by Libyan fighter-bombers. Throughout "Operation ODYSSEY DAWN", tanker crews routinely flew 10-hour missions extending the on-station time of coalition fighters.

AIR REFUELING OPERATIONS

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Air refueling (AR) creates opportunities for the use of in-flight refuelable aircraft in operations. Whether keeping surveillance aircraft on station to observe adversaries, refueling airlifters flying long direct delivery missions, or enabling sustained strike operations; AR is an invaluable part of overall Air Force capability.

Air Refueling Airspace

Most intratheater air refueling (AR) is conducted in airspace specifically designated for AR. In peacetime, AR information (e.g., airspace boundaries, altitudes, and communication data) is published in-flight information publications. During a contingency, AR airspace, as well as routing to and from the AR airspace, may change in response to air operations and enemy threats. Applicable AR information is published in the daily and weekly airspace control plan, airspace control order, and special instructions, and should be followed carefully to avoid conflicts or hazardous situations, especially during joint or multinational operations where the risk of midair collisions in theater is high.

There are generally two types of refueling areas: tracks and anchors. The choice of track or anchor depends on several factors such as receiver mission and routing, number and routing of tankers, offload required, receiver number and type, weather, time available to accomplish rendezvous and refueling, and availability of airspace. At times both types of refueling areas may be used to facilitate the same operation. For example, pre-strike refueling may be accomplished in an anchor to facilitate package formation, and post-strike refueling may be accomplished along a track to facilitate recovery of receiver aircraft. In addition, special purpose AR areas may be established through the use of an altitude reservation. Detailed information on AR track and anchors for peacetime operations can be found in Federal Aviation Administration Joint Order 7610.4 (“Special Operations”), chapter 10 (Aerial Refueling), or the theater-specific instruction.

Tracks

AR along a designated AR track is the preferred method for intertheater refueling. Normally, tracks have a designated AR entry point, rendezvous initial point, rendezvous

control point and a designated AR exit point. Tracks are used when receiver aircraft are required to maintain a predetermined aspect to an objective area. Finally, AR tracks are best when either tanker or receiver performance would be impacted by multiple turns.

Anchors

In anchor areas, the tanker flies a racetrack pattern within a defined airspace while waiting for receiver aircraft to arrive. Once joined, the tanker flies an expanded racetrack while refueling occurs. Anchor refueling is normally used for intratheater operations where airspace is confined or where receivers need to operate from a central location. Anchor areas are best suited for small, highly maneuverable aircraft.

Operation ALLIED FORCE (OAF) Airspace Structure

Airspace control for air refueling operations is vital. During OAF, air refueling concerns mandated a dramatic restructuring of effort to ensure mission accomplishment and safety were both given their due. Additional information on airspace control can be found in AFDP 3-52, *Airspace Control*.

Nuclear Operations Support

AR supports nuclear operations in several ways:

Bomber Support

Tanker assets are incorporated into nuclear operations to support bomber strike requirements. AR provides the nuclear-equipped bomber force the ability to deliver their payloads to any location in the world and recover to suitable reconstitution bases. Through AR, the payload, range, and endurance of bomber aircraft is significantly increased, further enhancing their flexibility to strike at distant targets. Bombers may be launched during periods of increased tension and proceed to orbit areas well beyond the range of enemy missiles or attack aircraft, providing flexible options to national

senior leadership. With AR the bombers can maintain this orbiting status until they are directed to fulfill their mission or are recalled.

Reconnaissance in Support of Nuclear Operations

The greatly enhanced flight endurance provided by AR is also an indispensable component of reconnaissance in support of nuclear operations. It enables the reconnaissance assets to provide timely and accurate intelligence information to the command authorities.

Command and Control Aircraft Support

In the same manner, the greatly enhanced flight endurance provided by AR is an indispensable component of the strategic airborne command post concept. It provides the President and Secretary of Defense the ability to continue to direct military action from an airborne platform.

Global Strike Support

Tankers give strike platforms the ability to reach any target globally without relying on intermediate basing locations. This provides the ability to rapidly strike targets in distant locations and recover to safe areas. Depending on the situation, tanker assets may be transferred to other combatant commanders in support of existing operation plans. AR provides continental United States (CONUS)-based airpower forces a global presence, providing geographic combatant commanders with greater capabilities than they may otherwise have available.

Airbridge Support

An airbridge creates a line of communication linking the CONUS and a theater, or any two theaters. AR makes possible accelerated airbridge operations since en route refueling stops are reduced or eliminated. It reduces the number of aircraft on the ground at staging bases, minimizes potential en route maintenance delays, and enables airlift assets to maximize their payloads. This significantly increases the efficiency and effectiveness of airlift operations by making possible the direct delivery of personnel and materiel. It is an effective method for moving forces in the initial days of a conflict; however, the level of effort required is significantly increased and such operations may reduce the number of tankers available for other potential missions like combat support. Outside the CONUS, tanker basing may be a requirement for airbridge operations.

Aircraft Deployment Support

Tankers extend the range of deploying combat and combat support aircraft, often allowing them to fly with few or no stops en route to an area of responsibility. AR increases the deterrent effect of CONUS-based forces and allows rapid response to regional crises. The capability of aircraft to fly non-stop to a theater may eliminate the

need to obtain landing rights from countries remaining neutral in a conflict. Deployment support is key to achieving successful expeditionary operations. The deployment support operation is considered a separate and distinct operation because the coordination, communication, and search and rescue responsibilities differ based on receiver capabilities. Deployments of heavy aircraft (bombers, airlifters) normally use an airbridge operation for primary support. This operation can also be associated with the movement of fighter aircraft between theaters in the form of missions named Coronets.

Coronets support the movement of multiple air assets, usually fighter aircraft, during deployment rotations, contingencies, exercises, and aircraft movements for logistics purposes. Joint Publication 3-36, *Joint Air Mobility and Sealift Operations*[7], refers to Coronets as "*a movement of air assets, usually fighter aircraft, in support of contingencies, rotations, and exercises or aircraft movements for logistic purposes.*" These flights may include a dual-role cargo- and passenger-carrying element as well as refueling. They normally have long lead times for planning, tasking, and execution, and the tanker portion of the flight is normally planned by the 618th Air Operations Center (AOC) (Tanker Airlift Control Center [TACC]). Coronet operations usually have a higher priority than routine training operations. Depending on operational requirements, the 618 AOC (TACC) may position tanker aircraft and crews in preparation for deployment and may coordinate with the theater AOC for AR support, if required. Typically the tanker accompanies the receivers for the majority of the flight, especially during an oceanic crossing.

Theater Support (Combat Air Refueling Support)

During a combat operation, the highest priority for intratheater AR forces is normally supporting combat and combat support aircraft executing the air portion of the joint force commander's (JFC's) campaign. This is especially true during the initial phases of a conflict. Combat aircraft may be based well outside enemy threats to protect them from hostile attack, and may need tankers to give the range and increased weapons load necessary to engage targets. AR increases the endurance of air combat support assets. Airborne command and control; battle management; and intelligence, surveillance, and reconnaissance aircraft are used to manage, direct, conduct, and assess combat operations. Without in-flight refueling, these assets have limited endurance and may require extensive regeneration periods between sorties. In a peer/near-peer conflict, tanker support may be required in known threat areas. This will make counterair escort or suppression of enemy air defenses a likely requirement (reference AFDP 3-01, *Counterair Operations*, for more specific information).

Tankers allocated for theater support may occasionally be called upon to provide support to airbridge operations, especially supporting direct delivery missions. The theater commander, Air Force forces (COMAFFOR), after considering theater air refueling requirements, determines if theater assigned or attached tanker forces can

[7] Common Access Card enabled site

support the CONUS-to-theater airbridge. If additional tanker forces are required, the COMAFFOR may request increased augmentation from the JFC.

Special Operations Air Refueling Support (SOAR)

SOAR enables special operations forces to maintain a long-range operating capability, as well as endurance and persistence in an operational area. Air Mobility Command maintains AR crews trained to air refuel special operations aircraft. Successful operations require specialized equipment, crew training, and operational procedures. When assigned or attached to a joint task force, these forces may fall under a special operations functional component commander who reports directly to the JFC.

Joint and Multinational Operations

Joint and multinational operations require unity of effort. When working with other Services and nations, differences in procedures and terminology may provide challenges. Therefore, tactics, terminology, and procedures should be standardized when working in joint or multinational operations. For example, Allied Tactical Publication (ATP) 3.3.4.2 *Air-to-Air Refueling* [formerly ATP 56(C)] under Standardization Agreement 3971, was published for North Atlantic Treaty Organization (NATO) members to standardize in-flight refueling operations within a NATO context. While detailed procedures depend on aircraft type, mode of employment, and national requirements, most allies should achieve sufficient commonality. Commanders of multinational forces should determine a common set of doctrine, tactics, and procedures for operations. Because airspace availability is a limitation in refueling operations, standardizing multinational formation procedures allows assets to operate in compressed airspace. Standardization is critical when refueling multiple receivers or multiple formations.

AIR MOBILITY SUPPORT AND CONTINGENCY RESPONSE

Last Updated: 28 June 2019

Within the range of combat support capabilities are three functional areas: air mobility command and control (C2), aerial port, and air mobility maintenance, which collectively comprise air mobility support. For additional information on combat support, see AFDP 4-0, *Combat Support*.

Air mobility support forces are divided between Air Mobility Command (AMC), which controls the majority of assets in support of US Transportation Command's (USTRANSCOM's) functional role, and the geographic combatant commanders (GCC) who control sufficient assets to meet their specific regional needs. These forces, combined with operating locations and the interrelated processes and systems that move information, cargo, and passengers, make up the Global Air Mobility Support System (GAMSS). This structure consists of a number of continental United States (CONUS) and en route locations, as well as deployable forces capable of augmenting the fixed en route locations or establishing operating locations where none exist.

Air mobility operations may dictate the use of contingency response (CR) forces, especially at austere locations or during a rapidly developing crisis. CR forces provide the three core air mobility support functions but also include additional combat support functions, enabling them to operate the airfield and to sustain themselves. These additional functions include weather, civil engineering, security forces, medical, contracting, finance, communications, logistics, air traffic control, public affairs, intelligence, legal, and airfield operations. They can be tailored to meet the specific requirements of the operation.

Air mobility support and CR forces are drawn from regular and air Reserve Component forces. Collectively, these components provide the forces which comprise the CONUS and overseas GAMSS organizations as well as deployable forces stationed primarily in CONUS. These components support operations across the range of military operations.

Joint entities requiring CR capability typically request a contingency response group, which may not necessarily be the requirement. Just as requesting agencies should refrain from asking for a specific airframe (e.g., C-5, C-17, or C-130), requests should state the requirement or desired effect.

FUNCTIONS OF AIR MOBILITY SUPPORT

Last Updated: 28 June 2019

Air mobility support—command and control (C2), aerial port, and maintenance as well as forces at en route locations—are tasked to provide these services, but can also be augmented with additional functions (such as combat support, aircrew flight equipment, and intelligence) to create a more robust throughput and support capability. The level of support throughout the Global Air Mobility Support System (GAMSS) can be tailored to match the mission requirements. Additionally, deployable air mobility support forces can expand the GAMSS at existing locations or establish capabilities where none exists. Deployable air mobility support forces are designed for short-term deployments.

Command and Control Systems

The air mobility enterprise provides its own C2 systems to plan, flow, and track air movements and provide in-transit visibility (ITV) of equipment and passengers. Communication requirements may include various radio and satellite communications systems, and mobility mission planning and execution systems supporting their airfield operations as well as those of supported air mobility aircrews that may transit or operate from their location.

Among the most important services that GAMSS provides are ITV and flight following. Commanders depend on accurate, timely ITV of assets to efficiently manage those assets and associated supporting operations. Consequently, the effectiveness of the GAMSS relies significantly on the integration of C2 data into a comprehensive ITV picture. (NOTE: In selected cases, Air Force Special Operations Command special tactics teams can provide limited initial capability for both air traffic control and aircraft reporting.)

The COMAFFOR and staff should have contingency C2 plans, using mission type orders and other types of distributed command and control, in the event of degraded communications in a contested environment against a peer- or near-peer adversary.

Aerial Port

An aerial port is an airfield that has been designated for the sustained air movement of personnel and materiel. The GAMSS possesses a robust aerial port capability. In order to be responsive as a throughput network, fixed en route aerial port operations are sized to ensure a minimum throughput capacity is maintained at all times, based not on steady-state workload, but on established planning factors. Deployed aerial port operations, on the other hand, are usually sized to meet the forecast workload requirements of the operation they are supporting. GAMSS units are designed to establish and operate air mobility terminals and have the ability to onload and offload a set number of aircraft based on forecast workload requirements. In addition, GAMSS aerial port specialists establish marshalling yards and traffic routing for cargo, aircraft servicing, passenger manifesting, and air terminal operations center services. GAMSS aerial port personnel are also responsible for the transmission of movement manifests and ITV data.

The Aerial Port Role in Vietnam

The aerial port role was critical in tactical airlift. In the Tet Offensive and siege at Khe Sanh in 1968, aerial port facilities were saturated. Aircraft were delayed for loading or unloading; the limiting factor was not aircraft or aircrews, but the ability of the aerial port to move the cargo. It became apparent to tactical airlift personnel that the Air Force must maintain an active, progressive aerial port nucleus capable of rapid expansion and able to meet requirements of contingency operations, even as US forces withdrew.

—*Tactical Airlift in Southeast Asia*, a Project CHECO (Contemporary Historical Examination of Current Operations) Report, 1972

Maintenance

The ability to provide basic maintenance at all times, particularly for airlift aircraft, is critical to the air mobility enterprise. Designed primarily to support air mobility aircraft operations, en route maintenance units are not intended to provide sustainment maintenance. In addition, the contingency response wing provides mobile GAMSS maintenance capability comprised of mostly cross-functional maintenance specialties designed to provide aircraft marshalling, parking, refueling, and limited aircraft repair capability. When specialized aircraft repair capability is required at a contingency location that exceeds the core capacity at the site, a maintenance recovery team (MRT) can be deployed to accomplish the repair. MRTs are normally sourced from the aircraft's home station, or as coordinated between air operations centers with assigned mobility forces. As a rule, planners and units receiving maintenance augmentation from

GAMSS forces should consider supplementing maintenance capability as soon as practical to ensure continued operations.

GLOBAL AIR MOBILITY SUPPORT SYSTEM FORCES

Last Updated: 28 June 2019

Air Mobility Command's (AMC's) fixed en route system serves as the execution arm of the Global Air Mobility Support System (GAMSS). The air mobility operations wings (AMOW) that comprise the en route system are considered "forward located." This structure is essential to providing a responsive fixed en route network because it ensures the AMOW commander has the authority to shift assets internally to keep all nodes of the en route "theater" at a capacity commensurate with the operational demand. Furthermore, the AMOWs and each air mobility squadron (AMS) respond to the direction of the 618th Air Operations Center (AOC) (Tanker Airlift Control Center [TACC]) with respect to mission priorities and changes. Except for a full airbase opening package, the GAMSS is not self-sustaining over extended periods. Usually, fixed and mobile teams operating outside the continental United States rely heavily on supported commanders or host nation for base operating support. GAMSS should clearly articulate their requirements and establish the proper support agreements.

Operation UNIFIED RESPONSE

Following the January 12, 2010, earthquake in Haiti, US military forces supported the disaster relief effort. US Air Force forces were tasked to manage airfields supporting the relief effort. An Army rapid port opening element joined an Air Force contingency response group (CRG) to form US Transportation Command's Joint Task Force - Port Opening. An aerial port of debarkation was established at the Toussaint Louverture International Airport in Port-au-Prince. Additionally, the CRG was declared the senior airfield authority, assuming responsibility for parking aircraft that transited the main ramp, offering cargo offloading services to users, loading evacuating American citizens, providing command and control for fixed wing operations, and ensuring airfield and perimeter security. In total, the CRG worked over 6,000 sorties, downloaded 31,000,000 pounds of humanitarian cargo, and safely evacuated 15,500 American citizens.

AIRBASE OPENING

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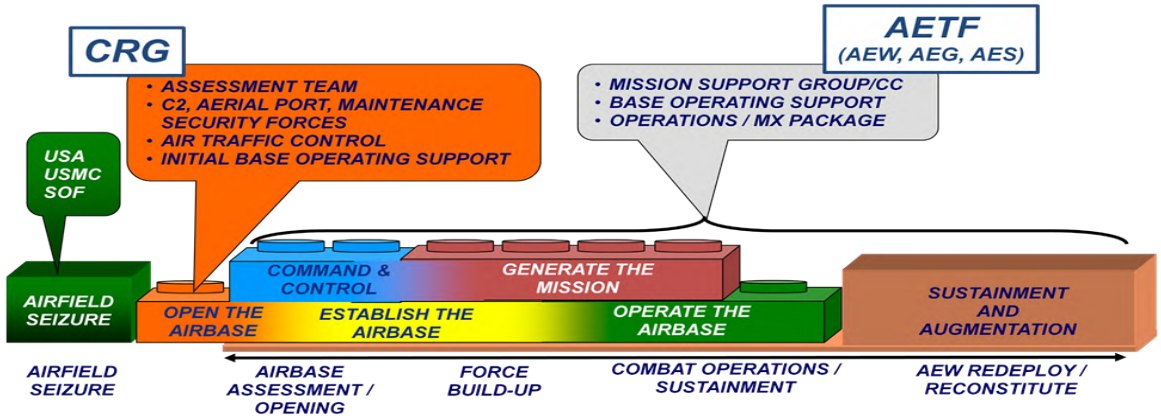
Contingency response (CR) forces are limited in number and require careful planning when implementing their use during a highly contested peer conflict. Contingency response (CR) forces are normally the first Air Force presence on an expeditionary airbase regardless of how the base is gained (e.g., base seizure or acceptance from a host nation) or which follow-on US entity operates the base. CR forces are eventually replaced by follow-on forces (see figure "Airbase Opening Force Module Construct"). When opening a base, CR forces normally coordinate actions with theater command elements to ensure theater-specific responsibilities such as force protection (FP) meet requirements. All deployed CR forces should integrate with the host for FP and communications. Defined operational areas and responsibilities for CR personnel should be specified during planning of seizure and airbase opening operations. Additional issues that should be considered during planning may include the handoff of the airfield from any seizure force to the contingency response group (CRG) or other Global Air Mobility Support System (GAMSS) element, CRG or GAMSS element to follow-on unit, and redeployment and reconstitution of the CRG or GAMSS units once other expeditionary support forces are in place (normally not later than D+45 days).



Airbase Opening Force Module Construct

AEG- air expeditionary group
AES- air expeditionary squadron
AETF- air expeditionary task force
AEW- air expeditionary wing
C2- command and control
CRG- contingency response group
MX- maintenance
SOF- special operations forces
USA- US Army
USMC- US Marine Corps

Operation JUST CAUSE: Air Mobility Liaison Officers Supporting Joint Forcible Entry

On 18 December 1989, the President directed the Joint Chiefs of Staff to execute Operation JUST CAUSE. The US invasion of Panama began on 20 December 1989 with an airborne assault by special operations forces onto strategic installations in Panama City and the airfield at the Rio Hato military complex

At 0100, 20 December 1989, nearly 1,300 Rangers of Task Force RED jumped over multiple objectives. At 0145 an additional 2,700 troopers from the 82d Airborne Division conducted an airborne assault onto Torrijos-Tocumen Airport, joining the Rangers in the largest US airborne operation since World War II. Among those forces parachuting onto the Torrijos-Tocumen Airport was a tactical airlift liaison officer (TALO) in support of the 82d Airborne Division. (Now designated as air mobility liaison officers [AMLO]). His mission was to support efforts to clear the runway, accomplish drop zone surveys, and communicate when the runway was ready for aircraft.

The airfield was cleared of equipment and debris and capable of receiving aircraft just two days after D-day. Following the capture of General Manuel Noriega, the TALO worked with 82d Airborne Division Headquarters staff to coordinate the redeployment of 82d Airborne Division forces and equipment.

This operation and the similar 26 March 2003 combat airdrop of 954 soldiers of the 173rd Airborne Brigade onto Bashur Airfield in Northern Iraq highlight the value of integrating AMLOs into the assault force during joint forcible entry operations. AMLOs are trained and equipped to employ forward with their aligned Army and Marine Corps units. AMLOs supporting the US Army's airborne units maintain the airborne qualification to support the joint forcible entry capability.

VARIOUS SOURCES, including personal account from Lt Col (ret) William J. McCrindle (3rd Brigade 82d Airborne Division TALO); Operation JUST CAUSE: Lessons for Operations Other Than War, RAND, 1996 (Jennifer Morrison Taw); and Operation JUST CAUSE: The Planning and Execution of Joint Operations in Panama, February 1988–January 1990, Joint History Office, 1995 (Ronald H. Cole).

AIR MOBILITY DIVISION AUGMENTATION UNITS

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Theater air operations center (AOC) air mobility divisions (AMD) are manned to support day-to-day (i.e., steady-state or shape and deter operations) theater air mobility requirements. As a result, AMD augmentation units are designed to provide rapid, tailored, worldwide, operational-level command and control (C2) of intratheater air mobility assets to a theater commander, Air Force forces (COMAFFOR) when AMD operations exceed initial levels. An AMD augmentation unit extends an existing theater AOC's AMD infrastructure and presents forces to warfighting joint force commanders by focusing on meeting our nation's global air mobility requirements.

Each AMD augmentation unit presents trained personnel in the areas of airlift, air refueling, C2, logistics (airlift requirements, aerial port, and aircraft maintenance), and aeromedical evacuation planning and execution. Additionally, an active-duty air mobility operations squadron (AMOS) can provide limited MAF-centric combat airspace, intelligence, and C2 systems administration to augment an AOC's support and specialty teams.

AMD Augmentation – A Notional Phased Approach

Each AOC is sized and tailored to its specific mission/theater of operations. The AOC plans, exercises, executes, and assesses across normal shape and deter operations. Because each theater air component's allocated air mobility mission varies in size and scope, their AMD's normal manning varies widely. Planners should consider probable strategic warning as well as the response time of augmentation sources (active duty and air Reserve Component (ARC) augmentation units) when determining the availability of AMD augmentation capabilities to be used to bolster AMD operations beyond shape and deter operations. Because they are sized for theater shape and deter operations, AMD's are not standardized amongst the geographic AOCs. The AMD is normally organized with the following core teams: the airlift control team (ALCT), air refueling control team (ARCT), air mobility control team (AMCT), and aeromedical evacuation control team (AECT). Theater-specific requirements dictate the level of support necessary from each team. An AMD may not have one or more of these core teams within its organization and this may drive a disparate level of augmentation (full vs partial) when compared to other AMDs. An example of this would be an AMD that does not maintain a manned AECT because their theater has very few aeromedical

evacuation requirements. In this scenario the AMD would require full AECT augmentation as theater operations increase.

Theater AMDs have evolved their manning and organization to meet the needs of their theaters. Examining this evolution from a notional phased perspective provides a useful construct to scale and tailor AMD augmentation. There are four phases of AMD augmentation: shape and deter, seize initiative, dominate, and stabilize and enable civil authority. Each of these phases is described below:

- **Shape and Deter.** This is the existing AMD manning and team composition assigned to the AOC prior to contingency operations (i.e., the "going-in" or steady-state). Different theaters present a different posture depending on the number of theater assets owned or the type of missions being performed.

- **Seize Initiative**. Once a contingency operation begins and the existing AMD is unable to meet its demands (i.e., requirements exceed manpower capability), a cadre of AMD augmentation personnel is available to provide short-term, rapid response to global contingency air mobility C2 needs and to carry-out the AMD's core competencies of intratheater airlift, tanker, and aeromedical evacuation planning and execution. Working with Air Combat Command, Air Mobility Command has postured two active-duty AMOSs to meet this initial response need. Additionally, there are ARC AMOSs postured and trained to conduct AMD augmentation operations. Once a theater AMD determines augmentation is required, they must then determine the specific capability or functional area that is required. The focus of this effort should be on the time-phased force and deployment data (TPFDD) closeout and supporting movements for initial beddown of forces.

- **Dominate**. Operations can be any activity along the range of military operations from humanitarian assistance and disaster relief to major theater war. The AMD core competencies and specialties are still required but the levels of support and personnel involved may dramatically increase based on the given scenario. Depending on how long operations continue, the supported component numbered air force (C-NAF) Air Force forces (AFFOR) staff, in coordination with the AMD staff, should begin using global force management (GFM) / air expeditionary force (AEF) processes to begin planning for sustainment of the long-term manpower needs within the AMD. Timing and pace of operations will dictate if personnel substitution is feasible within the AEF cycle system. The GFM/AEF provides a predictable timeline to generate and fill personnel requirements and provide any incoming AMD personnel with the required training. Replacing active duty AMD augmentation forces deployed during seize initiative activities with ARC AMD augmentation personnel, under the GFM/AEF cycle, enables the initial augmentation forces to redeploy and reconstitute for other contingency requirements that may arise and sets conditions for the transition to stabilize operations.

- **Stabilize and Enable Civil Authority**. Normally at this point, the AMD is more robust than during initial shape and deter activities, and usually has fallen into a

more predictable routine. Operations remain on a wartime footing; however, theater tasking and manning requirements are relatively stable. Augmentees may still be required, depending on the baseline, pre-contingency manning level for the applicable AMD, but these individuals can be trained and the positions filled using ARC AMD augmentation units (if available), or extended temporary duty or rotational manpower. AMD augmentation units are not designed or manned to provide long-term sustainment augmentation to the AMD. Their core competency and the capability they provide is a short-term response to meet global contingency air mobility C2 needs. The stabilize and enable civil authority manning requirements may become the supported AOC's "new normal" and come to define the augmented AMD's new shape and deter phase. At this point, working with the AFFOR staff, the AOC may determine that long-term manpower adjustments must be made to sustain their operations.

The phases described above are not necessarily linear. As an example, stabilize operations can roll back into a previous phase depending on theater conditions. A theater AMD can be tasked to support a wide variety of tasks along the range of military operations. This diversity of requirements inhibits mobility air forces from identifying a single standardized AMD profile capable of supporting all of the AOCs. Instead, examining AMD augmentation from a phased perspective offers a way to tailor AMD augmentation with the right forces, in the right place, and at the right time to meet the COMAFFOR's intratheater air mobility objectives.

AEROMEDICAL EVACUATION EFFECTS

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The aeromedical evacuation (AE) system provides time-sensitive mission critical en route care to patients or casualties to and between higher levels of medical treatment facilities and care. The Air Force's AE capability comprises a system of systems including AE liaison teams, AE crew stages, AE crews, critical care air transport teams, other specialty teams, and en route patient staging systems. These forces execute patient movement predominately on mobility air forces aircraft, as well as aboard other Service, contracted, and international partner airframes. AE forces operate as far forward as air operations occur. The system is designed to be flexible to operate across the spectrum of potential scenarios and interface with joint, multinational, and special operations forces. For more information on medical operations, see AFDP 4-02, *Health Services*.

AE forces may be tasked across the range of military operations. In certain circumstances, AE forces may also be tasked to evacuate injured or ill host nation personnel, enemy prisoners of war, detainees, and coalition forces in patient status. AE improves casualty recovery rates by providing timely and effective en route medical care of sick and wounded patients to medical facilities offering appropriate definitive medical care. The AE system provides patient movement by air, clinical specialty teams, specific patient movement items (PMI) equipment for in-flight care, patient staging facilities, command and control (C2) of AE forces and operations, and support to the communication network between airlift C2 agencies.

The Air Force is responsible for the AE mission. Air Mobility Command (AMC) is the Air Force's lead command for AE and intertheater movements unless movements are supported by the geographic combatant command's theater air mobility assets. AMC is charged with the responsibility to operate the common-user AE force and to procure and execute commercial augmentation (i.e., civilian air ambulance [CAA]). The AMC Surgeon General (SG) is the US Transportation Command (USTRANSCOM)/SG's program manager responsible for resourcing, maintaining, and recycling PMI medical equipment to support Department of Defense patient movement. It oversees the global patient movement requirement center. AMC manages and operates the AE intertheater and hub and spoke operations, and provides AE elements and planning assistance to all theaters of operation. United States Air Forces in Europe and Pacific Air Forces are responsible for their theater-assigned AE units and associated airlift units. During

contingencies where requirements exceed theater AE capabilities, AMC normally provides tailored augmentation forces to support increased intratheater requirements and expands or establishes the intertheater capability to support movement between theaters of operation or to the continental United States, as required.

AE operations are executed by optimizing the use of available aircraft. Optimization may include mixing cargo and AE patients on the same air mobility flight, provided mixing does not interfere with patient movements. Approval to move cargo with AE patients is through the controlling air operations center and the medical crew director. Airlift for urgent and priority patients is normally tasked from alert aircrews, diversion of in-system select aircraft, or contracting with a CAA.

Theaters validate patient movement requests through the USTRANSCOM patient movement requirement centers. If absolutely necessary, patients requiring in-flight medical care, but not supported by the organic AE system, may be moved by other Service assets or CAA. CAA should only be used in order to save life, limb, or eyesight or if it is demonstrated as most cost-effective.

AEROMEDICAL EVACUATION OPERATIONS

Last Updated: 28 June 2019

During support of operations, aeromedical evacuation (AE) employs its full capability, to include staging, AE aircrew members, specialty teams, specialized medical equipment, and integrated communications. During expeditionary operations, AE includes the movement of military casualties from forward operating sites to definitive care facilities. The AE system may also be tasked to provide patient movement for noncombatant evacuation operations, injured US combat forces, repatriated American citizens, allied prisoners of war, detainees, coalition forces, and Department of Defense (DOD) civilian contractors.

AE Laydown

The AE force provides time-sensitive mission critical en route care to patients to and between levels of care. This drives a requirement to provide continuity of care at the patient staging point and during transportation.

AE planners on the Air Force forces (AFFOR) staff are responsible for deployment, basing, sustainment, and redeployment of Air Force forces and develop plans and strategies to determine appropriate force laydown of AE ground forces and AE crews in support of the joint force commander's (JFC's) joint patient movement operations. The aeromedical evacuation control team's theater aeromedical evacuation system manager coordinates with the AFFOR staff and joint theater medical planners to integrate AE support into the theater patient movement plan and ensure theater AE system (TAES) specific issues are addressed that impact operations. The TAES manager collects situation reports and maintains real-time information on the status of TAES capabilities (equipment and personnel). The TAES manager also coordinates logistics support for and the movement of TAES equipment and personnel to ensure proper laydown, phasing, and sequencing of AE forces.

Patient Validation

The theater validating flight surgeon and patient movement requirements center provides clinical and administrative oversight of patients requiring AE. Once validated, these movement requirements are sent and coordinated with the appropriate air operations center or other appropriate agency for obtaining space on AE airlift missions.

AE squadron operations are conducted through operational wing command and control channels.

AE begins once a validated patient movement request is passed to the Air Force component agency for execution. AE is not the only mechanism for movement of patients. Casualty evacuation refers to the movement of casualties aboard vehicles or aircraft (most often rotary wing aircraft). Medical evacuation traditionally refers to US Army, Navy, Marine Corps, or Coast Guard patient movement using pre-designated aircraft temporarily equipped and staffed for en route medical care. Patient evacuation from point of injury to initial treatment at a health care facility is the responsibility of each Service component.

En Route Care Transport Team

En route critical care transport capabilities consist of several specialized medical teams who assist in carrying out the mission of the global patient movement system. These teams are limited, rapidly-deployable resources available in selected situations to maintain or enhance the standard of care provided to critically ill or injured patients who require continuous stabilization and highly advanced care during transport to the next level of medical treatment. En route critical care units include the critical care air transport team (CCATT), special operations surgical team, and special operations forces medical element. Pararescue jumper (PJ) teams may also provide limited critical care transport as a collateral mission. Other enabling capabilities include, but are not limited to, point of injury care, post-surgical critical care, acute lung emergency rescue teams, and neonatal intensive care unit teams. CCATTs provide intensive care, by themselves or in conjunction with AE crews, to evacuate critical patients requiring advanced care during transportation. These teams are medically responsible for their patients.

AE Aircraft Considerations

Many considerations should be taken into account when selecting appropriate aircraft for AE missions. Altitude restrictions, configuration, patient load, airfield restrictions, aircraft range and potential air refueling are key factors. Additionally, AE crew members should be provided combat aircrew flight equipment on the same basis as other aircraft crew members.

Defense Support of Civil Authorities

Defense support of civil authorities (DSCA) enables mutual assistance and support between DOD and any civil government agency. This includes planning and preparation for response to civil emergencies or attacks, including national security emergencies. Most DSCA situations are managed within the state. In a natural disaster, the state normally declares when the situation is beyond the state's response capability and then requests federal support for the state emergency management agency from the Federal Emergency Management Agency (FEMA). The director of patient stage operations is

the senior AE DOD representative responsible for coordinating AE efforts at the aerial port of embarkation (APOE) and coordinating resource requirements with DOD, state, and federal units and agencies at the APOE. This person is responsible for all aspects of patient care and operations affecting patient care at the APOE.

When the DOD provides support, most FEMA-requested patient evacuations requiring air transportation are accomplished by AE. US Transportation Command (USTRANSCOM) validates AE requirements in support of civilian authorities. Once patient movement is validated, the requirement is tasked to the appropriate air operations center for execution. Air Mobility Command (AMC) also provides trained AE coordinating officers and coordinating elements for DSCA from existing active and Reserve Component forces in execution of the National Response Framework. AE assets required depend on the size and scope dictated by the disaster or contingency and may be supported by in-place AE infrastructure or the deployment of AE assets to the disaster area. For additional information on homeland operations, see AFDP 3-27, *Homeland Operations*.

AE Interface with Special Operations and Personnel Recovery Operations

Some expeditionary forward deployed forces, such as special operations forces (SOF), Marine expeditionary forces, and personnel recovery operations forces, do not possess organic patient evacuation capability and should identify requirements for, and obtain patient evacuation support at forward airbases. See AFDP 3-50, *Personnel Recovery*, for more information about personnel recovery.

Evacuation of casualties within a joint special operations area can be particularly complex since SOF often operate with small, widely dispersed teams, and in locations not easily accessible. SOF are responsible for care and evacuation of casualties from the forward location to the secure airfield where AE forces may be prepositioned to support the operation. SOF conduct the evacuation of patients with their organic capabilities. At the secured airfield, patient evacuation and specialty care teams (e.g., CCATT) assume responsibility for the casualties, freeing special operations medical assets to return to forward locations. Patient evacuation assets provide the support required to move patients through the en route care system.

Normally, the interface point with special operations is the en route patient staging system (ERPSS). ERPSS personnel have contingency operations training and, in forward locations, should be ready to provide limited holding for patients who have been provided resuscitation and surgical intervention, when augmented by CCATT or similar capability. AE missions originating at secure forward airfields may require AE operations in low light conditions. When supporting these forces, AE crew members and CCATTs should be trained in low light and low noise operations, weapons use, and operations in austere locations to meet special mission requirements.

Detainee Missions and AE

AE personnel are not normally used for providing care to detainees unless they require in-flight medical care. Security of detainees is not a responsibility of the en route care system. Strict adherence to detainee handling guidelines is required.

Inter-fly Agreements with Services and Coalition AE Support

The Air Force employs aircraft for the movement of patients and uses AE crew members and specialty teams (e.g., CCATT) to provide in-flight patient care. Other Services and coalition forces use various ground transport and a variety of aircraft for patient movement. Air Force AE aircrew members may perform appropriate duties in non-Air Force aircraft in the interest of the US government and approved by the appropriate Air Force component, the affected geographic combatant commander (GCC), and the controlling aircraft authority. Conversely, coalition forces may also integrate with Air Force AE forces.

AE of Contaminated or Contagious Casualties

Patients, personnel, or casualties with known or suspected contamination from chemical, biological, radiological, or nuclear agents are not normally transported within the aeromedical patient movement system. However, chemically or radiologically contaminated casualties, when approved for AE should be decontaminated before entering the AE system unless the Secretary of Defense (SecDef) directs otherwise. USTRANSCOM Surgeon General maintains a list of bioterrorism and Centers for Disease Control and Prevention critical list (CL) agents. The imminent concern is communicable person-to-person agents.

Patients with CL contamination should be quarantined and treated in-place and are not recommended for evacuation. For more information, see AFDP 3-40, *Counter Weapons of Mass Destruction (WMD) Operations*.

Movement of highly contagious patients requires commander, USTRANSCOM, and GCC approval, as well as SecDef exception to policy.

APPENDIX A: AIRLIFT MISSION TYPES

Last Updated: 28 June 2019

The following information briefly describes the types of airlift missions. Refer to Joint Publication (JP) 3-36, *Joint Air Mobility and Sealift Operations*[8], JP 4-01, *The Defense Transportation System*, and JP 4-09, *Distribution Operations*, for additional information concerning airlift missions.

Aerial Delivery Missions

Aerial delivery missions employ airdrop of personnel, equipment, and supplies into potentially hostile environments, locations lacking adequate access by other means, or when airland is insufficient to meet closure times. It requires specially trained crews, special equipment, and additional mission planning.

Aeromedical Evacuation

Aeromedical evacuation (AE) provides time-sensitive in-flight care of patients or casualties to and between higher levels of medical treatment facilities and care, using military airlift or contracted aircraft (civilian air ambulance) with medical aircrew trained specifically for this mission. AE forces can operate as far forward as aircraft are able to conduct air operations, across the range of military operations, and in all operating environments. Specialty medical teams may be assigned to work with the AE aircrew to support patients requiring more intensive en route care.

Banner Missions

Banner missions require close coordination with the White House Military Office (WHMO). These highest priority missions require aircrews to be postured in an enhanced alert status to be flexible to the user requirements. See Air Force Instruction 11-289, *Phoenix Banner, Silver, and Copper Operations*, for additional guidance. A subset of missions tasked by the WHMO in support of White House operations are the following:

A **PHOENIX BANNER** mission is a special assignment airlift mission (SAAM)

[8] Common Access Card enabled site

supporting the President of the United States.

A **PHOENIX SILVER** mission is a SAAM supporting the Vice President of the United States.

A **PHOENIX COPPER** mission is a SAAM supporting White House-directed missions when not supporting the President or Vice President.

Channel

Channel missions are taskings flown over fixed routes. By default, all channels are considered common-user distribution channels. Contingency channels support ongoing Joint Chiefs of Staff (JCS)-approved contingency operations. These channels can serve intertheater or intratheater needs. The majority of airlifted sustainment moves on channel missions. At the request of the supported combatant commander (CCDR), the commander of US Transportation Command (USTRANSCOM) can establish a special channel mission called air mobility express (AMX) to move critically needed items rapidly to an area of responsibility. The supported CCDR may apportion part of the cargo space on AMX by pallet positions to each component. For AMX missions to be effective, the supported CCDR should establish a theater distribution system to deliver express cargo from aerial port of debarkation to final destination.

Executive Airlift Missions

The executive airlift (EA) mission provides safe, reliable, connected, and protected air transportation for national leadership in direct support of national security objectives, while ensuring continuity of government. EA is a strategic mobility enabler dedicated to transporting the President, Vice President, Cabinet and Congress members, and other Department of Defense (DOD)-approved senior officials and foreign dignitaries.

EA uses specially configured and modified aircraft to conduct highly sensitive, often classified, worldwide/theater missions enabling senior leadership to employ diplomatic, informational, military, and economic instruments of power. These special air missions (SAM) are primarily executed using VC-25, C-32, C-40, C-37, and C-20 aircraft. However, due to the high-demand, low-density nature of the mission, EA leverages aircraft including operational support airlift, Service secretary, CCDR, and other mobility assets to fulfill time-sensitive senior leader requirements. User-specified communication requirements drive the need for the very latest capabilities and technologies. Commander, USTRANSCOM is the overall manager for USAF’s SAM fleet.

Under direction of the Assistant Vice Chief of Staff of the Air Force, the Chief of the US Air Force Special Air Missions Division (CVAM) is the coordinating authority and serves as the chief of executive airlift scheduling activity (EASA) for EA missions originating in the continental US (CONUS) that are supported by USTRANSCOM assigned EA assets. CVAM receives EA taskings from the WHMO, Office of the Secretary of Defense (OSD) Executive Secretariat, Senior DOD leadership and OSD Legislative

Affairs. EASA is the point of contact when collaborative scheduling is required for combat support mission aircraft and executive aircraft. EA missions originating outside the CONUS (OCONUS) are supported by geographic combatant commander (GCC)-assigned EA assets and coordinated through the GCC's air operations center (AOC). CVAM and the theater AOC's air mobility division (AMD) collaborate regarding asset availability to ensure required SAM users have the needed airlift to meet requirements.

Mission efficiency, effectiveness, and urgency require customized mission dispatch, execution, and visibility tools and command and control (C2) structure. Commander, USTRANSCOM is the overall manager for USAF's SAM fleet and maintains operational control (OPCON) of CONUS-based SAM assets through the commander, Air Mobility Command (AMC/CC). OCONUS-based SAM assets are under OPCON to the respective GCC who normally delegates OPCON to the theater commander, Air Force forces (COMAFFOR). CVAM and WHMO provide detailed mission planning. Execution and C2 for missions conducted with CONUS-based assets occurs either in the unit itself or with the 89th Airlift Wing depending on the aircraft tasked. The theater AOC's AMD performs these functions for OCONUS-based assets. CVAM and theater AMD collaborate regarding asset availability to ensure required SAM users have the needed airlift to meet requirements.

Exercise and Contingency Support

Exercise and contingency missions involve deployment, sustainment, and redeployment via intertheater or intratheater airlift. Mobility assets participating in exercises enable units to gain additional training from unique mission scenarios and objectives that are not regularly accomplished during normal or contingency operations. Exercise and contingency operations are normally shaped by the functional or geographic CCDRs who develop an exercise directive, operation plan, or operation order with specific logistical requirements for operations directed by the President, the Secretary of Defense (SecDef), or the JCS.

Deployment and redeployment transportation requirements are planned using the joint operation planning and execution system. Joint force commanders (JFCs) validate their intratheater time-phased force and deployment data (TPFDD) to the theater AOC's AMD (if assigned) for planning and execution, while intertheater TPFDD requirements are sent to USTRANSCOM for planning and execution. The TPFDD details the CCDR's deployment and redeployment priorities, enabling air mobility planners to build air movement plans.

Human Remains

Human remains missions seek to return human remains with the highest dignity and respect. These missions are often high priority, closely watched missions requiring high levels of coordination for ceremonies and handling.

Humanitarian Assistance and Disaster Relief

Humanitarian assistance and disaster relief operations provide assistance to areas suffering from natural or manmade disasters to relieve or reduce human suffering, disease, hunger, or privation. These operations may be in support of the Department of Homeland Security, directed by the State Department or the GCC, or conducted in support of other national objectives. Refer to JP 3-27, *Homeland Defense*, JP 3-28, *Defense Support of Civil Authorities*, and JP 3-29, *Foreign Humanitarian Assistance*.

Joint Airborne / Air Transportability Training (JA/ATT)

These airlift missions are Chairman of the JCS-directed and provide continuation and proficiency training to Air Force air mobility providers and joint air mobility users. Missions may include airdrop, air assault, aircraft load training, air refueling, and Service school support. Air Force major commands with air mobility forces manage their JA/ATT program.

Noncombatant Evacuation Operations (NEO)

NEO are directed by the Department of State or other appropriate authority, in conjunction with the DOD, whereby noncombatants are evacuated from foreign countries when their lives are endangered by war, civil unrest, or natural disaster to safe havens or to the US. These missions are characterized by short timelines, increased coordination and oversight, and public affairs involvement. See JP 3-68, *Noncombatant Evacuation Operations*, for additional guidance.

Operational Support Airlift (OSA)

OSA provides a means of airlift for high-priority passengers and cargo with time, place, or mission-sensitive requirements, including validated AE patient movement. The DOD employs overarching guidelines for the approval and use of OSA. OSA supports authorized DOD travelers and cargo, which includes GCC and Service component needs. CONUS requirements are validated and scheduled by the joint operational support airlift center (JOSAC) at USTRANSCOM. Flying units, via JCS- and Service-established procedures, indicate specific aircraft availability for Service, JOSAC, and AE missions. OCONUS requirements are authorized, validated, and scheduled in accordance with Service and/or CCDR and component-defined processes. During contingencies, JFCs should utilize their OSA assets to supplement the theater's air mobility capability.

Prime Nuclear Airlift Force (PNAF) / Emergency Nuclear Airlift Operations (ENAO)

Airlift missions supporting nuclear operations are classified as PNAF or ENAO. PNAF refers to the aircraft and aircrews that provide peacetime logistical support for the movement of nuclear weapons and nuclear components. The objective of ENAO is to move nuclear cargo safely under US custody during emergency operations. Cargo aircrew may be tasked at any time to airlift nuclear weapons. The amount of preparation time and degree of assistance received depends on the length of time the major command has to move the weapons.

Special Assignment Airlift Mission (SAAM)

SAAMs support movements requiring special consideration due to the number of passengers, weight or size of cargo, urgency of movement, sensitivity, or other valid factors that preclude the use of channel airlift. SAAMs support DOD users as well as other government agencies.

APPENDIX B: 618TH AIR OPERATIONS CENTER (AOC) (TANKER AIRLIFT CONTROL CENTER [TACC]) ORGANIZATION

Last Updated: 28 June 2019

The following describes roles and responsibilities within the 618 AOC (TACC):

- **Director of Operations (XOZ).** The director of operations provides immediate oversight and decision-making in the day-to-day activities of Air Mobility Command (AMC) and represents the 618 AOC (TACC) commander on operational issues.

- **Operations Management (XON).** Provides data, technology and resource support across the 618 AOC (TACC).

- **Mobility Management (XOB).** Allocates and tasks units to support airlift and air refueling requirements. Coordinates with air Reserve Components (ARC) on their availability to support worldwide mobility taskings.

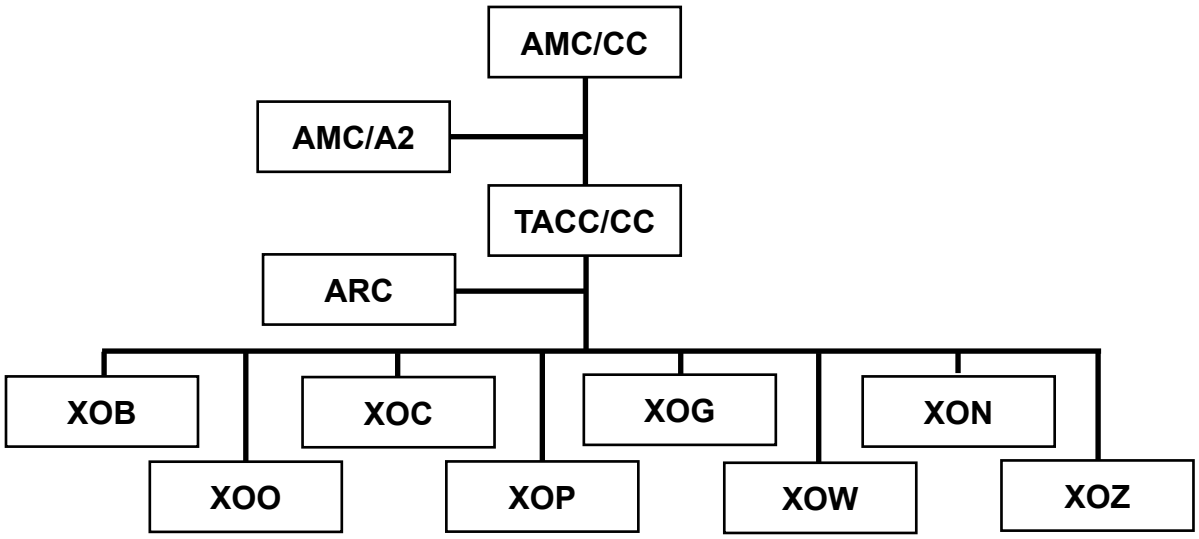
- **Command and Control (XOC).** Directs assigned missions within 24 hours of mission start. Provides diplomatic clearances, flight planning, waiver facilitation, integrated flight management, emergency actions support, en route aircraft logistics support, and strategic aeromedical evacuation (AE) execution management.

- **Current Operations (XOO).** Plans and monitors organic and commercial airlift and air refueling (AR) missions to meet the customer requirements for movement of passengers, cargo, support for classified programs, nuclear airlift, fighter and bomber deployment and employment, AR, executive airlift, homeland defense, and the nation's nuclear commitment. Acts as the focal point for tanker and airlift special access required programs and is the single source validator for all Air Force air refueling missions.

- **Global Readiness (XOP).** Single manager for executing global reach—airlift, AR, special operations, AE, operational support, and Presidential airlift in support of national goals and objectives. Integrates total force to implement directives and taskings from government agencies for movement of national and international resources in response to wartime needs, contingencies, exercises, and humanitarian relief efforts.

- **Global Channel Operations (XOG).** Directs worldwide strategic channel airlift operations for passenger and cargo movement in the Defense Travel System. Develops route structures, schedules airlift, and provides oversight on channel system performance.

- **Global Weather Operations (XOW).** Provides full spectrum weather support for all mobility missions under the command and control of the 618 AOC (TACC). Additionally, provides operational mission weather support to training flights at all AMC main bases as well as co-located ARC units. Produces climatological reports, command level briefings, and fulfills special weather support requests in support of US Transportation Command, AMC, Eighteenth Air Force, and 618 AOC (TACC) leadership.



618 AOC (TACC) Organization

APPENDIX C: AIR MOBILITY SUPPORT AND CONTINGENCY RESPONSE ELEMENTS

Last Updated: 28 June 2019

GLOBAL AIR MOBILITY SUPPORT SYSTEM (GAMSS) ELEMENTS

The GAMSS is organized into air mobility operations wings (AMOWs), groups (AMOGs), and air mobility squadrons (AMSs). All Air Force major commands (MAJCOMs) have small numbers of air mobility support forces assigned to their wings that contribute to GAMSS.

- **Air Mobility Operations Wing or Group.** Air Mobility Command (AMC) has two geographical embedded AMOWs, each consisting of two AMOGs with several subordinate AMSs, detachments, and operating locations that may include Air Force- or Navy-operated contracted terminals. Collectively, these units make up the fixed en route system, which provides air mobility support for the Defense Transportation System, and missions executed by either US Transportation Command (USTRANSCOM) or geographic combatant command assigned and attached mobility air forces.

- **Air Mobility Squadron.** AMSs are overseas en route squadrons that receive, service, and launch air mobility missions at each location; the exact structure and mission of each unit is tailored for mission requirements.

Contingency Response (CR) Forces

- **Contingency Response Wing (CRW).** The CRW is a fixed unit that coordinates generating the resources for and deployment of subordinate units to provide mobile air mobility support capability.

- **Contingency Response Groups (CRG)**. A CRG is the largest entity within the CRW that deploys as a unit. The CRG's primary mission is airbase opening for an Air Force component, another Service, or coalition partner. Each CRG is a standardized force module dedicated to the airfield opening task. CRGs are extremely flexible because they can be tailored into a number of smaller packages to

meet the requirements of any contingency. AMC, Pacific Air Forces (PACAF), and US Air Forces in Europe (USAFE) are assigned CRGs.

- **Mobility Support Advisory Squadron (MSAS)**. The MSAS employs teams of air mobility air advisors to build partnerships with partner air forces. These advisors help partner nations increase their mobility capability so they are better able to respond to internal threats, external threats, and humanitarian requirements.

- **Contingency Response Element (CRE).** The CRE is an element deployable to forward locations where air mobility operational support is nonexistent or insufficient. The CRE's core capabilities include control functions, communications, aerial port, and aircraft maintenance that can be tailored to support contingency requirements.

- **Contingency Response Team (CRT**). A CRT performs the same functions as a CRE, but on a smaller scale.

- **Contingency Support Element (CSE).** CSEs consist of personnel and equipment that provides a contingency support capability. They deploy as an element of a CRE or CRT or as a small-scale, stand-alone entity, but do not possess any intrinsic control functions.

- **Airfield Assessment Team (AAT).** An AAT is comprised of multi-skilled experts who verify airfield operations information, to include obtaining and evaluating additional details pertinent to safe operations. They provide commanders and planners with valuable information on suitability of airfield operations.

- **Airfield Survey Team (AST).** An AST conducts airfield surveys and is led by a core member certified to conduct those surveys. They provide commanders and planners with needed information on suitability of airfield operations.

- **In-Transit Visibility (ITV) Team.** Provides support personnel to set up and operate ITV equipment at passenger and cargo on/offload locations.

- **Joint Inspector (JI) Team.** The JI provides the air component of the joint inspection team for airland contingency support.

- **Affiliation Training Team (ATT).** An ATT provides instruction to airlift users in the areas of airlift planning, cargo load planning, and equipment preparation by instructing the equipment preparation course and the airlift planner's course to various airlift users.

- **Contingency Load Planning Team (CLPT).** A CLPT helps an airlift user prepare and marshal the initial loads prior to the arrival of the first aircraft and provides on-the-spot training and quality control to the deploying organization.

- **Communications Support Team (CST).** A CST is a team of CR forces, communications, and air ground equipment personnel deployed to support another unit's communications requirement.

Contingency Response Organizations

- **Joint task force-port opening (JTF-PO).** Each CRG may be trained to partner with an Army rapid port opening element to generate a JTF-PO. JTF-PO is a USTRANSCOM-owned entity designed to not only offload air cargo and passengers, but to onward move them up to 10 kilometers from the airfield, and then establish an interface with the theater distribution system. When a JTF-PO is activated, the CRG commander is normally designated as the senior airfield authority. Refer to Joint Publication 4-09, *Distribution Operations*, for a more thorough discussion on JTF-PO.

- **Contingency Operations Support Group (COSG).** COSG provides in-garrison support that enables the rapid deployment capabilities of the CRGs, but also delivers other air mobility support capabilities of its own through its subordinate units.

  - **Air Mobility Operations Squadron (AMOS).** Although the unit is assigned to a contingency response wing, the AMOS does not function as an element of the GAMSS. The AMOS trains and equips personnel specifically to deploy and perform air mobility division augmentation duties in support of a commander, Air Force forces (COMAFFOR) theater air operations center, either as a complete "plug-in" module or to fill individual requirements.

  - **Global Support Squadron (GSS).** The GSS contains sufficient forces to generate an independent CRE. The GSS is also responsible for managing equipment.

  - **Air Mobility Liaison Officer (AMLO).** An AMLO is a rated air mobility officer specifically trained to provide air mobility expertise and close, tactical-to-strategic level combat operations support to ground forces in garrison and while deployed to contingencies or exercises. AMLOs examine air mobility operations and voice concerns to air mobility leadership. AMLOs are organized and empowered to serve as the single authoritative voice representing and advising the ground commanders they support.

- **AMC Wings.** All of AMC's various wings have embedded air mobility support forces. These forces contribute to GAMSS through both their home station operations and as a source of expertise that can attach to other geographic combatant commander's theater organizations.

- **Other Air Force MAJCOMs**. USAFE and PACAF have CRGs, which are usually the first source of CR forces for contingencies within their theaters.

✪✪ **Air Traffic Control (ATC) and Special Tactics Teams (STT).** Air Force Special Operations Command (AFSOC) provides ATC and STTs for communication at forward operating sites, to enable airdrop or airland operations. For operations within the continental United States, control of these forces remains with AFSOC. Theater assigned special operations forces are under the operational control of the theater special operations command or the joint force special operations component commander, when established.

✪ **Air Reserve Components (ARC).** Air National Guard (ANG) and Air Force Reserve Command have significant air mobility support forces within their organizations. There are several AMOS within the ARC. They provide the same command and control (C2) capabilities as their regular counterparts, supporting the air mobility division augmentation requirement.

✪✪ **Contingency Response Group.** ANG CRG units are gained by AMC upon mobilization.

✪✪ **Aerial Port Squadron / Flight (APS/APF).** The units deployed from the APS and the APF provide the fixed structure, CRE, or CRT core aerial port functions.

✪✪ **Airlift Control Flight (ALCF).** ALCFs are part of the GAMSS, and ANG units are gained by AMC upon mobilization. The personnel deployed from the ALCFs perform the CRE or CRT core C2 functions.
