# ANNEX 3-17 AIR MOBILITY OPERATIONS

## CONCEPT DEVELOPMENT

Last Updated: 5 April 2016

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 (COA), 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 global distribution plan, to include where air mobility assets plan to operate, and the restraints and constraints to those air mobility assets.

### 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 air mobility 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 allocated and 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.

Combatant commanders (CCDRs) request airlift and air refueling 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 (per crisis action planning), with passengers and cargo normally moved by contingency airlift, while channel missions normally move sustainment. Deployment of combat aircraft requiring air refueling 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. US Transportation Command (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 (GCC) 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; and then assess the results through review of the transportation effects.

When planning air mobility operations, there are several factors to consider before deploying forces. After thorough review of all the requirements of the supported joint force commander (JFC) and the capabilities and limitations of the supporting forces, planners should determine whether to employ forces in an intertheater or intratheater role. There are several different inter-and intratheater air mobility operational concepts to consider. See the "Aircraft Employment Methods" section of the Airlift Operations doctrine topic module.

## 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, CBRN 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 used to make efficient use of these scarce resources. 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/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 further increase their combat impact.

## 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 contingency or crisis action planning. See Annex 3-0, *Operations and Planning* for additional planning factors.

These forward forces manage the deployment of intertheater and intratheater assets for AMC and the supported CCDRs and, when a contingency is complete, the redeployment of US forces. Their effectiveness is directly related to a commander's understanding of a number of planning factors. Each factor should be considered to ensure the GCC'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; materials handling equipment (MHE); 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. Medical planners 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 (BOS), communications, crew support, and interface with special mission forces are several factors to be considered when planning the en route care laydown.

A medical planner should be incorporated into the air operations center (AOC) 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 Air Mobility Command (AMC)/A3O, 18th Air Force (Air Forces Transportation) (18 AF [AFTRANS]) 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 air mobility division (AMD). This individual directs the actions of the AECT and offers patient evacuation planning and execution guidance to the AMD Chief.

***Patient Movement Items/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 tracking system (PMITS). Deployed PMI system teams collocate at key interface points and theater medical treatment facilities (MTFs) to provide initial patient evacuation capability, sustain patient evacuation operations, and minimize equipment turnaround time. During contingency operations, PMI assets and PMITS 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*.

**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 forward operating bases (FOBs) has a tremendous impact on cargo throughput as airlift aircraft displace needed cargo with turn-around fuel. Operations at forward operating 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 distance which 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.