AIR FORCE DOCTRINE PUBLICATION 4-0

SUSTAINMENT

U.S. AIR FORCE

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Air Force Doctrine Publication 4-0, *Sustainment*

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FOREWORD

Doctrine describes the fundamental principles by which military forces act in support of national objectives. It is a body of carefully developed, authoritative ideas that have been officially approved or codified, establishing a common frame of reference for solving military problems. To be an effective guide, the challenge for doctrine is to be simultaneously reflective of the past, applicable in the present, and forward-looking, all in equal measure.

The United States Air Force (USAF) should anticipate future requirements and to what degree decision advantage, freedom of maneuver, and freedom of action are increasingly challenged. To deter, compete, and win across the competition continuum, Airmen must advance solutions that enable operations in highly contested environments. Broadly, the joint force's approach to meet this challenge is encapsulated in joint all-domain operations (JADO). Together with combined joint all-domain command and control (CJADC2), JADO provides joint force commanders (JFC) the means to integrate, synchronize, and deconflict the convergence of effects across all domains to achieve operational advantage.

AFDP 4-0, *Sustainment*, is firmly rooted in the past but also looks to the future, adapting where needed to enable continued utility and efficacy for the challenges to come. Properly planned and executed combat service support operations are a crucial element to enable the achievement of JFC objectives in cooperation, competition, and conflict. What worked in the past may work in the future, but likely not in the same way. Airmen should be trained to plan operations in a distributed, decentralized manner and execute the mission when isolated from higher echelons in such environments. Airmen at all levels should be comfortable making decisions and operating based on the commander's intent and the principles of mission command.

This doctrine represents what we believe to be true based on the evidence to date. As we press toward a more capable future force, it is critical that we reevaluate and update our doctrine to meet our nation's security challenges. Throughout our history, innovative Airmen have adapted technologies and developed employment methods to meet the challenges our nation has faced and will continue to face.

CHAPTER 1: AIR FORCE OPERATIONS IN SUPPORT OF JOINT LOGISTICS AND SUSTAINMENT

"While I can't predict exactly the solution to every contested logistics problem set that may be ahead of us in the next 10, 15, 20 years–I can say that Airmen will figure out how to solve the problem in front of them. They must be given the tools to do it, but I've got great confidence that they will."

–Lt Gen (Ret.) Thomas D. Miller, USAF
Former Deputy Chief of Staff, Logistics, Engineering, and Force Protection

Sustainment is a critical joint function providing commanders with options to achieve military objectives. It encompasses the provision of logistics and personnel support services to maintain operations through mission accomplishment and redeployment of the force. In the context of joint operations, air component logistics operations are vital to global efforts, enabling continued military action by planning, mobilizing, and moving forces and equipment to support the Joint Force Commander's (JFC) concept of operations. The JFC relies on the sustainment capabilities provided by the Services, which include resources (personnel, weapons systems, and the material to maintain the readiness of both), force generation capabilities, and enduring support. The United States Air Force (USAF) organizes, trains, and equips forces to serve as an air component to a JFC, ensuring these forces are prepared to accomplish assigned objectives.

ROLE OF AIR FORCE FORCES (AFFOR) IN JOINT LOGISTICS AND SUSTAINMENT

The Commander, Air Force Forces (COMAFFOR), exercises administrative authorities derived from Title 10, U.S. Code, and operational authorities delegated from the JFC, leading AFFOR and the JFC's joint air operations as the Joint Force Air Component Commander (JFACC). This dual role underscores the Air Force's commitment to both supporting its own forces and contributing to the broader joint logistics and sustainment effort. The COMAFFOR's staff plays a crucial role in coordinating, synchronizing, and communicating sustainment capabilities, providing airpower to meet the JFC's objectives.

- **Logistics.** In Joint operations, **logistics is the planning and execution of the movement and support of forces.** It encompasses the design and development, acquisition, storage, movement, distribution, maintenance, and disposition of materiel; acquisition or construction; maintenance, operation, and disposition of facilities; and acquisition or furnishing of services.

- **Sustainment.** Sustainment is the provision of logistics and personnel services required to maintain and prolong operations until mission accomplishment. It provides the JFC the means for freedom of action and endurance, and for extending operational reach. Fundamentally, sustainment enables the JFC to seize, retain, and exploit the initiative.

Core Logistics Functions

Core Functions	Functional Capabilities
Deployment and Distribution	• Move the force • Sustain the force • Operate the joint deployment and distribution enterprise
Supply	• Manage supplies and equipment • Inventory management • Manage global supplier networks
Maintenance	• Depot maintenance operations • Field maintenance operations • Equipment reset
Logistics Services	• Food service • Water and ice service • Contingency base services • Hygiene services • Mortuary affairs
Operational Contract Support	• Contract support integration • Contracting support • Contractor management
Engineering	• General engineering • Combat engineering • Geospatial engineering
Joint Health Services	• Force health protection • Health service support

(Source: JP 4-0)

The relationship between logistics and sustainment can be understood through the framework of ends, ways, and means. Sustainment frames the objective **(the ends)**, to maintain operations through mission accomplishment, and redeployment, and provides both the capabilities and capacity **(the means)** to achieve those ends. Logistics represents the activity of planning for and employing the capabilities **(the ways)** within the available capacity to achieve the stated sustainment objectives.

Logistics serves as the critical integrator of various capabilities necessary to project and sustain military power across the globe at a chosen time and place. This integration spans the strategic, operational, and tactical levels, encompassing the movement of personnel and materiel, the establishment and maintenance of operating locations, and the provision of essential services. The USAF's agile combat support (ACS) framework, which includes the processes that create, sustain, and protect all aerospace capabilities,

is central to this effort. Effective logistics enables air forces to deploy rapidly, operate with tailored support, and sustain operations throughout the mission. This is achieved through the integration of functional communities within combat service support, ensuring AFFOR are ready, postured, equipped, employed, and sustained to conduct joint operations.

FORCE GENERATION

The service's basic process for developing and providing military capabilities to the joint force is the Air Force Forces Generation (AFFORGEN) model. AFFORGEN is designed to enable operational preparedness and readiness recovery to compete with peer competitors while ensuring the USAF's ability to predict and sustain force provision. The AFFORGEN model supports global force management (GFM) processes and enables high-end readiness. The model provides available and ready force elements (FEs) for force presentation. Additionally, the AFFORGEN model ensures operational forces are properly organized, trained, equipped, and ready to respond to emerging crises or support sustained operations. Service force providers, in coordination with Headquarters Air Force (HAF), develop an optimized AFFORGEN schedule to support their operating forces. For the active component, the model establishes a 24-month rotational cycle comprised of four 6-month phases: Reset (for reintegration and reconstitution), Prepare (for training towards peak readiness), Ready (for certification), and Available (for deployment). For the Air Reserve Component (ARC), the model is a modified 48-month rotational cycle.

A unit of action is comprised of FEs that progress through the AFFORGEN cycle. An FE is an integrated set of unit type codes (UTCs) that offer operational capabilities to JFCs through the GFM process. Units of action consist of three layers that include:

- **Command layer.** The command layer is an empowered echelon comprised of a senior leader and the support staff necessary to command and control (C2) the unit.
- **Mission layer.** The mission layer will typically include at least one Mission Generation Force Element (MGFE) with modularity to attach additional MGFEs as the mission requires. MGFEs should provide combat, combat support (CS), and combat service support capability.
- **Sustaining layer.** In addition to the organic sustainment forces resident in MGFEs, the sustaining layer will typically include standardized CS to accomplish base operating support (BOS), air operations, sustainment, and protection.

Incorporating a command layer, mission layer, and sustaining layer in a unit of action provides combatant commanders (CCDRs) with a clear, credible, and modular combat capability. Accordingly, units of action may be tailorable but not divisible. A JFC may only request a specific subset of UTCs within a single FE if the mission requires. However, the remaining UTCs within that FE can no longer be effectively employed elsewhere in that AFFORGEN cycle.

Air Expeditionary Wing 2.0 Concept

Under the proposed Air Expeditionary Wing (AEW) 2.0 concept, the AEW Core UTC provides a fully integrated command and control and base operations support package, designed to sustain up to 2.5K personnel for up to 30 days without resupply and three weapon-system-agnostic Mission Generation Force Elements for up to six months. The AEW can conduct ACE operations and is globally deployable to established bases within a Level 1 threat environment. For operations in higher threat environments or those requiring expanded capabilities, such as Base Operating Support functions, opening and establishing airbases, delivering advanced airfield repair, or providing expeditionary communications, the AEW Core UTC must be augmented with Combat Enhancement Teams (CET), Combat Generation Teams (CGT) and/or Mission Sustainment Teams (MST). The AEW is not designed for bare base operations.

- **Combat Generation Teams:** REDHORSE, Contingency Response Group, Combat Communications.
- **Combat Enhancement Teams:** Prime BEEF, Prime Readiness in Base Services, Medical, Base Defense.
- **Mission Sustainment Teams:** Tailored teams that combine with MGFEs to enable ACE maneuver or augment BOS functions.

SUSTAINING AIR OPERATIONS

The USAF defines CS as the foundational and crosscutting capability to field, base, protect, support, and sustain USAF forces during military operations across the full range of military operations.[1] The air component's ability to project and sustain airpower depends on effective CS. The service achieves this by integrating its functional communities, core capabilities, and core processes to create effects that ensure USAF forces are ready, postured, equipped, employed, and sustained to conduct joint operations.

Another major responsibility of the air component commander and AFFOR staff is to develop supporting plans to meet CCDR mission requirements. This involves coordinating planning activities and requirements with force providers and staffs at all appropriate levels. Combat service support (CSS) encompasses the essential capabilities, functions, activities, and tasks required to sustain operating forces in theater at all levels of warfare. CSS planners within the air component commander's staff are required to be fully integrated into all planning steps to ensure the feasibility of planned operations. These planners gather, analyze, and disseminate information about CSS capabilities, presenting it in relevant annexes or appendices of operational plans.

[1] Joint Doctrine no longer uses the term combat support. For additional information on the USAF term, see Department of the Air Force Instruction (DAFI) 10-401, *Operations Planning and Execution*.

Anticipating requirements, coordinating with relevant participants, improving responsiveness, and rehearsing execution are crucial elements of this planning process. Furthermore, CSS planners should be tightly linked with air operations center (AOC) planners to ensure optimal support of operational requirements. The key output of this planning process is a Concept of Logistics Support (COLS)[2], outlining how component logistics capabilities should support the JFC's operations.

Additional CSS responsibilities for the air component commander and AFFOR staff include:

- Coordinate planning activities and requirements with force providers.
- Coordinate with staffs at all appropriate levels in leveraging authoritative data sources and geospatial engineering services to identify employment locations and develop site plans for those locations.[3]
- Plan and coordinate communications and information support.
- Plan and coordinate Law Enforcement (LE) and Counterintelligence (CI) to support Joint Intelligence Preparation of the Operational Environment (JIPOE) and Force Protection (FP).[4]
- Plan, coordinate, and provide materiel distribution.
- Plan and coordinate maintenance and munitions support.
- Plan, coordinate, and provide: General Engineering, (Installation Services), Emergency Services, and Real Property Life Cycle.[5] Establish and identify manpower and equipment requirements.
- Identify host nation (HN) support requirements.
- Use Operational Contract Support (OCS) process to plan, procure, and manage commercial support.[6]
- Ensure the legality of all aspects of operations.[7]
- Manage allocated war reserve materiel (WRM).
- Ensure available facilities and infrastructure through efficient physical plant operations (asphalt, concrete, and water treatment) to support garrison operations.

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[2] For additional information on COLS, see Joint Publication (JP) 4-0, *Sustainment*.
[3] See Air Force Doctrine Publication (AFDP) 3-34, *Engineering Services*, for additional information.
[4] See AFDP 3-10 *Force Protection*, for additional information.
[5] See AFDP 3-34, *Engineer Operations*, for additional information.
[6] For additional information on OCS, see JP 4-10, *Operational Contract Support*, and Air Force Instruction (AFI) 13-103, *Air Component Headquarters AFFOR Staff Operations, Readiness, and Structures*.
[7] See AFDP 3-84, *Legal Support,* Department of Defense Instruction, (DoDI) 5530.03, *International Agreements*, and AFPD 51-4, *Operations and International Law*, for additional information.

- Identify initial material capability gaps and provide input to acquire or modify new or existing weapon systems.
- Plan and execute operations security (OPSEC) in support of military operations, activities, plans, training, exercises, and capabilities.[8]

SUSTAINMENT PRINCIPLES

The USAF uses eight principles of sustainment to provide guidance on effectively supporting air operations. Effective support results from leaders correctly identifying and applying the right sustainment principle in any given situation.

- ***Feasibility*.** Provide sustainment within the constraints of time, distance, and resource availability.
- ***Flexibility*.** Adapt swiftly to diverse environments and enemy changes. Flexibility is the ability to improvise and adapt sustainment requirements and procedures to changing situations, missions, and operational requirements. Flexibility is not only how sustainment activities and operations respond to unanticipated changes in a dynamic environment, but also the diverse capability options that should be made available to commanders.
- ***Integration*.** Fuse component sustainment operations seamlessly with the joint force mission to ensure cohesive and effective support for the JFC's objectives.
- ***Economy*.** Effectively and efficiently manage resources for current and future needs. Economy is achieved when sustainment is provided using the fewest resources within acceptable levels of risk. At the tactical and operational levels, optimization is reflected in the number of personnel, units, and equipment required to deliver logistics. Every individual or piece of equipment devoted to an unneeded sustainment capability is a direct drain on the resources the joint force needs to complete its mission.
- ***Predictability*.** Ensure systems and processes are dependable and react accurately, reliably, and consistently.
- ***Responsiveness*.** Maintain the agility to rapidly address evolving environments and threats with effective solutions. Responsiveness is providing the right capability when and where it is needed. Responsiveness is achieved by determining operational and associated logistics requirements as early as possible in the planning process. Clearly defined processes and well-developed decision support tools are key enablers of responsiveness to emerging requirements. By monitoring the battle rhythm and the execution of the operation, planners can anticipate sustainment issues and adjust to emerging needs.
- ***Resiliency*.** Develop adaptive systems capable of maintaining operations under threat. Resilience is the ability to recover from or adapt to change (e.g., contested environments, adversary interdiction, impacts of weather and other environmental

[8] See AFDP 3-13, *Information in Air Force Operations*, for additional information.

factors, labor disputes, global pandemics). It requires anticipating potential scenarios, planning and posturing to facilitate access to capabilities, and developing sufficient capacity where required to maintain service continuity despite adverse conditions (e.g., conflict with a peer adversary). Resilience may involve actions to enable continuity of operations, backup sources, contingency plans, rapid recovery, use of alternate sites and infrastructure, redundancy, survivability, consequence management, and portability of data.

- ***Simplicity*.** Keeping processes simple and straightforward reduces risk and error. Increased standardization of weapon systems among Services and Allied Forces can simplify logistics operations and reduce unit costs, thereby allowing the purchase of greater quantities of support material. Standardized weapon platforms may lead to higher compatibility, interoperability, reliability, and interchangeability of support equipment and procedures between forces.

Simplicity can also be achieved with organizational changes. For example, the two-level maintenance concept eliminates an intermediate repair stage. Components are repaired either at the operational site or are sent to a depot when extensive work is required. A choice of two repair levels (rather than three) results in streamlined maintenance and distribution.

CHAPTER 2: SUSTAINMENT OPERATIONS

Joint level core logistics functions include deployment and distribution, supply, maintenance, logistics services, OCS, engineering, and joint health services. The USAF sustainment core capabilities result from the proper employment and integration of the sustainment functional communities. Sustainment core capabilities are used in core processes and enable the USAF to achieve long-term sustainability. Each of the six core capabilities are explained in this chapter.

"Strange as it may seem, the Air Force, except in the air, is the least mobile of all the Services. A squadron can reach its destination in a few hours, but its establishment, depots, fuels, spare parts, and workshops take many weeks, and even months, to develop."

–Sir Winston Churchill
Their Finest Hour: The Second World War #2

The USAF Sustainment Construct represents an AF-wide enterprise of functional communities whose elements both forward deploy in support of a contingency or support forward forces through reachback. The CSS functional communities are areas where Airmen perform sustainment duties (e.g., Civil Engineer, Communications, Material Management, Fuels).

Sustainment core capabilities result from the proper employment and integration of functional communities. The core capabilities are used in the core processes and enable the USAF to create measurable effects by:

- **Posturing Responsive Forces.** Assessing, structuring, scheduling, and processing force capabilities to support mission requirements. It also includes executing a dynamic positioning strategy to maximize logistics responsiveness and speed of employment.
- **Basing Forces.** Opening, establishing, and closing airbases, forward operating sites (FOSs), and cooperative security locations (CSLs). Providing enduring and contingency bases, installations, and FOSs/CSLs with the assets, programs, and services necessary to support and project airpower.[9]
- **Protecting Forces.** Providing an integrated deterrence for an all-hazards approach for FP and CI to detect threats and hazards to the Department of the Air Force (DAF) and its mission. Applying measures to deter, pre-empt, prevent, negate, or mitigate the identified threats and hazards based on an acceptable level of risk. Actions required to protect forces specifically against hostile action include detecting, identifying, and defeating penetrative or standoff threats to personnel and resources,

[9] See JP 4-04, *Contingency Basing,* and AFDP 3-34, *Engineer Operations,* for additional information.

assessing operating locations for threats and available support from host civil and military agencies, disseminating information and warning personnel, and protecting infrastructure.[10]

- **Mission Generation.** Preparing, configuring, launching, recovering, and regenerating weapon systems and payloads. It also includes the ability to support CCDR security cooperation engagements with partner nations.
- **Mission Support.** Supplying, distributing, and maintaining goods, services, and infrastructure throughout the operational area.
- **Force Sustainment.** Ensuring CSS is maintained throughout operations and optimizing the use of reachback, including the industrial base, as needed.

SUSTAINMENT CORE PROCESSES

Sustainment core processes are standardized, overarching macro procedures that use the core capabilities to create effects. These macro procedures are the primary means of arranging sustainment practices due to their cyclical nature. The six core processes are:

Ready the Force. Organizing, training, and equipping a fit force to provide mission capability in all required all-hazard threat environments.

Prepare the Operational Environment. Analyzing, planning, and posturing forces, infrastructure (built and natural), and materiel for rapid employment.

Position the Force. Deploying, receiving, and integrating forces and materiel at the point of employment.

Employ the Force. Generating the mission, providing right-sized support, and ensuring timely regeneration of forces and materiel.

Sustain and Recover the Force. Maintaining effective levels of forces, materiel support, including the physical plant, and infrastructure capability for ongoing operations. Recovering forces, materiel support, and infrastructure damaged from attack, accident, or another incident.

Reconstitute the Force. Reset or redeployment of forces and materiel, ensuring airpower can be reapplied to meet operational needs.

[10] See AFDP 3-10, *Force Protection,* for additional information.

POSTURING RESPONSIVE FORCES

Posturing responsive forces entails analyzing, structuring, scheduling, and processing force capabilities to support operational mission requirements. It also includes executing a positioning strategy to maximize sustainment force responsiveness and speed of employment.

An air component commander employs CSS functional communities to generate the core capability of Posturing Responsive Forces. The air component commander then uses this capability to create sustainment core effects. For example, posturing UTCs during Ready the Force, tailoring for potential operational areas during Prepare the Operational Environment, and prioritizing manpower and equipment for Position the Force, are all aspects of posturing responsive forces to generate sustainment effects.

Posturing Responsive Forces bridges the gap between planning and execution in any plan. Posturing involves a continuous global effort that ranges from maintaining worldwide readiness of personnel, equipment, and units through training and exercises to continuously assessing worldwide prepositioning equipment strategies and commercial market capabilities.

Prioritizing and right-sizing forces and their equipment in UTCs is critical to ensuring adequate capability with the appropriate forward footprint. UTCs are developed to provide a variety of capabilities. The goal is to deploy right-sized UTCs to minimize tailoring. Right-sized UTCs provide a generic building block capability, greater flexibility for planners, and optimal support for warfighters. At execution, tailoring should be accomplished based on mission and deployment location. UTCs are not self-sustainable and rely on additional manpower, equipment, or both throughout their deployment. Modular, scalable, and deployable UTCs are presented to a single organization and developed to fulfill a specific capability.[11]

BASING FORCES

The basing forces' core capability involves opening, establishing, and closing airbases, FOSs, and CSLs. Providing enduring and contingency airbases, installations, FOSs, and CSLs with the assets, programs, and services necessary to support and project airpower is crucial to joint force success.[12]

For the USAF, opening and establishing a FOS/CSL normally entails opening and establishing an airbase. Establishing FOSs/CSLs encompasses assessing, planning, reconfiguring, modifying, building, and inspecting infrastructure and utilities to support the mission, personnel, and equipment at specific FOSs/CSLs. When compared to a FOS/CSL or main operating base (MOB), the minimal infrastructure required to operate a contingency location (CL) is typically substantially less, especially when supporting the Agile Combat Employment (ACE) scheme of maneuver. This infrastructure includes runways, taxiways, ramps, roads, building sites, utility grids, communications grids,

[11] For additional information on UTCs, see Department of the Air Force Manual (DAFMAN) 10-406, *Unit Type Code Management*.
[12] See JP 4-04, *Contingency Basing,* for additional information.

aviation fuel grids, munitions storage and assembly areas, facilities, entry control points, barriers, and defensive positions.

- Senior Airfield Authority (SAA) responsibilities will normally transfer from the initial airbase opening force commander to the air expeditionary wing (AEW) commander.

- Functional airbase opening capabilities and responsibilities will normally transfer from the initial airbase opening forces (Open the Base force module forces or Contingency Response Forces [CRF]) to the initial Establish the Base force module forces when like forces are in place.

ENGINEERING SUPPORT

Air Force expeditionary engineering capability consists of engineers' activities to open, establish, operate, sustain, protect, recover, and close bases. It can operate at any level of global competition, including ACE scenarios. It focuses on operating and maintaining aircraft arresting systems, airfield lighting, heavy equipment, airfield surfaces, roads, and temporary, semi-permanent, or permanent facilities, and includes the specialized capabilities of power generation and distribution systems. Teams perform horizontal (airfield construction, runway repair, asphalt paving) and vertical (temporary construction, repairing structural components) construction, provide pest management and environmental services, provide overall installation development planning, design, and contract support, to include specialized augmentation at echelons above wing level, and conduct base response and recovery, to include airfield damage repair and repairs to facilities and infrastructure systems.

Airbase opening facilitates strategic and operational reach, paves the way for deployment and sustainment operations, and eases the transition between operational-level objectives and subsequent tactical-level operations. Airbase opening initiates and achieves the initial operating capability of an airbase to execute its assigned operational mission by providing functional capabilities for C2, FP, cargo and passenger handling, logistics, airfield operations, force accountability, finance and contracting, and reception and beddown of follow-on forces. Engineering forces supporting Open the Airbase MGFEs normally arrive first and assess the airbase to establish minimum airfield operating parameters, C2, and HN support capabilities. It may support any Service or nation and provides capabilities to transition responsibilities to the follow-on forces.

- **Prime Base Emergency Engineer Forces (BEEF) Teams** can rapidly respond worldwide to provide a wide range of engineering capabilities to establish, operate, sustain, protect, recover, and repair airfields, facilities, and infrastructure systems. Engineers can conduct force beddown operations, infrastructure maintenance, airbase sustainment activities, FP, emergency services, reconstitution installation, rehabilitation of critical infrastructure of control systems, and construction of specialized structures.

  - **Airfield Assessment Teams** perform site surveys to determine airfield suitability, clear debris, expedite airfield damage repairs, and provide material requirements and an initial assessment of required follow-on forces. Direct team support

includes explosive ordnance reconnaissance, minimum airfield operating surface selection, airfield lighting and marking, arresting system installation, and utility system repairs required to sustain or recover airfield operation capabilities.

- ✪✪ **Explosive Ordnance Disposal (EOD) Teams** may augment other airbase opening forces, such as special tactics teams, CRF, and airfield assessment teams, when intelligence or threat analysis indicates unexploded explosive ordnance contamination or if improvised explosive devices are suspected. Direct support includes the destruction of stockpiled and abandoned enemy ordnance, route clearance, post-attack investigation, and counter-improvised explosive device operations.

- ✪ **Rapid Engineer Deployable Heavy Operational Repair Squadron Engineers (RED HORSE) Units** are manned and equipped to provide highly mobile, rapidly deployable echelons to support force beddown and provide airfield and base heavy construction and repair capability, along with many specialized capabilities that allow the JFC to move and support missions as operations dictate at any level of global competition. RED HORSE units are uniquely suited to provide theater shaping construction in any area of responsibility (AOR). RED HORSE units achieve high mobility through air and/or surface transportation. Some inherent specialized capabilities include water-well drilling, explosive demolition, quarry operations, rock crushing, concrete and asphalt batch plant operations, material testing, contingency airfield evaluations, and concrete and asphalt paving. RED HORSE provides CCDRs with a highly mobile heavy construction force capable of independent operations to meet theater construction requirements. These organizations provide self-sustaining logistical support for vehicle maintenance, secure communications, food service, supply, security, and medical support, as well as additional USAF specialties beyond engineering. This support allows the unit to operate independently for 30 days with resupply to sustain continued operations.

- ✪ **Civil Engineer Maintenance Inspection and Repair Teams** provide depot-level maintenance of major electrical power generation and distribution systems, as well as mobile and fixed aircraft arresting systems at CLs, enroute bases, or critical stateside bases.[13] Team capabilities include routine calibration, emergency maintenance and repair, and major overhaul and repair of both real property and non-real property installed equipment. This team also provides technical assistance in conducting electrical system infrared surveys, troubleshooting electrical and mechanical system faults, diagnosing problems, and determining solutions.

Engineering support forces complete site assessments and establish minimum cantonment functions, including FP, communications, sleeping, feeding, sanitation, and situational medical capabilities, such as public health and advanced life support. These forces provide site plans and airfield survey information for the development of the airfield suitability and restrictions report.[14]

[13] See JP 4-04, *Contingency Basing,* for additional information.
[14] See AFDP 3-34, *Engineer Operations,* for additional information.

FACILITIES AND INFRASTRUCTURE

When the USAF is designated as the lead Service and establishes a FOS or CSL, forces are presented in standard force modules tailored by the air component commander's staff during the planning process. These forces' capabilities are designed to support most missions or weapon systems. Personnel performing operations to establish FOSs/CSLs facilitate the integration of those capabilities within the Open the Airbase and C2 force modules to provide the airfield with the earliest capability to execute its assigned mission.

When establishing an airbase, planners should consider theater priorities and the limited resources available to construct and operate the infrastructure at FOSs/CSLs. Joint support agreements, status of forces agreements, or other country-to-country agreements help specify tenant and host responsibilities throughout the establishment of the airbase. When facilities to shelter personnel are limited, a key consideration is whether to erect facilities and conduct airfield operations using base expeditionary airfield resources or other contracted assets. Planners should consider operational requirements, CSS infrastructure needs, and the minimal resources needed to enable mission establishment and operation of the base, including the following:

- **Utility grids.** Water distribution, electrical, fuels, communications, chemical, biological, radiological, and nuclear (CBRN) detection and monitoring, and wastewater collection systems.
- **Facilities.** C2, aircraft operating surfaces, operational facilities, airfield management, air traffic control, weather services, navigational aids, crash fire rescue, munitions, medical, security, administration, maintenance, supply, lodging, dining.
- **Basic Expeditionary Airfield Resources (BEAR).** The BEAR war reserve materiel (WRM) force generation set (equipment-only) provides personnel, infrastructure, and flight line support at FOS to "establish the airbase" at a bare base FOS or CSL. The Personnel support set provides personnel support at FOSs/CSLs (e.g., tents, messing, hygiene sets, environmental control units, heaters). The infrastructure support sets provide general BOS (e.g., power, water, waste disposal, and expeditionary shelters or facilities). The Flight Line support sets provide additional general aviation related support capabilities at FOS, supporting aircraft operations (e.g., aircraft arresting barriers, expeditionary airfield lighting systems, and large area maintenance shelters).
- **Contingency Response Forces (CRF).** CRF are designed as an organic, rapid response, initial airbase opening unit. CRF may provide support after the initial airbase opening in support of partner nation engagement, among other activities.
- **Joint Task Force-Port Opening (JTF-PO).** When called upon, JTF-PO facilitates joint reception, staging, onward movement, and integration (JRSOI) and theater distribution by providing an effective interface at the aerial port of debarkation (APOD) and distribution node. The JTF-PO is a special force for airfield opening, designed to combine specific USAF and Army capabilities to provide the commander of United States Transportation Command (USTRANSCOM) with a ready-to-deploy, jointly

trained force to open ports and establish the initial distribution network. Forces should be able to ensure sustained operational and critical installation systems capability during an all-hazard incident that negatively impacts mission support.[15]

The following are the major functions the air component commander and AFFOR staff should prepare to sustain at FOSs/CSLs:

- **Infrastructure Planning.** Includes those actions taken to forecast existing capacity against authorized allowances, taking into consideration future mission or operational requirements, leveraging principles of asset management to factor in total asset accountability when making resource-based decisions.
- **Infrastructure Programming.** Actions taken to validate requirements, determine quantities, forecast construction cost, and determine methods for accomplishing acquisition, either in-house or through contracting.
- **Infrastructure Design.** Includes applying standards to ensure maximum end user performance, energy efficiency, and the ability to meet applicable laws and codes related to life, safety, health, and welfare. The HAF Surgeon General Health, Facilities, Plans, and Programs (HAF/SG4/10F) staff provide an evaluation of medical construction requirements, including medically driven standards and criteria for fixed, enduring medical facilities in deployable environments.
- **Infrastructure Construction.** Performed by military forces or through contract augmentation.
- **Infrastructure Maintenance and Protection.** Includes operation, hardening, and sustainment of facilities, infrastructure, and installations.
- **Environmental Compliance.** Environmental Compliance ensures compliance with applicable US laws and regulations, environmental obligations stemming from binding international agreements, Department of War (DoW), DAF, and combatant command (CCMD) environmental policy/guidance, such as Department of Defense Instructions (DoDIs) 4715.19 and 4715.22, country-specific environmental compliance standards, foreign 788 final governing standards, the Environmental Annex to the applicable operations plan (OPLAN) status of forces agreements, treaty, and operations order (OPORD) requirements overseas environmental baseline guidance 789 document.[16]
- **Light or Heavy Construction/Repair.** Performed by RED HORSE, Prime BEEF, or through contract augmentation.
- **Infrastructure Demolishing/Divesting.** The actual removal by demolition, disposal, or reuse of an item from the USAF real property inventory.

[15] See AFDP 3-34, *Engineer Operations*, for additional information.
[16] See Department of Defense Manual (DoDM) 4715.05, Volume 1, *Overseas Environmental Baseline Guidance Document: Conservation*, for additional information.

INSTALLATION SERVICES

Installation services comprise support capabilities that collectively sustain deployed forces. Included in this area are food service, lodging, water and ice service, and hygiene services.

Food Service. Includes all aspects of dining facility management, subsistence procurement and storage, food preparation, food sanitation protection (food defense and food safety), and delivery to supported personnel. The AFFOR A1 usually conducts the operational planning in this area with support from the AFFOR A4 for the required infrastructure.

Lodging. Provides temporary lodging for Airmen and authorized personnel in garrison or deployed. The AFFOR A1 usually conducts operational planning in this area with support from the AFFOR A4 for the required infrastructure.

Mortuary affairs. Entails all operations to collect, recover, store, prepare, ship, and, under extreme conditions, inter remains of fallen personnel (including contractors authorized to accompany the force [CAAF]). The AFFOR A1 usually conducts operational planning in this area.

Water and Ice Service. Includes the capability to store and distribute bulk or packaged water and ice in a deployed environment. Water and ice for human consumption are required to meet potable water standards. The AFFOR A1 usually conducts operational planning in this area with support from the AFFOR A4 for required purification, testing, and infrastructure.

Hygiene Services. Includes both personal hygiene and laundry services. Personal hygiene services provide adequate sinks, showers, and toilets to meet the needs of both men and women. The AFFOR A1 usually conducts the operational planning in this area with support from the AFFOR A4 for the required infrastructure.

PROTECTING FORCES

The Protecting Forces core capability provides an integrated all-hazards approach for FP to detect threats and hazards to the USAF and its mission, and to execute offensive and defensive actions to deter, detect, delay, deny, or defeat threats and hazards to operations and assets, within an acceptable level of risk. FP is a commander's responsibility at all levels. The functional expertise for FP activities crosses several areas of the AFFOR staff. To integrate all FP activities, the air component commander usually designates a member of the AFFOR staff as the FP officer and assigns the FP officer and associated staff to the AFFOR's special staff.

FP is a fundamental principle of all military operations, ensuring the survivability of a commander's forces. The USAF takes an integrated, all-hazards/all-threats approach to FP that encompasses many functional areas of expertise to conserve the force's fighting potential. Specific actions required to protect forces against hostile actions include detecting, identifying, and defeating penetrative or standoff threats to personnel and resources, assessing FOSs/CSLs for threats and available support from host civil and

military agencies, disseminating information and warning personnel, and protecting infrastructure and critical information.[17]

FORCE PROTECTION (FP) THREAT AND HAZARD SPECTRUM

Airmen at all levels are responsible for recognizing threats and hazards and communicating them to leadership. The consideration of intentional objectives of threat actors or the unintentional effects of hazards is the responsibility of leadership, usually the commander. There are a variety of threats and hazards facing the USAF that may arise from military forces, terrorists, insurgents, insiders, criminal entities, foreign intelligence and security services, activist organizations, natural or manmade disasters, major accidents, or medical incidents. Airmen should continually plan to counter potential future threats and hazards, both conventional and CBRN related, that have not yet been planned for or identified, as those threats and hazards are constantly evolving. Tactics, techniques, and procedures introduced in one theater may be seen again in other regions and may result in increased FP measures due to the threat of attack or risk of hazards that could affect ongoing operations.

RISK MANAGEMENT (RM)

RM is every Airman's responsibility, regardless of rank or position. Commanders determine how best to manage risks. The USAF views RM as the process of identifying critical assets, understanding threats and vulnerabilities, determining risk to personnel, assets, and information, and either accepting the risk or applying countermeasures to correct or mitigate it. In all cases, the assessments include both hazards and threats. This RM process consists of the following elements:

- Prioritizing assets and resources through a critical assessment.
- Identifying potential threats through a threat assessment.
- Analyzing resource and asset vulnerabilities through a vulnerability assessment.
- Determining the risks acceptable to them for a given operation by conducting a risk assessment.
- Supervising and reviewing the effort to eliminate or mitigate the risks that are not acceptable.

A safety and RM focus ensures maximum protection of people and physical resources.

INTEGRATED DEFENSE

Integrated defense is conducted worldwide, from mature theaters to austere regions. USAF leadership should adapt to a variety of operational requirements. Some resources may be geographically separated from the main base. Regardless of location, forces conducting integrated defense employ the basic tactics, techniques, and procedures used at home station during day-to-day operations. As specific threats to base personnel and

[17] For additional information on FP, see AFDP 3-10, *Force Protection*.

resources increase, integrated defense forces adjust tactics to counter the threat. Adjustments to operating procedures should be based on the specific threat to operations, the dynamics of operating in an international environment, or the way integrated defense efforts collaborate with joint, combined, civilian, and HN forces. Integrated defense forces should be prepared to operate at a variety of locations and may deploy to sites without existing USAF or HN facilities.

820th Base Defense Group. This unit provides a fully integrated FP assessment team to support the opening of the expeditionary airbase. The unit is capable of airborne, air mobile, and airland insertion operations for 14-30 days and has the organic capability to provide airfield security and initial FP assessment of the airfield. The unit can link up with initial entry or base seizure forces and provide a smooth transition to airbase opening forces.

BASE BOUNDARY AND BASE SECURITY ZONE

Because threats and hazards to operations can come from a wide range of sources, the Airman's perspective requires integrated base defense planning on a broader scale than other surface-oriented organizations. For example, threats to an active airfield may extend far beyond the designated base boundary. To address these threats, the USAF uses the base security zone planning construct to ensure ground threats that could impact operations are considered and planned for.

The base boundary is a line that delineates the surface area of a base to facilitate coordination and deconfliction of operations between adjacent units, formations, or areas. The base boundary, which is not necessarily the base perimeter, is negotiated on a case-by-case basis between the base commander and the area commander or HN authority. The base commander should only negotiate base boundaries with the HN authorities after proper coordination and approval from higher headquarters (HHQ). The multi-dimensional space around the base from which the enemy might impact operations by launching an attack against approaching or departing aircraft, mission-critical equipment, facilities, personnel, or resources located on the base is critical to air base defense planning.

COUNTERINTELLIGENCE (CI)

CI is information gathered and activities conducted to identify, deceive, exploit, disrupt, or protect against espionage, other intelligence activities, sabotage, or assassinations conducted for or on behalf of foreign powers, organizations, persons, or their agents, or international terrorist organizations or activities. Collaboration with CI is vital to ensure a unity of effort and fusion that informs the JFC, staff, and component commander. USAF CI forces are tasked and managed by the senior Air Force Office of Special Investigations (AFOSI) Special Agent assigned to support the component commander.

COUNTER THREAT OPERATIONS (CTO)

CTO is a subset of CI support to FP that focuses on developing area source networks in a hostile or uncertain environment "outside the wire" to identify, exploit, and neutralize threat actors actively seeking to cause harm to a protected area's personnel, resources,

or operations. CTO is conducted in close partnership with Security Forces. Insider Threat Operations is a subset of CI support to FP that focuses on the insider threat to a protected area or facility. Through screening, investigations, source analysis, and coordination with base of support personnel, CI forces work in concert to identify, exploit, and neutralize threats emanating from "inside the wire."

FORCE PROTECTION INTELLIGENCE (FPI)

FPI is analyzed, all-source intelligence information that, when integrated or fused with other FP information, provides an assessment of the threats to DoW missions, people, or resources. FPI provides the best available picture of the intents and capabilities of terrorists or extremists, criminal entities and enterprises, foreign intelligence and security services, opposing military forces, and, in certain instances, environmental or medical hazards, infrastructure vulnerabilities, and insider threats. FPI is proactive and drives FP decisions in support of commander's intent. FPI is usually produced for the air component commander by the AFFOR A2 and the air component commander's AF Office of Special Investigations representative. A common practice is to include an intelligence officer on the FP officer's staff to help integrate the intelligence information into the overall FP program. Another key linkage for FPI is to inform local/regional contracting activities to ensure contracted Airbase support does not pose undue risk to personnel by doing business with threat networks or other bad actors.

OPERATIONS SECURITY (OPSEC)

Every functional area is responsible for OPSEC, as it is fundamental to the success of all military operations. OPSEC is a process of identifying, analyzing, and controlling critical information indicating friendly actions associated with military operations to reduce vulnerability of actions to adversary exploitation.[18]

MISSION GENERATION

The Mission Generation capability is the core effect of an employed force. This capability includes preparing, configuring, launching, recovering, and regenerating weapon systems and payloads. It also includes conducting security cooperation engagements with partner nations as required in support of the CCDR's theater campaign plan. Mission generation ensures the availability of safe, serviceable, properly configured, and prepared AFFORs to operate and conduct missions across the competition continuum. Considerations for systems support vary with different missions and become increasingly difficult in a highly contested peer conflict. Central to the air component commander's staff's ability to support the assigned mission is to have accurate, timely information in a common, relevant operating picture for sustainment. Planners should be tightly linked with AOC planners to ensure optimal support for operational requirements. All planners should keep in mind the balance between mission production and regeneration. Requirements for ongoing combat operations should be continually assessed for new demands on aircraft, cyberspace operations systems, personnel, and equipment, anticipating increases in mission requirements (use rate, sortie duration). CSS functional communities contain

[18] For additional information on OPSEC, see JP 3-55, *Joint Operations Security*.

personnel, materiel and equipment, infrastructure, and information resources. These make up the essential elements required to generate missions and to support and sustain mission systems, components, equipment, and personnel in both peacetime and wartime environments.

MAINTENANCE

Repairing and maintaining materiel and equipment encompasses assessment, repair, maintenance, and modification. The focus is primarily on intermediate and depot maintenance. By acquiring and using the necessary technology and equipment, sustainment reduces buildup time, increases rapid response capability, and reduces footprint. It is a continuous process performed by functional communities, such as science and technology, acquisitions, and materiel management. Sustainment forces should aggressively seek and apply innovation and creativity. They should also seek proven methods, material, and equipment from the commercial market to satisfy their requirements. The AFFOR A4 conducts operational planning and oversight in this area.

SUSTAINMENT CORE EFFECTS

The USAF sustainment core effects are the outcomes of the core processes. The seven sustainment core effects are:

Readied Forces. Mission-ready forces can perform operations in expected all-hazard threat environments.

Prepared Operational Environment. An environment conducive to operations.

Positioned Forces. Maneuverable forces and material at places to meet mission objectives.

Employed Forces. Forces and materiel meet mission requirements.

Sustained Forces. Forces and materiel conducting persistent operations.

Reconstituted Forces. A recovered force readied for future operations.

Integrated Base Response and Recovery. Regenerating mission operation (weapons/supporting systems) and support (critical installation system) capabilities after an all-hazard incident can range from natural and man-made disasters, chemical, biological, radiological, and nuclear (CBRN) events, kinetic military actions, psychological operations, or cyber warfare (computer network incidents), which cause a deterioration of the missions.

Maintenance provides mission-ready aircraft, ensuring maximum availability and reliability. Maintenance performs scheduled and unscheduled maintenance, inspections, and repairs to keep aircraft flying and combat ready. Maintenance also encompasses specialized support for weapons systems, avionics, engines, and other critical aircraft components. Deployed maintenance teams provide on-the-ground support to ensure

aircraft can operate effectively in austere environments. Maintenance uses data analytics and predictive maintenance strategies to improve aircraft availability and reduce downtime.

Additional maintenance requirements include:

- **Vehicle Management.** Repairs vehicles, support systems, and their components.
- **Prioritize asset investment based on mission-critical worst-first approach.** The capability to provide real-time visibility of facilities and infrastructure and invest in those priorities that address mission-critical and worst-first requirements. The focus is on making more efficient use of existing assets before building additional facilities. This process focuses sustainment efforts on important assets in good shape while investing restoration and modernization funds in either mission-critical assets that require modernization to extend facility use beyond the expected life span or on assets that do not meet functional mission requirements.
- **Forecast predictive operations and maintenance requirements.** Actions taken to track facility and infrastructure operations, with emphasis on maintaining assets to ensure they meet expected life cycle targets. Reduce the risk to infrastructure investments and maximize installation support and infrastructure.

MUNITIONS MANAGEMENT

The joint munitions office, established by the CCDR, works in conjunction with the Service components, functional components, subordinate commands, Service acquisition commands, force providers, materiel commands, and Under Secretary of Defense for Acquisition and Sustainment, (USD [A&S]) to plan, coordinate, and oversee all phases of ammunition and ordnance support for forces employed or planned for possible employment in the AOR. The AFFOR A4 conducts operational planning and oversight of air component munitions operations in accordance with (IAW) Chairman of the Joint Chiefs Instruction (CJCSI) 4360.01, *Explosives Safety and Munitions Risk Management (ESMRM) for Joint Operations Planning, Training, and Execution*. Munitions management procures, requisitions, manages, allocates, and maintains munitions, including storage, maintenance, assembly/disassembly, staging, delivery, protection, and reconstitution.

- **Munitions Maintenance.** Sustains the air munitions force. Munitions maintenance inspection, repair, and maintenance of all types of munitions, ensuring munitions are safe and reliable for use. The degree of maintenance depends on mission requirements, parts availability, transportation limitations, component reliability, workload agreements, facility requirements, frequency of tasks, and special training required.
- **Munitions Assembly.** Construct and assemble guided and unguided bombs, missiles, and other ordnance to meet specific mission requirements.
- **Munitions Storage and Handling.** Secure storage and handling of munitions, adhering to strict safety protocols to prevent accidents and unauthorized access.

- **Munitions Delivery and Loading.** Loading munitions onto aircraft quickly and efficiently, ensuring proper configuration for each mission profile.
- **Contingency Munitions Operations.** Establishment and operation of forward arming and refueling points to support operations in forward areas.

FUELS

Ensuring sufficient access and expertise for handling fuels enables persistent air operations and global reach by providing the fuel aircraft need to execute their missions. Without a reliable fuel supply, airpower is effectively grounded, directly impacting the JFC's ability to conduct air interdiction, close air support, ISR, airlift, and other critical missions. Key fuel capabilities include:

- **Fueling Operations.** Safe and efficient on- and off-base, and in-flight refueling of all types of aircraft, extending their range and loiter time.
- **Fuel Storage and Distribution.** Management of fuel reserves, ensuring adequate supplies are available at strategic locations to support surge operations and deployment requirements.
- **Fuel Quality Control.** Rigorous testing and monitoring of fuel quality to prevent engine damage and ensure optimal aircraft performance.
- **Contingency Fuel Operations.** Establishment and operation of forward operating bases (FOB) and austere refueling sites to support operations in remote or contested environments.

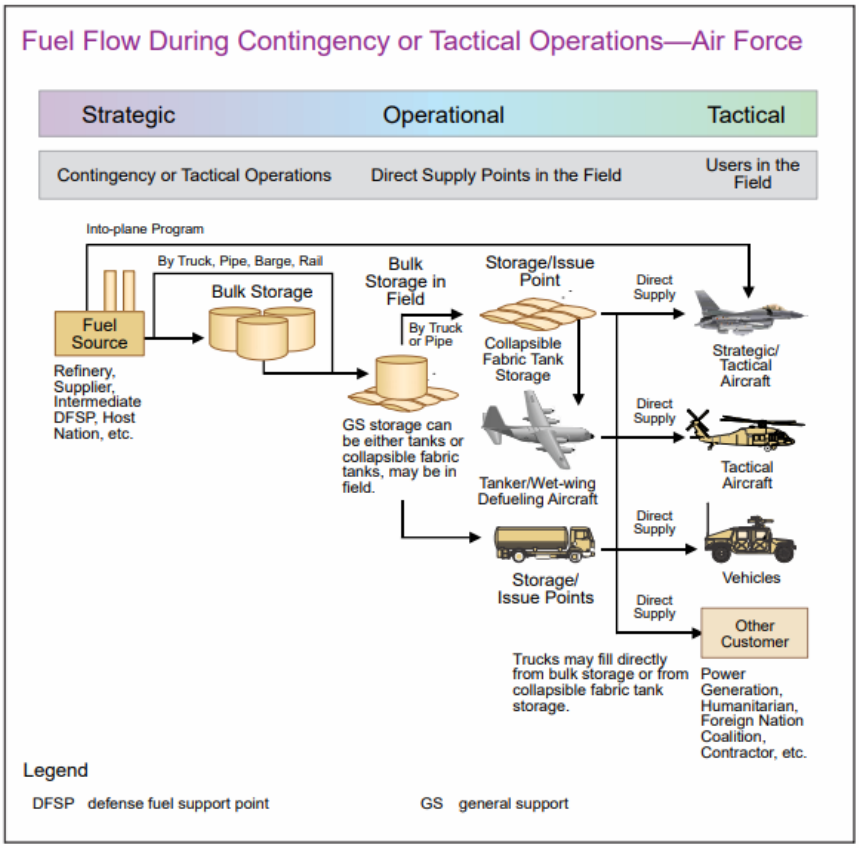
REFUELING OPERATIONS

The established infrastructure within a theater supports the supply and distribution of bulk petroleum. Stocks are moved from secure military or commercial sources to forward areas and terminals, as demand or plans require. The movement and redistribution of assets are accomplished through a joint effort involving the CCMDs, Service components, and Defense Logistics Agency (DLA) Energy, interfacing with USTRANSCOM components for product movement outside the operational area. In the early stages, the theater infrastructure may consist only of minimal HN commercial or military infrastructure, supplemented by joint forces land component commander (JFLCC) assets.

When lines of communication (LOCs) are not secure or when operating in noncontiguous areas, Service component aircraft carrying fuel trucks, collapsible tanks, 500-gallon collapsible drums, or 55-gallon drums may be required to distribute fuel. The use of cargo aircraft for aerial bulk fuel delivery (e.g., fuel bladders, blivits, drums) to tactical storage and issue systems is a short-term solution that is neither cost-effective nor efficient for resupply or large-scale operations. Delivery amounts vary based on aircraft type, configuration, and runway capability.[19]

[19] See JP 4-03, *Joint Bulk Petroleum and Water Doctrine*, for additional information.

Tactical fuel distribution systems are typically air transportable and consist of collapsible tanks, hoses, filters, and pumps. Additionally, tanker and cargo aircraft can deliver fuel to airbase tactical systems, depending on runway capability and the threat. Wet-wing defueling is the transfer of fuel from fixed-wing aircraft fuel tanks to collapsible fabric tanks or tank semitrailers. This method of bulk petroleum resupply allows the aircraft to carry an internal load of dry cargo plus aviation turbine fuel without requiring additional aircraft to provide fuel support. Wet-wing defueling can supplement other bulk petroleum delivery systems. Some aircraft used in these defueling operations can also provide wet-wing defueling/rapid ground refueling. Transporting fuel by air greatly limits the airlift available for other requirements and is only used when other delivery means cannot meet operational needs. Transporting fuel by air greatly increases operational costs and safety risks.[20]



Fuel Flow During Contingency or Tactical Operations (Source JP 4-0)

Fuels support equipment required for initial support of airfield operations will be determined based on fuel support requirements, real estate availability, host nation support (HNS), resupply method, and other conditions. Initial support of airfield operations using refueling trucks may be sufficient at some locations. The USAF maintains the capability to provide tactical support to units at improved and austere locations. It also provides air distribution of bulk petroleum products when immediate support is needed at remote locations.

[20] See JP 4-03, *Joint Bulk Petroleum and Water Doctrine*, for additional information.

EMPLOY, SUSTAIN, AND RECOVER THE FORCE

The generation of mission capability can be broken down into six main sub-capabilities dealing with mission elements. A mission element can range from manned and unmanned aircraft, nuclear weapons systems, deployable space and cyberspace systems, and satellite launch vehicles, to applicable support and test equipment, and vehicles required for mission generation. Global transportation management includes the generation and regeneration of applicable mission elements to initiate or launch missions across the competition continuum and achieve the desired effects of the CCDR.

Prepare Mission Element: The actions necessary to assess, repair, maintain, inspect, and prepare the mission element for operations. This includes:

- **Assessing the status of the mission element.** Actions necessary to appraise overall mission element condition resulting from mission debrief, flight status record, and quality and safety inspections.
- **Maintaining and modifying the mission element.** Routine maintenance and modification actions are required to prepare the mission element for the assigned mission. It includes, but is not limited to, corrosion control and replacement of consumable materiel and components.
- **Repairing the mission element.** Actions necessary to restore the damaged mission element.

Prepare Payload. This involves configuring and delivering personnel, equipment, or materiel for specific mission needs. This includes:

- **Delivery for assembly.** The delivery of mission-specific payload components for assembly.
- **Assembling the payload.** Combines the mission-specific components into the payload (completed units, kits, or assemblies) that are transported.
- **Distributing the payload for loading.** Transport and distribution of the mission-specific payload in the total quantity required by the date required.

Configure Mission Element. This is a broad capability that includes assembling, loading, fueling, and arming the mission element for a specific mission. It includes delivery of required mission preparation information to the platform. This includes:

- **Preparing the mission element layout and configuration.** The capability to physically configure the mission element to receive the type of payload required.
- **Fueling mission element.** Actions needed to fuel the mission element.
- **Uploading the payload.** Actions required to load the primary payload to accomplish the mission.

- **Configuring systems.** Actions required to ensure integration of the mission element, payload, navigation elements, and parameters.
- **Verifying mission readiness.** The performance of mission systems checks and crosschecks.
- **Positioning for initiation and launch.** Actions required to place the mission element for immediate employment.

Launch Mission Element. This is the capability to perform final actions and hand off the system to the element operator for execution of the mission. This can include initiating mission systems using satellites. This includes:

- **Performing pre-mission checks.** Preparations for mission execution by mission operators or mission support crews. These actions verify readiness and mission-specific requirements, including verifying the payload is loaded onto the mission element and accounting for takeoff weather conditions.
- **Initiating mission systems.** Sets into motion the mission execution IAW mission-specific requirements.
- **Performing final checks.** Final inspection and validation of the mission element before mission launch or execution.

Launch Mission Element. This is the capability to perform final actions and hand off the system to the element operator to execute the mission. This can include initiating mission systems using spacecraft and the following three actions:

- **Routine recovery.** Retrieval and restoration of mission elements during non-crisis situations or missions.
- **Crash recovery.** Retrieval and restoration of mission elements during a crash situation.
- **Offloading mission support element payload.** Actions required to download the primary mission payload when that payload was not designed to be expended, or was not expended, or when the next launch requires a configuration change.

Prepare Launch and Recovery Apparatus. This provides the capability to inspect and analyze the mission element to determine if it can be repaired and estimate initial needs (parts, components, equipment, and personnel) to execute the repair. This includes:

- **Repairing launch and recovery apparatus.** Returns the recovery apparatus to its original or usable, functioning condition, resulting from normal wear and tear or mission damage.
- **Restoring launch and recovery apparatus.** Returns the recovery apparatus to its original or usable, functioning condition, bringing the launch and recovery apparatus back to mission status beyond normal maintenance.

- **Configuring launch and recovery apparatus.** Arranges, sets up, or shapes the recovery apparatus with a view to mission-specific recovery application or use.
- **Transporting and positioning launch and recovery apparatus.** Moves the launch and recovery apparatus to the location and prepares for use.

MISSION SUPPORT

The Mission Support core capability encompasses supplying, distributing, and maintaining goods and services, as well as infrastructure, at operating locations. These actions are accomplished to maintain support, assist in distributing support, and supply the mission, forces, and infrastructure.

LOGISTICS SERVICES

The specific mix of forces required to open an airbase or a group of airbases depends on the situation. Establishing the airbase also involves receiving forces. This includes offloading at staging locations, accounting for all assets, and moving to operating locations. Beddown of forces occurs at a variety of locations ranging from MOBs to austere bare bases. Forces should immediately be able to support operations upon arriving at their destination.

Reception, staging, onward movement, and integration (RSOI) consists of the processes required to transform arriving personnel and materiel into forces capable of meeting operational requirements throughout a theater. USAF units operating at an APOD should also be prepared to facilitate JRSOI activities for other Service components. Separate staging areas should be established for units that typically beddown at the APOD and other forces that will be marshaled for onward movement. Sustainment and FP for transiting forces are required until onward movement occurs. Factors to consider during RSOI include force accountability, FP, and intratheater movement.

Force accountability allows commanders to determine when they have force closure, at the point in time when they have the forces needed to accomplish their mission. Proper force accounting, including contractors, allows commanders to plan for additional sustainment needs such as beddown space and feeding capability. Should an emergency occur at home station or the deployed location, commanders should be able to locate their people quickly. The AFFOR A1 is responsible for contractor accountability through coordination with the contingency contracting office and the use of appropriate tools, as outlined in DoDI 3020.41, *Operational Contract Support Outside the United States*.

Supply includes actions needed to order, receive, store, and issue all materiel needed for servicing and maintaining resources and capabilities both in garrison and when deployed.

Plan for requirements. Analyzes past demand, forecasts materiel needed to support future programs and anticipates materiel and parts failures to validate and plan for requirements. The AFFOR A4 usually conducts operational planning in this area.

Receive parts, process demand, order, store, and issue materiel. Includes all actions required to effectively manage an inventory so that the right capability is delivered at the

right time and in the most cost-effective and expedient manner to the end-user. The AFFOR A4 usually conducts operational planning in this area.

Reutilization and disposal. This entails the final removal or reuse of a USAF inventory item. The AFFOR A4 usually conducts operational planning in this area.

SUPPLY MANAGEMENT

Distribution support provides all actions needed to transport and deliver personnel, equipment, and commodities, as well as blood and medical supplies, to users in mission support operations within the confines of an operating location.

MATERIAL DEPLOYMENT AND DISTRIBUTION

Reconstitution is the restoration of capability following operations and includes both equipment and personnel. Reconstitution maintains control over resources and maximizes asset recovery. The objective is to prepare the reconstituted force for future operations in the minimum time.[21]

> Through the ACE Sustainment framework, Air Force "processes of setting the theater, deploying the force, and maneuvering the force depend on robust, resilient, and responsive logistics and infrastructure support and must withstand an adversary's disruption strategy". "ACE sustainment plans should focus primarily on aircraft sortie generation but also include the ability to execute implied tasks such as receiving airlift or sealift for resupply, executing BOS functions, and contracting local services, supplies, and equipment."
>
> **–Air Force Doctrine Note 1-21, *Agile Combat Employment***

Total asset visibility focuses on capturing information on facility and infrastructure assets being repaired and sustained. The AFFOR A4 conducts operational planning and oversight in this area. Sub-capabilities include:

- **Track personnel and equipment.** Provides real-time visibility of personnel, equipment, and materiel (excludes assets in transit).

Provide In Transit Visibility (ITV). Those actions taken to track individual cargo, personnel, and medical patients while in transit.

AIR FORCE MEDICAL SERVICES

Air Force Medical Service support rests on a handful of core fundamentals. Medical forces are treated as combat-support elements and deploy alongside logistics, civil engineering, and communications capabilities. The population at risk determines the size of any forward medical footprint, and medical deployment packages are designed to scale to meet mission demands. This incremental employment approach enables clinical care to commence almost immediately.

[21] See JP 3-35, *Deployment and Redeployment Operations*, for additional information.

Air Force medical forces are organized to achieve five enduring effects:

- **Combat-power preservation** through a medically ready and rapidly recoverable force.
- **Rapid casualty evacuation (CASEVAC)** via a hub and spoke aeromedical-evacuation system powered by critical care air transport teams (CCATT).
- **Integrated force-health protection** that blends prevention, surveillance, and restorative care.
- **Agile sustainment** enabled by expeditionary medical logistics (EML) and clear command-and-control relationships.
- **Versatility across the competition continuum,** from steady-state global health engagement to high-intensity combat and Defense Support of Civil Authorities (DSCA) at home. These principles, grounded in compliance with the law of war, ensure that USAF Medical Services remain both operationally decisive and ethically sound.

Air Force Medical Services Casualty Care Continuum

- **Role 1: First Response**-Tactical Combat Casualty Care (TCCC), resuscitation
- **Role 2: Forward Resuscitation**-In-theater surgical intervention
- **Role 3: Theater Hospital**-Enroute Patient Staging System (ERPSS) with surgery and ICU capability
- **Role 4: Definitive Care**-Large Military Treatment Facilities and US Department of Veterans Affairs (VA) system

FORCE HEALTH PROTECTION (FHP).

FHP is defined in JP 4-02, *Joint Health Services*, as "measures to promote, improve, or conserve the behavioral and physical well-being of Service members to enable a healthy and fit force, prevent injury and illness, and protect the force from health hazards." The USAF expands that definition to clarify the precept as a comprehensive threat-based program directed at preventing and managing health-related actions against the USAF's uncommitted combat power.

USAF FHP is organized along three tightly linked lines of effort. First, sustaining a fit and healthy force means everything from accessions screening and immunizations to occupational and environmental-health surveillance, human performance optimization activities, and exposure monitoring. Second, preventing illness and injury requires forward-thinking, multi-disciplinary preventive medicine teams, aggressive food and water safety controls, human performance optimization initiatives, and continuous disease and non-battle injury (DNBI) surveillance that informs command risk decisions. Finally, providing casualty care and management ensures an unbroken Role 1-4 continuum focused on rapid return-to-duty.

The Hub and Spoke Network and En-route Care. Throughout the care continuum, aeromedical evacuation (AE) is critical to ensuring casualties move rapidly and safely between echelons of care and relies heavily on coordinated aircraft prioritization and movement at the AOC. USAF medicine links casualty care from the point of injury to definitive care through a hub and spoke architecture. Role 1 and Role 2 immediate care facilities at FOSs and CLs (spokes) supporting combat operations stabilize casualties just long enough to move them out of the forward area. Specially designated C-130s and C-17s, equipped with modular litter systems and staffed by CCATTs, convert cargo space into flying intensive-care units. They funnel patients to a Role 3 medical capability or an En Route Patient Staging System (ERPSS), located on a MOB (hub), where surgical, intensive care, infectious disease, blood, and diagnostic services are concentrated.

Patient transport in the AOC is coordinated by the Aeromedical Evacuation Control Team (AECT), which translates clinical needs into air mobility taskings. From there, the specialized Patient Movement Requirements Center (PMRC) matches every patient with the right aircraft, crew, and equipment. PMRC maintains continuous liaison with both the AFFOR Surgeon General (AFFOR/SG) and the USTRANSCOM Surgeon (TCSG) to facilitate the effective global integration of AE missions. The Air Mobility Directorate (AMD) synchronizes this flow with crews, airfields, and theater airlift priorities, ensuring that casualties move swiftly to Role 4 facilities in Europe, the Pacific, and the continental United States (CONUS). The result is a seamless, global pathway that turns distance into a clinical ally rather than an operational liability.

Medical Logistics. Medical materials reach the point of need only when an agile logistics backbone, EML, moves the right Class VIII supplies, blood, and equipment at the right time. The Air Force Medical Logistics Operations Center (AFMLOC) serves as the enterprise hub, monitoring global inventories and directing shipments through the Theater Lead Agent for Medical Materiel (TLAMM) or, in an immature theater, through contingency contracts and partner-nation depots. At the tactical level, deployed logisticians maintain a lean Patient-Movement Item (PMI) cache, whose contents can be tracked in real-time and redeployed with the casualty, ensuring ventilators, monitors, and pumps “fly forward” rather than sitting idle in theater.

Health Support to DSCA. Every medical group maintains scalable Home Station Medical Response (HSMR) kits, ranging from four-person Immediate Response Teams to 25-bed EMEDS, that integrate seamlessly with FEMA resource typing. Air National Guard medical units, leveraging their experience in civilian hospitals and geographic dispersion, often serve as the vanguard for CBRN response, humanitarian aid, and natural disaster relief.

Key Roles and Responsibilities. Responsibility for health-service support is distributed across several echelons but remains tightly integrated with combat-support command relationships. The COMAFFOR retains operational control of USAF medical forces and directs their employment through the Air Operations Directive or similar order, ensuring clinical effects are synchronized with the wider air operation. Advising the COMAFFOR is the AFFOR/SG, who develops the medical annex to the commander’s estimate, issues Surgeon-General Guidance, and serves as the senior interface with the Joint Force Surgeon.

Medical Planning Considerations. Effective medical support starts in planning. The medical estimate should align with the supported commander's scheme of maneuver, threat environment, available airlift, HN capacity, operational weather, and disease picture. Everything derives from the population-at-risk and theater evacuation policy: a shorter "return-to-Role 3" timeline demands a lighter forward footprint but denser AE schedule. In contrast, a protracted timeline requires more surgery and critical care capabilities deployed to the combat zone and creates expectations for prolonged field care at role 1 and role 2 locations.

Four constructs frame the medical planner's options:

- **Combat-Support force modules** embed medical FE's within AFFORGEN, enabling clinical capability to grow in parallel with other sustainment functions.
- **Rapid incremental employment** sequences in 12-, 24-, and 72-hour segments, matching capacity to patient flow as the fight unfolds.
- **Tailoring and risk balancing** allow planners to trim or augment UTCs, accepting calculated clinical risk to save lift or add capability when threat or population dictates.
- **Special-operations integration** demands early integration of CASEVAC plans with the conventional AE system, ensuring that isolated personnel recovery feeds seamlessly into the same hub and spoke network that serves conventional forces. By applying these constructs in concert, medical planners deliver just enough care, just in time, and never in the wrong place.

Law of War Considerations. Under the 1949 Geneva Conventions, medical personnel, units, facilities, and transports are entitled to special respect and must not knowingly be attacked. As far as possible, medical units and facilities should be situated so attacks on military objectives would not imperil their safety. The use of recognized emblems, the Red Cross, Red Crescent, Red Lion and Sun, or Red Crystal, facilitates the identification of protected medical personnel, units, facilities, and transports. Medical personnel lose protected status if they, outside of their humanitarian duties, participate in hostilities or otherwise commit acts harmful to the enemy, but medical personnel may employ arms in defense of themselves or patients without losing protection.

Improper or deceptive employment of the recognized emblems is prohibited. USAF medical forces comply with these obligations even when adversaries do not. In joint or coalition settings, the AFFOR/SG coordinates medical activities with the Joint Force Surgeon. At the same time, the Staff Judge Advocate (SJA) advises commanders on the lawful employment of medical capabilities. Legal review when circumstances require medical units to be placed in proximity to combatant functions preserves operational credibility and legitimacy.

FORCE SUSTAINMENT

Sustaining the mission, forces, and infrastructure as a core capability ensures CSS is maintained throughout operations and optimizes the use of reachback, including the industrial base when needed. The CSS components within the AFFOR staff conduct the required sustainment planning and tracking.

SUSTAINMENT

The USAF sustainment construct leverages robust reachback, real-time visibility, centralized control, and the flexibility of airpower to right-size the forward logistics footprint and dedicate maximum assets to moving combat power. As a result, rapid resupply and retrograde operations are necessary to sustain forces and maintain a ready flow of repairables to repair sources. Reachback for sustainment of equipment, information, materiel, and personnel requires robust, long-haul communication links to identify, coordinate, and monitor requirements. There are many locations for sustainment reachback. They include component USAF major commands (MAJCOMs), numbered Air Force (NAF), component NAF (C-NAF), Air Staff agencies, and various functional communities, field operating agencies, and centers.

COMMUNICATIONS AND INFORMATION SUPPORT

Total asset visibility focuses on capturing information on assets being repaired, moved, or stored (purchasing and supply chain management), as well as passenger and patient movement status. AFFOR A6 conducts operational planning and oversight in this area. Its sub-capabilities include:

- **Communications Infrastructure.** An airbase's communications infrastructure receives, stores, protects, processes, transports, and disseminates information while connecting to and extending the cyberspace environment. Communications activation involves building the infrastructure (including a satellite link to the global information grid, a network control center, and power) which includes, but is not limited to, the establishment of satellite communications links, wired connectivity across the base, power, and cooling of critical nodes, and maintenance of communications equipment. The AFFOR A6 usually conducts operational planning in this area.

- **Combat Communication Units.** USAF Combat Communication units provide scalable "extend the net" communications support for military operations across the competition continuum and provide communication capability for C2 reachback at and above the tactical level for a variety of USAF and joint missions. Units can support up to 3,000 users and deploy within 72 hours of notification. Services may include warfighting application connectivity to the cloud or in contested environments over unclassified or classified networks, secure or non-secure voice networks, expeditionary mass notification systems, ground-to-air radio support, engineering, and site survey teams. Warfighting applications that reside on highly classified or allied/coalition networks require additional equipment or support.

SUSTAINING THE TOTAL WORKFORCE

Sustaining the total workforce ensures the USAF's workforce (military, civilian, and contractor) is fully prepared to meet all day-to-day workload requirements and that executable plans are in place to support surge needs as contingency situations arise. The AFFOR A1 conducts operational planning and oversight in this area.

PERSONNEL SERVICES

The Installation Personnel Readiness (IPR) function ensures accurate personnel accountability by performing updates and disseminating personnel data and information through the Military Personnel Data System (MilPDS) and the Deliberate and Crisis Action Planning and Execution Segments (DCAPES) application IAW established policy. Personnel Support for Contingency Operations (PERSCO) is the collection of manual and automated procedures, systems, hardware, personnel agencies, and deployable individuals or teams needed to accomplish Total Force accountability and reporting, casualty reporting, and personnel program advice. Synchronized Pre-deployment and Operational Tracker–Enterprise Suite (SPOT-ES) is the joint enterprise suite of products that serves as the central repository of information for contractor personnel and equipment accountability during contingency operations.

Personnel accountability is defined as accurate accounting for personnel at all times, regardless of location. The CCDR or the component commander can also levy additional requirements to report on other Department of Defense civilians, other DoW-essential contractor personnel, other Services, allied forces, coalition forces, and/or other personnel. Commanders at all levels maintain accountability for their forces.

PERSCO teams use specialized systems to maintain personnel accountability, and IPR units can utilize multiple systems of record to keep commanders informed of the location and status of their deployed personnel.[22]

[22] For additional information on IPR and PERSCO operations, see DAFI 36-3802, *Force Support Readiness Programs*.

CHAPTER 3: LOGISTICS INTEGRATION

Logistics assets rarely fall under a single command, making control, coordination, collaboration, synchronization, integration, and management of joint logistics more challenging. While logistics remains a Service responsibility, other logistics organizations, processes, and tasks should be considered when supporting HHQ COLS to JFC objectives.

COMMAND AND CONTROL CONSIDERATIONS

COMMAND RELATIONSHIPS

A CCDR exercises combatant command authority (COCOM) and directive authority for logistics (DAFL). The CCDR exercises these authorities over assigned and, if provided by the Secretary of War (SecWar), attached AFFOR through the air component commander. C2 structures for sustainment are designed to enable an air component commander to execute the Service's Title 10, US Code (U.S.C.) responsibility for logistical support while also supporting the CCDR's exercise of DAFL.

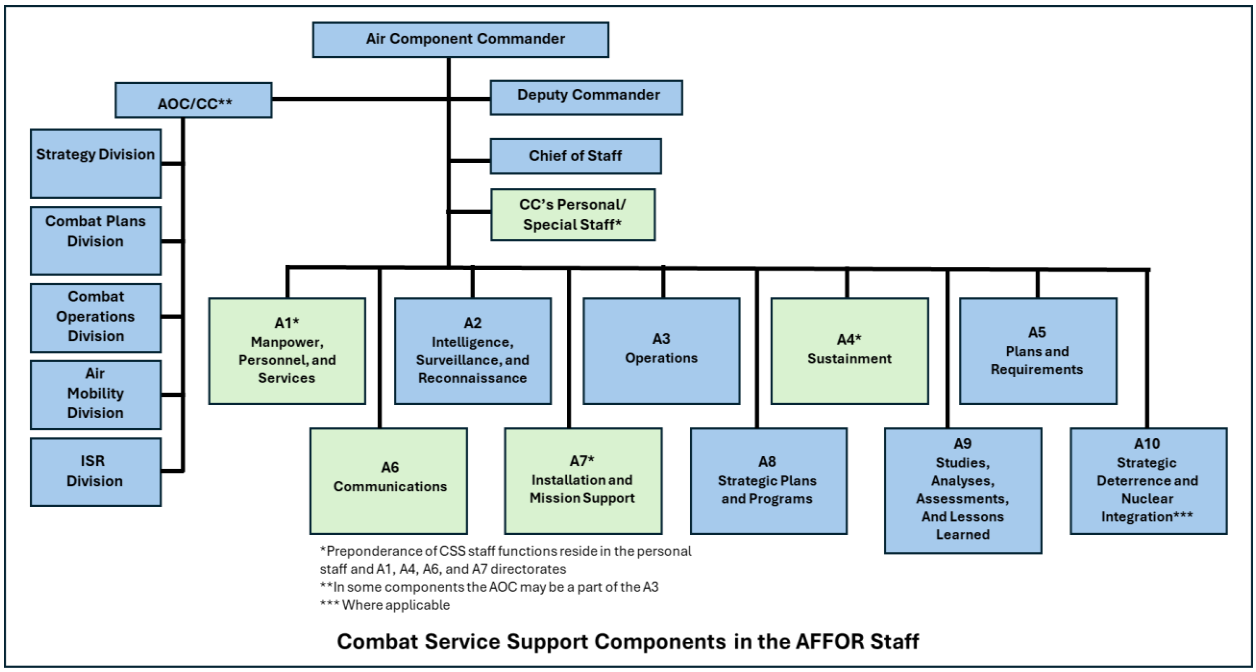
When a MAJCOM is also the Service component to a CCDR (component MAJCOM [C-MAJCOM]), the C-MAJCOM organizes and employs forces to accomplish assigned missions. C-MAJCOMs provide the first echelon of reachback support to forces in the CCDR's AOR. A NAF, if designated as a C-NAF, provides the senior warfighting echelon and the organizational sustainment planning expertise. The C-NAF staff plans the C2 architecture for operations. Regardless of the source of support or the support C2 structure, the Service component ensures essential support for all assigned and attached USAF personnel within a joint force. USAF commanders should be prepared to accept single-Service responsibility for joint common use items.

The C2 of sustainment operations produces a fully integrated sustainment capability that extends from the lowest levels of capability (e.g., base and below) to the highest levels of resource allocation (headquarters USAF) and operational planning (Service component, joint force, and above). Commanders and decision-makers have an immediate need for capabilities that capture, transmit, and share data about the status of current operations, courses of action (COAs), plans, and predictive analyses. At each level, there should also be a common set of dynamic and tailorable reporting and tracking tools.

AIR COMPONENT COMMANDER SUSTAINMENT FORCES

The air component commander under Title 10 authority exercises C2 of sustainment operations for assigned and attached AFFOR. Most CSS forces operate within AEWs. The air component commander has a direct command relationship with subordinate USAF commanders. Those subordinate commanders normally have direct command relationships with the sustainment units and personnel in AEWs. CSS personnel in AEWs are aligned within the wing staff, the air expeditionary maintenance group (AEMXG), and the air expeditionary mission support group (AEMSG). The air component commander may choose to retain some theater-level sustainment assets above the wing level. In this case, a portion of the sustainment personnel are aligned in squadrons or groups that

report directly to the air component commander or an Air Expeditionary Task Force (AETF) commander, if one is designated.[23]



Combat Service Support Components in the AFFOR Staff

While most sustainment forces operate at the tactical level in AEWs, the air component commander provides operational-level C2 and direction through the AFFOR staff and special staff. Within the air component headquarters, sustainment staff functions are aligned within the AFFOR staff, as shown in the figure titled "Combat service support Components in the AFFOR Staff." CSS components of the AFFOR Staff should interface with the AOC to plan, support, and sustain operations.

The AFFOR staff also coordinates with associated joint task force (JTF) headquarters staffs to plan, coordinate, and execute required support functions. The AFFOR staff interfaces with joint staffs to:

- Coordinate in decision-making and planning.
- Integrate sustainment into theater operations.
- Develop detailed sustainment plans.
- Establish a joint logistics and support architecture.
- Ensure unity of sustainment effort.
- Integrate national and theater sustainment efforts.
- Perform sustainability analyses.

[23] For additional information on C2, see AFDP 3-0.1, *Counterair Operations*.

COMMUNICATIONS

Based on the breadth and complexity of sustainment, especially in contested operations, all C2 nodes, from the air component commander to fielded forces, should communicate necessary information, both vertically and horizontally, to integrate CSS efforts. The AFFOR and AOC staff should consider the CBRN (e.g., Electromagnetic pulse [EMP]) effects on their overall CSS operations when making CSS decisions. Information should be produced and consumed continuously throughout mission operations. Information sharing is essential to successfully executing the mission. Mission success depends upon proper information dissemination and protection. CSS systems architecture should provide a robust and secure capability and be integrated across all CSS functional areas. To facilitate the attainment of mission objectives, the air component commander should clearly convey the commander's intent to subordinate commanders and staffs. The air component commander should establish a battle rhythm and information requirements.

PROCESSES AND CAPABILITIES

To perform C2 of sustainment, staffs rely on underlying business processes to facilitate monitoring, assessing, planning, and executing of all CSS activities supporting military operations. The USAF C2 of CSS processes and capabilities are derived from JP 4-0, *Joint Logistics,* and are expanded to meet Service requirements for a more comprehensive C2 of sustainment, rather than just logistics. The following descriptions of C2 processes and capabilities highlight the continuum of action required to link operational and sustainment capabilities to achieve desired effects. These continual processes also allow for transition from steady state to contingency operations and nest with the joint planning process.[24]

- **Monitoring.** Effective monitoring involves collecting, storing, maintaining, and tracking data. Monitoring enables sustainment planners to anticipate where support capabilities are needed. Priorities should be determined in advance based on the nature of the operation. A comprehensive mission analysis by the air component commander's staff should produce a list of the commander's critical information requirements to focus staff monitoring efforts on essential data. The air component commander's staff should monitor information from all sources while maintaining focus on the commander's intent.

- **Assessing.** Assessment is "a continuous process that measures the overall effectiveness of employing joint force capabilities during military operations." For USAF sustainment, the focus is on continual measures of capabilities to determine the impact of conditions and events on capabilities and commander's intent. It involves analysis and evaluation to obtain situational awareness and alternative solutions. Analyzing data provides the foundation for potential COAs during planning. Proper analysis ensures that the environment's limitations are well-defined.[25]

[24] See JP 5 0, *Joint Planning*, for additional information.
[25] See JP 3-0, *Joint Campaigns and Operations*, and AFDP 3-0, *Operations*, for additional information.

- **Planning.** Thorough planning addresses all levels of sustainment. Planning involves COA development and evaluation of operations. The flexibility of sustainment forces enables the operational-level planner to scale and sequence forces into theater to enhance mission effectiveness. Planners should take advantage of reachback capabilities, pre-positioned and distributed stocks, and partner or ally support to ensure the deploying force is tailored to meet operational needs.

- **Execution.** Execution is the overall dissemination and implementation of a plan to ensure successful mission accomplishment. The need for resilient C2 is critical in the coordinated execution of the JFC's campaign.

- **Technology Enabling Sustainment Command and Control (C2).** Achieving decision advantage requires a cultural shift from viewing logistics as a series of physical processes to viewing it as a data-driven enterprise. Commanders and decision-makers require information capabilities that capture, transmit, and share data about the status of current operations, COAs, and predictive analyses. The timely and efficient management of information and collective knowledge underpins shared situational awareness across the operational environment. Effective synchronization of CSS activities requires a mixture of support and warfighting mission systems, including geospatial, logistics, financial, contracting, installation C2, and defense information systems. Sustainment operations rely on functional communities that collaboratively acquire, steward, analyze and share basing and geospatial intelligence to plan, make decisions, and assess in support of home station missions and deployed operations.

  New and emerging business, geospatial, and artificial intelligence tools can transform disaggregated data, currently accessed through several disjointed platforms, into a common data environment enabled by a system-of-systems architecture. These tools provide fully customizable visualization, analysis, and prediction, and deliver actionable, georeferenced knowledge via cloud-based data integration platforms and edge computing for CSS decision-making at the tactical and operational levels.

SOURCING AND REACHBACK

Sustainment forces are principally organized and resourced within UTCs that are incorporated into AETFs.[26] UTCs are used to describe the personnel and materiel presented to the air component commander, within the AETF. The scalability of UTCs enables planners to tailor sustainment requirements to force modules. A force module is a grouping of operational and sustainment forces along with the equipment and supplies that are modular and scalable for an operation. This capability enhances AFFOR's flexibility and usefulness during any operation.

The current AETF presentation is in six force modules: Open the Airbase, C2, establish the airbase, generate the mission, operate the airbase, and robust the airbase. The force modules are composed of multiple UTCs, tailored to the required capabilities. This allows CSS to deploy with the right size footprint to support operations.

[26] For additional information on force modules, see DAFI 10-401, *Operations Planning and Execution*.

CSS capabilities can be presented individually or in combination, depending on the specific requirement. For example, CSS capabilities can also support security cooperation engagements and the individual country plans of partner nations. These capabilities are presented to the air component commander in UTCs, especially designed to support security cooperation engagements. In addition, CSS capabilities supporting security cooperation engagements should be deployed with the smallest footprint to support the mission and should rely on reachback for additional support.

Reachback to the continental US and rear overseas locations is used for those capabilities not brought forward and can include MAJCOMs, NAFs, C-NAFs, Air Staff agencies, depots, field operating agencies, centers, and commercial support agencies.

FORWARD OPERATING SITE (FOS) AUTHORITIES

Senior Airfield Authority (SAA). The SAA is an individual designated by the JFC responsible for the control, operation, and maintenance of an airfield, including the runways, associated taxiways, parking ramps, land, and facilities whose proximity directly affects airfield operations.[27] The SAA should have aviation experience. If the designated SAA is not available at the start of operations, an on-site field grade air mobility liaison officer or the initial airbase opening forces commander (e.g., CRF commander, airfield operations officer, or the mission support group commander trained and certified in SAA duties and responsibilities, including air traffic control and airfield/airspace management) may serve as acting SAA. The SAA also coordinates all component or JTF aircraft and airfield facilities to avoid splitting responsibilities among the Services. The SAA controls flightline access and the safe movement of aircraft.

Base Operating Support (BOS). BOS involves actions or operations that directly assist, maintain, supply, and distribute support to forces at the operating location. In the air component, CSS functional communities perform most BOS activities necessary to sustain air operations. Since BOS describes an activity rather than an authority, air component planners should validate which Service component, or JFC owns sustainment responsibilities for the operating location before deployment.

Base Operating Support-Integrator (BOS-I). The BOS-I is the CCDR designated Service component or JFC assigned to synchronize all sustainment functions for a contingency base. The Service component with the preponderance of forces should normally provide BOS-I for a location, although the CCDR may designate an individual within a Service component or JTF as the BOS-I at each FOS/CSL. The BOS-I coordinates the efficient use of mission support resources. Where shortfalls or opportunities for efficiencies exist, the CCDR may task components of JTFs to provide or coordinate specific capabilities (e.g., infrastructure, security, and communications). The BOS-I provides master planning for facilities and real estate. BOS-I responsibilities may include coordination of WRM assets, collecting and prioritizing construction requirements, seeking funding support, environmental management, emergency management, FP, and hazardous waste disposal.

[27] For additional information on airfield authorities, see JP 3-36, *Joint Air Mobility and Sealift Operations.*

CHAPTER 4: SUSTAINMENT PLANNING & EXECUTION

Timely, accurate, and responsive planning enables trade-offs, alternate COAs, and, therefore, freedom of action for JFCs. Joint logistics planning links the mission and commander's intent to core logistics functions, procedures, and organizations. Effective air component logistics planning should be integrated with operational planning at all levels and throughout the entire process.

Planning is required at each echelon of command and across the spectrum of sustainment core processes. Regardless of the planning effort (campaign support, contingency, or crisis), the planning process remains the same, and sustainment forces should be fully integrated into the process.[28] Anticipating requirements, coordinating with all relevant participants, adopting a responsive posture, and rehearsing the execution plan are important elements of planning. Sustainment planners in the air component commander's staff should be involved in all planning steps to ensure the feasibility of planned operations.

AFPP IN LOGISTICS

The logistics estimate informs the commander's estimate, COLS, OPORD development, and execution. Execution planning may involve compressed timelines from situational awareness/initiating event through reporting to potential JFC planning guidance or Chairman, Joint Chiefs of Staff (CJCS) planning order, to OPORD and execution. The logistics estimate is an analysis of how sustainment factors can affect mission accomplishment. It contains the logistics staff's comparison of requirements and capabilities, conclusions, and recommendations on the feasibility of conducting a specified COA. This estimate includes the effects of core logistics functions on various COAs. Preparation of the logistics estimate provides a coordinated and formalized means for the staff to identify and consider logistics shaping to realize the CONOPS. Air Component sustainment planners use the AFPP to ensure thorough analysis of all effects and capabilities to provide the most effective COA recommendations for supporting the joint air operations plan (JAOP) and/or the JFC's campaign plan.

The COLS provides a foundational basis for preparing Annex D (Logistics) for assigned contingency plans and/or OPORD development tasks. The COLS establishes priorities of support across all phases of operations to conduct the JFC's CONOPS. By exercising DAFL, the CCDR may assign a component commander to conduct various theater logistics functions and provide base support at designated theater locations. Logistics functions may include management of afloat assets, identification and status of theater sustainment elements, to include identification and/or forecast of required augmentation, priority of sustainment by class of supply with guidance on days of supply to be maintained (minimum and maximum), movement priorities for airlift and sealift aligned to JFC's CONOPS, guidance for employment of sea-air interfaces to facilitate JRSOI, controlling common user logistics, JFC's declaration of force closure, actions by phase, logistics assets required, and designation of contracting construct (e.g., lead service for

[28] For additional information on the joint planning process for air (JPPA), see AFDP 3 0, *Operations*, and JP 3 30, *Joint Air Operations*.

contracting, or joint theater support contracting command).

SUSTAINMENT PLANNING FACTORS

LINES OF COMMUNICATION (LOC)

Air, ground, and sea LOCs are transportation bridges for deploying, sustaining, and redeploying forces. Establishing protected and resilient intertheater and intratheater LOCs is vital to sustainment success. The DoW, in conjunction with the Department of State, obtains permission for LOCs, and the Military Departments establish the physical LOCs among selected aerial ports of embarkation. Sustainment forces are integral to establishing and operating the air LOCs and the supporting nodes.

Bases used for APOD, whether enroute or at the destination, are frequently non-US controlled and require extensive support from the HN. Such support reduces the need for airlift to the new location. Planners should consider the following when developing LOCs:

- Existence or feasibility of establishing agreements, including the status of forces agreements, with host and enroute nations.
- Overflight, landing, port, ground transportation rights, and diplomatic clearances are provided by the host and enroute nations.
- Availability of support (e.g., security, fuel availability, and materiel handling).
- Pre-sited munitions handling areas, especially at ports of debarkation for afloat prepositioning forces and standard munitions packages, hot cargo areas.
- Ability to protect the LOCs and transit corridors.
- Distances to prepositioned WRM and between APODs.
- Distances to commercial market capability and sources qualified to satisfy commodity and service requirements.
- Ability to establish secure C2 for AOC-to-unit communications.

DEPLOYMENT

Deployment of personnel and equipment via the Positioning the Force sustainment core process involves movement, reception, and beddown of forces, accomplished using LOCs. Actions include, but are not limited to:

- Establishing an initial operational cadre.
- Accounting for US, HN, commercial, and coalition prepositioned assets and support.
- Deploying enroute support force and employment elements.
- Deploying, receiving, and accounting for forces.
- Reviewing baseline surveys and situational awareness to protect forces.

- ✪ Preparing for operations and initiating reachback operations.

Deployment prioritization should be based on the supported commander's required capabilities to meet operational priorities. Deployment should expedite the movement of personnel, aircraft, and equipment to meet those operational priorities. Phasing provides an orderly schedule for moving forces and assists commanders in refining requirements to ensure the right capabilities are in place, in the right order, to maximize the efficiencies of beddown and minimize FP risks.

Political or physical restrictions on the number of personnel, aircraft, or equipment permitted at a forward location may significantly affect deployment operations. The potential for these restrictions warrants an enroute infrastructure capable of staging, storing, caring for, and managing assets from the moment they leave the origination point until they arrive at the destination. ITV information on cargo, passengers, medical patients, and personal property enables commanders to track the location and progress of critical resources essential to force readiness in the theater. Modern C2 systems use ITV to reduce the element of uncertainty inherent in deployed operations. Sustainment ITV systems should be integrated into a network accessible to theater commanders to provide the status of assets at enroute locations, reception points, staging points, and final destinations.

FORWARD OPERATING SITES (FOS)

In many cases, the planned FOS/CSL may already have infrastructure in place that can be made available for AFFOR. If not, commanders should consider leveraging functional communities' capabilities during efforts to establish FOSs/CSLs. The more that can be acquired locally without unacceptable risk to health or security, the less that must be stored, maintained, and forward deployed. Commanders should establish relations with local authorities (HN military or civilian airfield authorities) to ensure all potential sources of resources required to establish FOSs/CSLs are evaluated. Commanders should be careful not to enter into any oral or written agreement with HN authorities unless specifically delegated the authority to do so. The authority to negotiate and conclude such agreements is closely held and tightly controlled. Commanders should also consult with their staff JA early in the planning process to assess current international agreements affecting the establishment of the FOS/CSL and identify any required potential international agreements.[29]

Environmental planning should be included early in the planning stages. A survey should be completed at any new location to establish a baseline for environmental conditions before a site is used. When planning for a new FOS/CSL, the environmental objectives are to minimize risk to human health and the environment while establishing readiness to accomplish the mission. Commanders have four critical environmental goals:

- ✪ Compliance with applicable US laws and regulations, environmental obligations stemming from binding international agreements, DoW, DAF, and CCMD policy; and the Environmental Annex to the applicable OPLAN/OPORD regarding environmental

[29] See AFDP 3-84, *Legal Support*, for additional information.

compliance requirements standards (consult legal counsel to determine applicable environmental requirements standards, including final governing standards).

- Pollution prevention where practical through recycling and reuse, materiel substitution, or process change, and compliance with all applicable standards.
- Remedial action to address environmental contamination caused by prior USAF activities.
- Protection of cultural property IAW the 1954 Hague Convention and DoDI 4715.22 to avoid exposing it to destruction or damage in the event of armed conflict, and refrain from any act of hostility directed against such property.

OPENING THE AIRBASE

Airbase opening is a critical task for military operations and requires significant attention by the air component commander. Requirements for opening an airbase should be included in the planning. Long-range planners and current operations planners can assist in exploiting both classified and unclassified venues. Planners should include personnel from the applicable airbase opening force, representatives from the seizure force, and liaison elements to minimize operational seams.

Airfield assessment in support of theater capabilities planning is a process used to accomplish airfield surveys and determine appropriate support requirements. The USAF should employ geospatial engineering resources, including, but not limited to, site surveys, geospatial data, and imagery, to create a digital twin of the previously built and natural infrastructure comprising the operating location of interest during contingency planning.[30] If an accurate picture of the airfield is unavailable and forces arrive shortly, a CRF would be employed to survey the airfield to develop the necessary site plans and airfield suitability and restrictions report. The JFC may establish a joint airfield planning and coordination team to address the number, type, and location of all bases in the operational area. The team's efforts provide an opportunity for airbase opening forces to obtain evolving information regarding theater requirements.

AIRBASE INFRASTRUCTURE CONSIDERATIONS

Airfield assessment in support of theater capabilities planning is a process that involves conducting airfield surveys and determining related support requirements. The USAF should conduct site surveys and collect data from as many sources as possible during contingency planning. This early engagement facilitates planning and execution and enhances relationships with country teams in locations not routinely visited by USAF personnel. Advances in geospatial engineering technologies now enable planners to precisely locate all existing built and natural infrastructure assets comprising an airbase. Once compiled, this digital image informs planners of the presence, position, proximity, and capacities of existing facilities, parking ramps, and other essential resources to help assess risks to OPLANs.

[30] See AFDP 3-34, *Engineer Operations*, for additional information.

Airbase security is a critical component in complex contested environments the USAF may face in the future. Commanders should consider integrated base defense when determining the location of airbases. To enable commanders to maintain a secure airbase for operations, they should establish an infrastructure that provides adequate integrated base defense to mitigate potential threats to the base.

Ready Tiger 24-1–AFFORGEN in Action

During exercise Ready Tiger 24-1, Moody AFB's 23rd Air Base Wing demonstrated the capability to integrate ACE concepts such as integrated combat turns and forward air refueling points into their deployed operations at contingency locations across Florida and Georgia. While this exercise stressed the Wing's ability to rapidly deploy and sustain operations in austere environments, it also emphasized the critical role of combat service support capabilities in generating combat airpower.

In contested environments, maintaining the flow of essential personnel and materials to help Airmen achieve JFC objectives is one of the primary functions of the AFFOR staff. Sustainment planners synchronize the capabilities provided by AFFORGEN–such as providing meals, base security, medical treatment, and logistical resupply–to ensure expeditionary air forces can deliver effects for the Joint force.

JOINT DEPLOYMENT DISTRIBUTION OPERATIONS CENTER (JDDOC)

The JFC's staff defines the requirements through the JDDOC. The JDDOC directs, coordinates, and synchronizes deployment and redeployment, execution, and distribution operations for the joint movement center. The air component commander, through the AOC's air mobility division, is responsible for designing the routes and managing deployed airlift assets to satisfy requirements for all services. Intratheater movement is critical to supporting and sustaining operations, it should be planned and coordinated in advance of deployment and be ready to implement as soon as practical. A key component of intratheater movement is airlift. Flexible, responsive intratheater airlift is enabled by a theater airlift route system, a series of hub and spoke routes developed to move people, mail, parts, and other resupply items.

SUSTAINING THE FORCE

Planners should anticipate sustainment challenges and recommend potential mitigation measures. Critical forces and capabilities are identified and evaluated against risks. Findings highlight sustainment deficiencies with associated risks and are included in the JFC's readiness assessment reports. The deficiencies are then considered as candidate issues for further analysis in capability assessments.

The logistics supportability analysis (LSA) provides an assessment and action plan to improve key sustainment capabilities required to execute a JFC's planned operation. The LSA should be accomplished for OPLANs, contingency plans, and any planned operation the JFC deems necessary. The assessment spans the plan duration and addresses the joint capability areas defined in the logistics supplement to the joint strategic capabilities plan. The AFFOR A4 or A5 usually accomplishes the LSA for the air component commander.

AIR BASE CLOSURE

The JFC may establish a joint airfield planning and coordination team that should include personnel from applicable ground component forces and the AFFOR to plan airbase closure in the context of theater requirements and the operational environment. A commander with appropriate authority, such as the CCDR, JFC, or the air component commander, may direct the closure of a deployed location when it is no longer required or needs to relocate as part of a dispersed basing strategy in a contested peer conflict. The following actions are required to be performed (although not necessarily in the following order):

- Document environmental conditions and collect historical resource information per DoDI 4715.22, Environmental Policy for Contingency Locations, section 3.12, Contingency Location Transition and Closure.[31]
- Perform required cleaning and decontamination, including mitigation and remediation of CBRN hazards.
- Arrange for hazardous waste disposal and spill remediation IAW DoDI 4715.22, sections 3.7 and 3.10, respectively, and DoDI 4715.19, Use of Open-Air Burn Pits in Contingency Operations, to address any imminent threat to human health or safety. Consult DoDM 4715.05 Overseas Environmental Baseline Guidance Document Volumes 1-5, all appropriate international agreements, the Environmental Annex to the applicable OPLAN status of forces agreements, treaty, and OPORD requirements in developing a sufficient waste management plan.
- Close out all accountable records and contracts to prevent inadvertent movement of assets to the inactivated location.

[31] See DAFI 84-101 Aerospace Historian Responsibilities and Management, and Air Force Handbook (AFH) 10-222, Volume 4, Environmental Considerations for Overseas Contingency Operations, for additional information.

- Transfer equipment to HN activities or pack equipment and mark items for refurbishment or disposal.
- Review support infrastructure (including contracted support) and reduce requirements to maintain the smallest footprint possible as forces depart a FOS/CSL.
- Ensure a coordinated withdrawal while maintaining unit integrity.
- Destroy all unnecessary classified information and official documents.
- Conduct inventory of all real property items. Coordinate with HN and other services as required.
- Obtain accountability for personnel assigned, gained, and supported for movement (including contractors, coalition).

There are specific times during airbase closures when transitions between events may prompt actions that sustainment forces should be prepared to address ensuring the airbase closure process is as smooth as possible. Functional airbase operating capabilities and responsibilities will normally transfer and consolidate from the Operate the Base force module forces at the end of mission and location transfer or closure. Planners and sustainment forces should be prepared to transfer the following functions and resources: C2, aircraft operating surfaces, operational facilities, airfield management, air traffic control, navigational aids, crash fire rescue, munitions, medical, security, administration, maintenance, lodging, dining. Transfer of SAA responsibilities normally occurs in parallel with decreasing flying operations.

EXECUTION CONSIDERATIONS

The CCMD J-4 monitors, assesses, plans, synchronizes, and directs logistics activities and operations throughout the theater. This transition may occur through the directed expansion of the joint logistics operations center (JLOC) and/or the CCDR's JDDOC. The CCDR's or JFC's staff is augmented (either physically or virtually) with representatives from Service components, USTRANSCOM, other supporting CCDRs, CSAs, and other national partners or agencies outside the command's staff. For example, each CCDR with an assigned AOR has established a JDDOC to synchronize and optimize the flow of arriving forces and materiel between the inter-theater and intra-theater transportation. As the operating tempo increases during a contingency or crisis, additional joint logisticians and selected subject matter experts (e.g., maintenance, ordnance, supply) can augment JDDOCs and leverage established networks and command relationships rather than creating new staffs, which entails inherent startup delays and inefficiencies. This expanded organization should also have clear roles and responsibilities among the various elements, as well as clearly understood relationships between the logistics elements and the CCMD staff.

APPENDIX A: COMBAT SERVICE SUPPORT CAPABILITIES

Acquisition. Plans for, develops, and procures everything from initial spare parts to complete weapons and support systems, including CSS, based on user requirements. Provides the right resources at the right time during the readiness phase and focuses on reducing cycle times to render acquisition more responsive to a rapidly changing security environment. Participates in initial beddown planning.

Airfield Operations. Airfield operations comprise three core functional competencies: air traffic control, airfield management operations, and Radar, Airfield, and Weather Systems (RAWS). The airfield, as a power projection platform (PPP), is a CCDR capability required to conduct the full range of military operations at MOB, FOB, and CLs.

AF Office of Special Investigations. AFOSI is an independent field operating agency that conducts LE investigations and CI activities to enhance FP. AFOSI is the sole DAF organization authorized to conduct CI activities. CI activities encompass five functions: collection, analysis and production, investigations, operations, and functional services. In addition, AFOSI is the DAF's single point of contact with federal, state, local, and foreign LE, CI, and security agencies. Commanders and staffs should work closely with AFOSI when planning and executing operations to incorporate LE and CI in preparation for the operating environment.

Chaplain Corps. Provides for all components of religious and spiritual care during military operations. This is accomplished through religious observances, providing pastoral care, and advising leadership on spiritual, ethical, moral, morale, and religious accommodation issues.

Civil Engineer. Engineer functions include general engineering, geospatial engineering, and installation support and services. These functions, working in combination, deliberately consolidate PPP readiness and status information, enabling air component commander and JFC decisions. Provides engineering, baseline survey data, force beddown analysis, airfield parking plans, housing, energy, real property, construction, drilling, planning, environmental management, and air insertion engineering required to establish, operate, and maintain installations, facilities, and utilities that enable persistent and effective combat operations.

Civil engineers are also responsible for the installation emergency management program using an all-hazards approach to prepare for, respond to, recover from, and mitigate the effects of hazards and threats. Delivers a broad range of emergency services capabilities, including EOD (including criminal and terrorist improvised explosive devices and high-yield explosives), fire protection, fire emergency services, emergency response, major accident response and recovery, and mitigation and recovery from the effects of weapons of mass destruction (including CBRN weapons), non-combat emergencies, hazardous materials response, and terrorist incidents.

Communications and Information. Responsible for the enterprise management, situational awareness, network defense, and C2 of all USAF terrestrial and airborne networks in support of air and cyberspace operations. Provides combat ready forces,

communications, and information infrastructure and expertise, enabling sustained combat operations through the integration of those operations with global air, space, and cyberspace operations.

Contracting. Provides in garrison and contingency contracting support to operations and support activities by soliciting, awarding/establishing, and administering contracts and agreements to acquire mission-essential commodities, constructions, and services throughout the initial deployment, buildup, sustainment, termination, and redeployment phases. Provides for the planning and integration of contract support (e.g., collaboration in boards, centers, cells, and working groups) to identify, develop, and approve requirements.

Contracting teams help maintain visibility and accountability of contractor personnel and equipment during deployment and redeployment. This support is essential for forecasting and coordinating the provision of sustainment and other life support services to contractor personnel, and identification and execution of the contracting officer's representative (COR) duties.

Distribution. Arranges end-to-end transportation of passengers, equipment, and materiel in support of deployment, redeployment, sustainment, and retrograde. Provides a wide range of transportation services, including packing and intermodal containerization of materiel, movement planning, preparation for and movement of personnel and cargo (including required customs processes), receipt/delivery of inbound personnel, cargo, and ITV.

Financial Management (FM) and Comptroller. Provides effective stewardship of public funds and robust decision support to commanders at all levels. At the onset of operations, FM provides disbursing and other financial services. The FM/contracting team is the commander's link to the local economy for procurement and other cash operations. FM forces are tailored to meet the commander's needs throughout the operation's lifecycle. They may mobilize with unit funds or manage funds provided by a USAF component command, a COCOM, another Service, or another agency. FM may budget and account for funds specifically appropriated for operations, or document expenditures for possible reimbursement. FM provides financial analysis, cost, decision support, financial services, and disbursing through forces in theater, financial systems, and reachback.

Force Support. Enables warfighting capability by providing manpower and personnel programs, life-sustaining and essential services, and quality-of-life programs to support AFFOR. Provides total force accountability and personnel management to integrate regular, Guard, Reserve, and civilians to meet personnel resource requirements. Provides casualty reporting capability to ensure timely and humane notification to next of kin. Provides food service, mortuary affairs, lodging, fitness, retail sales and services, laundry services, and recreational opportunities. Responsible for manpower management, organization designations, and performance management. Provides mail services around the world in partnership with USTRANSCOM and the US Postal Service.

Force Support also provides administrative support to commanders at all levels. Provides education and training, alternative dispute resolution, complaint processing, unit climate

assessments, pre-commissioning programs, professional military education, professional continuing education, higher education, transition, and career assistance. Supports the commander's sexual assault awareness and prevention training, education, advocacy, response, reporting, and accountability. Provides military and family support capability through programs for deployed members and families that support Airman resiliency and reintegration.

Medical Services. Provides FHP, which is a "total life cycle" health support system that addresses all health-related threats affecting the combat force. The three primary focal points of FHP are a healthy fit force, casualty prevention, and casualty care and management.

Historian. Provides leadership at all levels with accurate, well-analyzed historical information and documentation of key activities, including collection, preservation, evaluation, and interpretation of current operational data. These data are used to enhance the USAF's combat capability.

Judge Advocate (JA). Provides legal advice to commanders and personnel, including command relations, military justice, personnel issues, fiscal law, contracting actions, ethics, environmental law, claims, status of forces agreements, law of war, international agreements, rule of law, and specialized legal support in multinational, civil-military, and combat operations. Provides legal services, including legal assistance, which maximize the legal readiness of the force.

Logistics Planning. Provides site planning, WRM management, and the implementation of efficient CSS operations. Provides planning for deploying to, reception of forces in, sustaining, and redeploying from an operational area.

Maintenance. Maintains, repairs, and supports weapon systems and associated equipment, and support equipment. Provides organizational, intermediate, and depot-level maintenance both on the flight line and in repair facilities. Also includes battle damage repair and crash and recovery operations when required.

Materiel Management. Assists commanders and equipment custodians in the transfer and accounting of assigned equipment assets. Procures, receives, stores, issues, and accounts for assigned readiness spare assets. Monitors, controls, and reports the status of reparable assets. Acts as the primary liaison between units and supporting logistics support centers. It is an enabling capability that supports the sustainment of Airmen, weapons systems, and facilities to provide responsive, consistent, and support to the warfighter during peacetime and war.

Munitions Management. Procures, requisitions, manages, allocates, and maintains munitions to include storage, maintenance, assembly/disassembly, staging, delivery, protection, and reconstitution efforts. Provides capability to all munitions users at the installation and contributes to both Base Operations Support and generating the Mission forces.

Operational Contract Support (OCS). Provides the framework for planning and integrating contracted services through a multi-functional staff process of contract support integration (plan), contracting support (procure), and contractor management (manage). Separate from Contracting's transactional line function for acquiring contracted capabilities through the acquisition process, OCS is the integrated planning process that aligns contracted capabilities with the sustainment plan and operational objectives. The goal of the OCS process is to anticipate, validate, prioritize, and approve operational requirements for appropriate sourcing, develop acquisition strategies, and manage the performance of contracted personnel, equipment, and services.

Public Affairs (PA). Provides communication advice and trusted counsel on the impact of operations and activities to commanders at all levels. Plans, conducts, synchronizes, integrates, and evaluates the employment of the following PA capabilities as part of the operational planning process, including command information, media operations, community engagement, combat camera, visual information, counterpropaganda, AF band, and security and policy review activities. As a principal IW capability, supports the seizure and maintenance of information and relative advantage through operations in and through the IE.

Safety. Promotes a safe environment for air and cyberspace forces to live and work, thereby preserving vital resources. Assists with the implementation and integration of RM into all operations and missions. Focuses on mishap prevention and proactive safety in all mission sets to preserve combat capability.

Security Forces (SF). Contributes to the overall effort by protecting and securing operationally critical installations, personnel, facilities, and systems. Capabilities include area security operations, base security operations, base defense operations, law and order, combat arms, military working dogs, and nuclear security operations.

Studies, Analyses, and Assessments. Provides specialized analytic support for strategic planning, operational and developmental planning, requirements assessments, modernization and recapitalization of systems and programs, and the planning, programming, budgeting, and execution of decision processes.

Test and Evaluation (T&E). Ensures weapons systems are operationally effective and suitable, incorporates lessons learned during T&E of a new system to increase its agility, takes a rapid response process project, developed in response to a critical wartime need, and makes sure it works as designed, and readies an immature weapons system for immediate wartime deployment, making critical decisions as to the system's ability to perform its mission well enough to warrant deployment without jeopardizing resources or delaying the system's initial operating capability.

Weather Services. Provides timely and accurate environmental data and information, including climatological assessments and space and atmospheric weather, integral to the decision process and to the timing of employing forces and planning and conducting air, ground, and space launch operations.

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