

THE **Sustainment** & Multifunctional Logistician's



**Warfighter's Guide to
Logistics, Personnel Services,
& Health Services Support**
Third Revised Edition

SMARTBOOK

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JP 4-0
ADRP 4-0
FM 3-35
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**The Sustainment
Warfighting Function**

**Logistics, Personnel
Services, Health
Services Support**

**Sustainment
Brigade Operations**

**Brigade Support
Battalion (BSB/BSA)
Operations**

**Sustainment
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**Deployment,
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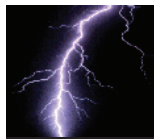
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About our cover photo: Calling in air support. U.S. Army 2nd Lt. Nicholas Prieto, a platoon leader with the 82nd Airborne Division's 1st Brigade Combat Team, works with forward observer, Spc. Jonathan Myers, to call in air support during a firefight with insurgents, June 30, 2012, Ghazni Province, Afghanistan. At left is Prieto's radioman, Pfc. Blaze Glocar. (U.S. Army photo by Sgt. Michael J. MacLeod, Task Force 1-82 PAO) Flickr

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Preface

This is the **third revised edition** of The Sustainment & Multifunctional Logistician's SMARTbook, incorporating **Change 1** along with up-to-date material from the **latest Army sustainment references**. Change 1 (ADP/ADRP 4-0 & Doctrine 2015 SMARTupdate) to SMFLS2 updates/replaces material in the 2nd edition (ISBN 978-0-9824859-2-7) with new material from the Jul 2012 versions of **ADP/ADRP 4-0 Sustainment** in addition to **Doctrine 2015** "pen and ink" reference citation and terminology changes from ADRP 3-0, ADRP 5-0, and ATPP 5-0.1. New also to the third edition is updated material from the **latest Army sustainment references** to include ATPP 4-01.1, ATPP 4-02, ATPP 4-33, FM 1-0, FM 1-04, FM 1-05, FM 1-06, FM 3-35, FM 4-90, and FM 4-94!

The **sustainment warfighting function** is related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance. The sustainment warfighting function consists of three major elements: **logistics, personnel services, and health service support**.

Unified land operations acknowledges that strategic success requires fully integrating U.S. military operations with the efforts of interagency and multinational partners. The sustainment of unified land operations requires a continuous link between the strategic, operational, and tactical levels. It also requires close coordination and collaboration with other Services, allies, host nation, and other governmental organizations.

Decisive action is the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks. Commanders seek to seize, retain, and exploit the initiative while synchronizing their actions. Sustainment, through mission command, enables decisive action. Sustainment provides the operational commander with **operational reach, freedom of action and endurance**.

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References

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Army Doctrinal Publications (ADPs) and Army Doctrinal Reference Publications (ADRP)

ADP/ADRP 4-0	Jul 2012	Sustainment
ADRP 3-0	May 2012	Unified Land Operations
ADP/ADRP 5-0	May 2012	The Operations Process

Army Tactics, Techniques and Procedures (ATTPs)

ATTP 4-0.1	May 2011	Army Theater Distribution
ATTP 4-02	Oct 2011	Army Health System
ATTP 4-33	Mar 2011	Maintenance Operations
ATTP 5-0.1	Sept 2011	Commander and Staff Officer's Guide

Field Manuals (FMs)

FM 1-0	Apr 2010	Human Resources Support
FM 1-04	Jan 2012	Legal Support to the Operational Army
FM 1-05	Oct 2012	Religious Support
FM 1-06	Apr 2011	Financial Management Operations
FM 3-34	Aug 2011	Engineer Operations
FM 3-35	Apr 2010	Army Deployment and Redeployment
FM 4-30.31	Sep 2006	Recovery and Battle Damage Assessment and Repair
FM 4-90	Aug 2010	Brigade Support Battalion
FMI 4-93.2	Feb 2009	The Sustainment Brigade
FM 4-94	Feb 2010	Theater Sustainment Command
FM 10-27	Apr 1993	General Supply in Theaters of Operation
FM 55-1	3 Oct 1995	Transportation Operations

Joint Publications (JPs)

JP 4-0	18 Jul 2008	Joint Logistics
JP 4-02	31 Oct 2006	Health Service Support

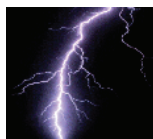


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The Sustainment Warfighting Function

Ref: ADP 4-0, *Sustainment* (Jul '12) and ADRP 3-0, *Unified Land Operations* (May '12), p. 3-4.

The sustainment warfighting function is related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance (ADP 3-0). The endurance of Army forces is primarily a function of their sustainment. Sustainment determines the depth and duration of Army operations. Successful sustainment enables freedom of action by increasing the number and quality of options available to the commander. It is essential to retaining and exploiting the initiative. The sustainment warfighting function consists of three major elements: logistics, personnel services, and health service support.

Elements of Sustainment



Logistics (pp. 1-37 to 1-56)



Personnel Services (pp. 1-57 to 1-66)



Health Service Support (pp. 1-67 to 1-74)

A. Logistics

Logistics is planning and executing of the movement and support of forces. It includes those aspects of military operations that deal with: 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. Explosive ordnance disposal is a function of logistics. However, EOD tasks are discussed under the protection warfighting function (*Refer to FM 3-37 and ATTP 4-32*). Logistics consists of the following:

- Maintenance (ATTP 4-33)
- Transportation (FM 55-1)
- Supply (FM 10-1)
- Field services (FM 10-1)
- Distribution (ATTP 4-0.1)
- Operational contract support (ATTP 4-10)
- General engineering support (FM 3-34)

See pp. 1-37 to 1-56 for further discussion.

II. Sustainment Overview

Ref: ADP 4-0, Sustainment (Jul '12).

For the Army, sustainment is the provision of logistics, personnel services, and health service support necessary to maintain operations until successful mission completion.

Sustainment of Unified Land Operations

Army forces are employed within a strategic environment. Army forces operate as part of a larger national effort characterized as unified action. Unified action is the synchronization, coordination, and/or integration of the activities of governmental and nongovernmental entities with military operations to achieve a unity of effort (JP 1). Unified land operations acknowledge that strategic success requires fully integrated U.S. military operations to include the efforts of unified action partners.

Joint Interdependence

Joint interdependence is the purposeful reliance by one Service's forces on another Service's capabilities to maximize the complementary and reinforcing effects of both (JP 3-0). Army forces operate as part of an interdependent joint force. For example:

The United States Air Force through the Air Mobility Command, provides worldwide cargo and passenger airlift, air refueling, and aeromedical evacuation. Air Mobility command also provides Contingency Response Elements that provide enroute ground support for airlift operations.

Joint logistics over-the-shore operations occur when Navy and Army forces conduct logistics over-the-shore operations together under a joint force commander. The Navy's cargo off-load and discharge system is comprised of the container off-loading and transfer system and the offshore bulk fuel system. Army provides lighterage, roll-on/rolloff discharge facilities, causeway systems, and shore-based water storage systems.

The Army plays a critical role in setting the theater and is the primary Service with a sustainment capability to conduct this mission on a large and long term scale. The Army is responsible for theater opening; port and terminal operations; conducting reception, staging, onward movement, and integration; force modernization and theater-specific training; and common-user logistics to joint and multinational forces.

Army Sustainment Responsibilities

Title 10, U.S. Code, specifies that individual Services retain sustainment responsibility. As such, each Service retains responsibility for the sustainment of forces it allocates to a joint force. The Secretary of the Army exercises this responsibility through the Chief of Staff of the Army and the Theater Army assigned to each combatant command.

The Theater Army is responsible for the preparation and administrative support of Army forces assigned or attached to the combatant command. However, the purposeful combination of service capabilities to create joint interdependent forces is often the most effective and efficient means by which to sustain a joint force. The options for executing sustainment of a joint force may include any combination of Directive Authority for Logistics, Executive Agency, lead service and/or establishing a joint command for logistics. In order for the joint command for logistics to succeed, the CCDR must augment it with the capabilities needed to integrate and control the delivery of theater support to meet the joint force requirements. If the Army is designated for establishing a joint command for logistics, the Army Theater Sustainment Command will fulfill that role.

The Secretary of Defense may designate the head of a DOD component (such as Chief of a Service, CCDR, or director of a Combat Support Agency) as an Executive Agent for specific responsibilities, functions, and authorities. When designated as an Executive Agent, the Army is specifically tasked by the Secretary of Defense for certain responsibilities sometimes limited by geography, sometimes for a particular operation, and sometimes for the entire DOD on a continuing basis.

Sustainment Underlying Logic

ADP 4-0 Underlying Logic

Anticipated Operational Environment

- US must project power into region, opposed
- US must seize at least one base of operations (maybe more)
- Threat of WMD will require dispersion of US forces and decentralized operations
- Size of theater (space and population) will exceed US ability to control

Sustainment in Joint Operations

Sustainment is the provision of logistics and personnel services necessary to maintain and prolong operations until successful mission completion. Sustainment in joint operations provides the JFC flexibility, endurance, and the ability to extend operational reach. (JP 4-0)

Unified Action

Central idea: synchronization, coordination, and/or integration of the activities of governmental and non-governmental entities with military operations to achieve unity of effort (JP 1)

Sustainment of Unified Action

Joint Interdependence: The purposeful reliance by Service forces on another Service's capabilities

Unified Land Operations

Seize, retain, and exploit the initiative to gain and maintain a position of relative advantage in sustained land operations through simultaneous offensive, defensive, and stability operations in order to prevent or deter conflict, prevail in war, and create the conditions for favorable conflict resolution.

ADP 4-0, Sustainment

Principles of Sustainment

- Integration
- Anticipation
- Responsiveness
- Simplicity
- Economy
- Survivability
- Continuity
- Improvisation

Joint Doctrine

ADP 4-0
Sustainment

Decisive Operations

Enabling
CCDR and ARFOR to conduct...

Operational Reach

Freedom of Action

Endurance

Sustainment HQ cognitively link strategic capability with tactical success

Intrinsically Linked

Strategic Base leverages National capability to generate Theater capabilities

Synchronizing Strategic and Operational Support Occurs through Mission Command

TSC ESC SB AFSB

FMG MEDCOM (DS) HRSC

Joint Interdependence

- Joint Deployment and Distribution Enterprise (JDDE)
- Common User Logistics (CUL)
- Army Support to Other Services (ASOS)

Logistics

- Maintenance
- Transportation
- Supply
- Field Services
- Distribution
- Operational Contracting
- General Engineering

Personnel Services

- Human Resources Support
- Financial Management Operations
- Legal Support
- Religious Support
- Band

Health Service Support

- Casualty Care
 - Organic and Area Medical Support
 - Hospitalization
 - Dental Care
 - Behavioral Health/Neuropsychiatric Treatment
 - Clinical Laboratory Services
 - Treatment of CBRN Patients
- Medical Evacuation
- Medical Logistics

Sustainment Capabilities

Ref: ADP 4-0, Sustainment, fig. 1, p. iv.



Refer to The Army Operations & Doctrine SMARTbook (Guide to Unified Land Operations and the Six Warfighting Functions) for discussion of the fundamentals, principles and tenets of Army operations, plus chapters on each of the six warfighting functions: mission command, movement and maneuver, intelligence, fires, sustainment, and protection.

B. Personnel Services

Personnel services are sustainment functions that man and fund the force, maintain Soldier and Family readiness, promote the moral and ethical values of the nation, and enable the fighting qualities of the Army. Personnel services provide economic power at the operational and tactical levels. Personnel services complement logistics by planning for and coordinating efforts that provide and sustain personnel. Personnel services consist of the following:

- Human resources support (FM 1-0)
- Financial management operations (FM 1-06)
- Legal support (FM 1-04)
- Religious support (FM 1-05)
- Band support (ATTP 1-19)

See pp. 1-57 to 1-67 for further discussion.

C. Health Service Support

Health service support encompasses all support and services performed, provided, and arranged by the Army Medical Department to promote, improve, conserve, or restore the mental and physical well being of personnel in the Army and, as directed, in other Services, agencies, and organizations (ATTP 4-02). Army Health System support includes both health service support and force health protection. The health service support mission is a part of the sustainment warfighting function. The force health protection mission falls under the protection warfighting function and will not be covered in this publication. Health service support consists of the following medical functions:

- Casualty care, which encompasses a number of Army Medical Department functions, to include —
 - Organic and area medical support
 - Hospitalization
 - Dental care (treatment aspects)
 - Behavioral health/neuropsychiatric treatment
 - Clinical laboratory services
 - Treatment of chemical, biological, radiological, and nuclear patients
- Medical evacuation
- Medical logistics

See pp. 1-68 to 1-74 for further discussion.

I. Sustainment of Unified Land Operations

Ref: ADRP 4-0, Sustainment (Jul '12). chap. 2.

Unified action is the synchronization, coordination, and/or integration of the activities of governmental and nongovernmental entities with military operations to achieve a unity of effort (JP 1). Unified land operations acknowledges that strategic success requires fully integrating U.S. military operations with the efforts of interagency and multinational partners. The sustainment of unified land operations requires a continuous link between the strategic, operational, and tactical levels. It also requires close coordination and collaboration with other Services, allies, host nation, and other governmental organizations. This chapter demonstrates the important roles that the U.S. military and intergovernmental partners play during the sustainment of Army forces. It also builds the doctrinal bridge between our strategic and inter-organizational partners and sustainment of Army forces conducting operations.

I. Strategic Context

In the U.S., sustainment originates at the strategic base. The strategic base consists of the Department of Defense and industrial base. The DOD acquisition(s) sustainment resources and capabilities and then provide(s) them for use in support of national strategic objectives. The industrial bases, privately and government-owned capabilities, manufactures, maintains, modifies, and repairs resources required by U.S. forces. The strategic base generates Army capabilities which are employed across the strategic environment. Army forces through joint interdependence rely upon joint capabilities, air and maritime, to deliver sustainment to a theater of operations. Through coordination and collaboration between strategic and operational partners, a continuous and accountable flow of sustainment is provided to achieve national military objectives. Also through coordination, collaboration, and agreements with host nation, allies and intergovernmental organizations certain sustainment efficiencies are achieved to facilitate a unity of effort.

II. Joint Interdependence

Joint interdependence is the purposeful reliance by one Service's forces on another Service's capabilities to maximize the complementary and reinforcing effects of both. Army forces operate as part of an interdependent joint force.

There are many services that joint forces provide each other. The U.S. Air Force (USAF) provides lift capabilities to quickly move Army forces across strategic lines of communication to theater operations. In emergency situations, the USAF may aerial deliver sustainment to forward areas or areas where terrain may be too restrictive for ground operations. The USAF through the Air Mobility Command (AMC) provides worldwide cargo and passenger airlift, air refueling, and aeromedical evacuation. AMC also provides Contingency Response Elements that provide enroute ground support for airlift operations.

The Naval Forces provide critical sustainment support to Army operations. Naval forces provide essential joint logistics over the shore (JLOTS) support ensuring sustainment is provided to land forces when ports may be austere, damaged, or non-existent. Naval forces may be responsible for removing sustainment from vessels and delivering them to port operations for release to Army forces. The Naval Construction Force provides port construction such as warehouses, storage facilities. The Navy also provides explosive ordnance disposal support to locate and dispose of mines along ports and channels.

A crucial role the Army plays as a joint interdependent force is opening and setting the theater. Setting the theater is described as all activities directed at establishing favorable conditions for conducting military operations in the theater, generally driven by the support requirements of specific operation plans and other requirements established in the geographic combatant commander's (GCC) theater campaign plan. Setting the theater includes whole-of-government initiatives such as bilateral or multilateral diplomatic agreements to allow U.S. forces to have access to ports, terminals, airfields, and bases within the area of responsibility (AOR) to support future military contingency operations. Setting the joint operations area (JOA) includes activities such as theater opening, establishing port and terminal operations, conducting reception, staging, onward movement, and integration, force modernization and theater-specific training, and providing Army support to other Services and common-user logistics to Army, joint, and multinational forces operating in the JOA (FM 3-93).

The U.S. Military Surface Deployment and Distribution Command (SDDC) is the Army service component command (ASCC) to U.S. Transportation Command (USTRANSCOM) and is responsible for port opening and operations. The theater sustainment command is responsible for theater opening and setting the theater. As a result of Title 10, United States Code (USC) and executive agent responsibility, the Army contributes a significant portion of sustainment to support joint operations.

Sustainment of Joint Forces

Sustainment of joint forces is the deliberate, mutual reliance by each Service component on the sustainment capabilities of two or more Service components. CCDRs and their staffs must consider a variety of sustainment factors including defining priorities for common sustainment functions and responsibilities.

Common sustainment consists of materiel, services, and/or support that is shared with or provided by two or more military Services, DOD agencies, or multinational partners to another Service, DOD agency, non-DOD agency, and/or multinational partner in an operation. It can be restricted by type of supply and/or service and to specific unit(s) times, missions, and/or geographic areas. Service component commands, DOD Agencies (such as Defense Logistics Agency [DLA]), and Army commands (such as U.S. Army Materiel Command (USAMC)/U.S. Army Medical Command (USAMEDCOM), provide common sustainment to other service components, multinational partners, and other organizations authorized to receive support.

Defense Logistics Agency provides support for joint forces during peace and war. DLA is the focal point for the industrial base and is the executive agent for all CL I, II, III (B) (P), IV, VIII and a majority of Class IX. Excluded supply items are munitions, missiles, and military Service unique items. DLA Disposition Services provides material reutilization, marketing, demilitarization and disposal services at sites throughout the world and is an active partner with deployed units in contingency environments. Authorized unserviceable and excess Department of Defense property destined for DLA Disposition Services sites is inspected and categorized upon receipt. An appropriate disposition is determined that may include reutilization, transfer, donation to approved organizations, demilitarization or disposal. As the theater matures, DLA-directed activities may expand to include theater storage and delivery. When the theater situation permits, DLA may use host nation or contractor support to assist in the storage, transportation or delivery of parts and material to the customer.

Department of Defense Directive (DODD) 5101.9 designates the DLA Troop Support as the executive agent (EA) for medical materiel. As the EA, DLA troop support is designated the DOD single point of contact to establish the strategic capabilities and systems integration necessary for effective and efficient Class VIII supply chain support to the combatant commander. As part of this directive, Army medical logistics units may be tasked to provide support to all Services and designated multinational partners (in accordance with applicable contracts and agreements) under the joint concepts of single integrated medical logistics manager (SIMLM), and theater lead

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agent for medical materiel (TLAMM). The TLAMM is designated by the combatant commander to provide the operational capability for medical supply chain management and distribution from strategic to tactical levels. In a land-based theater, the Army will normally be designated as the TLAMM, consistent with its traditional designation as SIMLM. Within the theater, these capabilities are provided by operational medical units that are task-organized under the control of the medical command (deployment support) (MEDCOM [DSJ]).

Refer to JP 4-02 and FM 4-02.1 for further discussion. See also p. 1-20 and chap. 5, Joint Logistics.

III. Army Sustainment Responsibilities

Each Service retains responsibility for the sustainment of forces it allocates to a joint force. The Secretary of the Army exercises this responsibility through the Chief of Staff, United States Army (CSA) and the Theater Army assigned to each combatant command. The Theater Army is responsible for the preparation and administrative support of Army forces assigned or attached to the combatant command.

A. Army Title 10 Sustainment Requirements

Title 10, USC and DOD Directive 5100.1, Functions of the DOD and Its Major Components, describe the organization, roles, and responsibilities for the elements of the DOD to include the statutory requirements for each Military Department to provide support to assigned forces.

See following page (p. 1-9) for further discussion.

B. Executive Agent (EA)

Executive Agent (EA) is a term used to indicate a delegation of authority by the Secretary of Defense to a subordinate to act on behalf of the Secretary of Defense. An EA may be limited to providing only administration and support or coordinating common functions; or it may be delegated authority, direction, and control over specified resources for specified purposes (JP 1).

When designated as an EA, the Army is specifically tasked by the Secretary of Defense for certain responsibilities, sometimes limited by geography, sometimes for a particular operation, and sometimes for the entire DOD on a continuing basis. The list below (not all inclusive) is an example of some of the Army's sustainment EA responsibilities:

- DOD Combat Feeding Research and Engineering Program
- Management of Land-based Water Research in Support of Contingency Operations
- Law of War Program
- Defense Mortuary Affairs Program
- Military Postal Service
- Explosive Safety Management
- Armed Services Blood Program Office

C. Lead Service

The CCDR may choose to assign specific common support functions, to include both planning and execution to a lead Service. These assignments can be for single or multiple common user functions and may also be based on phases and/or locations within the AOR. The CCDR may augment the lead Service logistics organization with capabilities from another component's logistics organizations as appropriate. The lead Service must plan, issue procedures, and administer sustainment funding for all items issued to other Services as well as a method for collecting items from other Services.

D. Joint Command for Logistics

The CCCR may assign joint logistics responsibilities to a subordinate Service component and establish a joint command for logistics (JP 4-0). The senior logistics HQ of a designated Service component will normally serve as the basis for this command. In order for the joint command for logistics to succeed, the CCCR must augment it with the capabilities needed to integrate and control the delivery of theater support to meet the joint force requirements. When the Army is designated for establishing a joint command for logistics, the Theater Sustainment Command, Expeditionary Sustainment Command, or Sustainment Brigade might fulfill that role.

E. Directive Authority for Logistics (DAFL)

The Directive Authority for Logistics (DAFL) is the CCCR's authority to issue logistics directives to subordinate commanders, including peacetime measures, necessary to ensure the effective execution of approved operation plans (JP 1). The CCCR may delegate directive authority for as many common support capabilities as required to accomplish the assigned mission. It includes peacetime measures to ensure the effective execution of approved OPLANs, effectiveness and economy of operation, prevention or elimination of unnecessary duplication of facilities, and overlapping of functions among the Service component commands.

When the CCCR gives a Service component common support responsibility, the responsibility must be specifically defined. When two or more Services have common commodities or support services, one Service may be given responsibility for management based on DOD designations or inter service support agreement. However, the CCCR must formally delineate this directive authority by function and scope. The Army, when directed to provide management of common sustainment functions which include other services, most often establishes and leads joint boards. These boards are ad hoc, and if directed by the Theater Army, the TSC may serve as the board lead.

IV. Generating Forces

The generating force consists of those Army organizations whose primary mission is to generate and sustain the operational Army's capabilities for employment by Joint Force Commanders (JFCs). The generating force activities include support of readiness, Army force generation, and the routine performance of functions specified and implied in Title 10 USC. As a consequence of its performance of functions specified and implied by law, the generating force also possesses operationally useful capabilities for employment by or in direct support of JFCs. The generating force organizations enable strategic reach by helping to project Army capabilities. Generating force capabilities include analyzing, understanding and adapting, and generating operational forces tailored to the specific context in which they will be employed.

The generating force's ability to develop and sustain potent land power capabilities is useful in developing partner security forces and governmental institutions, with its capability to develop, maintain, and manage infrastructure. Army generating forces train and advise partner generating force activities to build institutional capacity for professional education, force generation, and force sustainment (ADP 3-0). Army sustainment forces play a significant role in transitioning to HNS capacity. Sustainment forces assess host nation sustainment capacity, identify process improvements and then train and mentor the HN sustainment force in building its own capacity.

The generating force is responsible for moving Army forces to and from ports of embarkation. They also provide capabilities to assist in the management and operation of ports of embarkation and debarkation and provide capabilities to GCC to conduct reception, staging, onward movement, and integration (RSOI).

See following pages (pp. 1-10 to 1-11) for further discussion of generating forces.

Army Title 10 Sustainment Requirements

Ref: ADRP 4-0, Sustainment (Jul '12), p. 2-3.

There are 12 Army Title 10 responsibilities; of the 12, ten are sustainment related responsibilities:

- Recruiting
- Organizing
- Supplying
- Equipping (including research and development)
- Training
- Servicing
- Mobilizing
- Demobilizing
- Administering (including the morale and welfare of personnel)
- Maintaining
- Construction, outfitting, and repair of military equipment
- Construction, maintenance, repairs of building and structures, utilities, acquisition of real property and interests in real property necessary to carry out the responsibilities

The Secretary of the Army exercises this responsibility through the Chief of Staff the Army and the Theater Army assigned to each combatant command. The Theater Army is responsible for the preparation and administrative support of Army forces assigned or attached to the combatant command. However, the purposeful combination of complementary Service capabilities to create joint interdependent forces is often the most effective and efficient means by which to sustain a joint force. Therefore additional authorities to Title 10 have been developed to provide for inter-service and interagency mutual support. The options for executing sustainment of a joint force may include any combination of following:

- Executive Agent
- Lead Service
- Directive Authority for Logistics

All of these authorities may have the same possible impact on Army sustainment headquarters, which is that the Army may be required to provide support to other Services and agencies involved in an operation or that other Services or agencies may provide support to Army units which would normally receive such support from the Army. Army sustainment leaders must be prepared to plan and execute such operations as tasked.

Generating Forces

Ref: ADRP 4-0, *Sustainment* (Jul '12), pp. 2-6 to 2-8.

U.S. Army Materiel Command (USAMC)

The U.S. Army Materiel Command (USAMC) equips and sustains the Army, providing strategic impact at operational speed. The USAMC is the Army's materiel integrator. It provides national level sustainment, acquisition integration support, contracting services, and selected logistics support to Army forces. It also provides related common support to other Services, multinational, and interagency partners. The capabilities of USAMC are diverse and are accomplished through its various major subordinate commands and other subordinate organizations.

The USAMC is the lead for the Army's national-level maintenance and supply programs which are managed and executed by its subordinate Life Cycle Management Commands (LCMCs). These USAMC LCMCs coordinate with the USAMC staff as well as related Assistant Secretary of the Army, Acquisitions Logistic and Technology (ASA [ALT]), Program Executive Officers (PEOs) and Product/Project Managers offices. Together, USAMC LCMC and Assistant Secretary of the Army for Acquisition, Logistics and Technology elements work to ensure support for fielded weapon systems and equipment for their entire life cycle. The LCMCs support to deploying and deployed forces is coordinated through the Army Sustainment Command (ASC) and is executed under the control of the supporting Army Field Support Brigade (AFSB). LCMCs are discussed in more detail below.

In addition to the functions performed by the LCMCs, USAMC exercises overall responsibility of sustainment maintenance for the Army and managing secondary items through the National Maintenance Program, whose tenets are as follows:

- Managing sustainment maintenance unit workloads to meet national requirements
- Ensuring all component repairs are performed to a national standard
- Ensuring sustainment maintenance providers possess the facilities, tools, test, measurement, and diagnostic equipment, skills, and workforce required to meet national standards
- Facilitating quality assurance by ensuring that maintainers use documented quality systems and are technically certified to repair to standards

The USAMC is also the lead, but not sole, Army organization responsible for providing contracting services to the Army. USAMC contracting support includes the Logistics Civil Augmentation Program (LOGCAP). Through its subordinate contracting commands, USAMC provides both institutional and operational contract support planning assistance and contract execution support to Army forces (except the National Guard Bureau, U.S. Army Intelligence and Security Command, U.S. Army Corps of Engineers, U.S. Army Medical Command, U.S. Army Special Operations Command, U.S. Army Space and Missile Defense Command, and Program Executive Office for Simulation, Training, and Instrumentation).

The USAMC and its subordinate organizations work with forward deployed commands in executing sustainment support and synchronizing distribution and redistribution of materiel in and out of theaters. Keys to success are data accuracy, asset visibility, property accountability, and disposition instructions. Retrograde Property Assistance Teams (RPATs), an ad hoc organization, facilitate the turn-in of equipment for redistribution or retrograde:

- Aviation and Missile Life Cycle Management Command
- The CECOM Life Cycle Management Command
- The Tank-Automotive and Armaments Life Cycle Management Command
- The Joint Munitions and Lethality Life Cycle Management Command

U.S. Army Medical Command (USAMEDCOM)

The U.S. Army Medical Command (USAMEDCOM), commanded by the Army Surgeon General, provides AHS support for mobilization, deployment, sustainment, redeployment, and demobilization across a range of military operations. The USAMEDCOM integrates the capabilities of its subordinate operational Army medical units with generating force assets such as medical treatment facilities and research, development, and acquisition capabilities. The USAMEDCOM's generating force capabilities not only augment those of operating forces but also provide significant assistance in coping with unanticipated health threats.

The U.S. Army Medical Command maintains the capability to provide continuity of care for patients returning from theater. It also provides individual AMEDD training, medical materiel, and research and development activities to support the Army mobilization force. The USAMEDCOM's major subordinate commands include:

- U.S. Army Dental Command
- U.S. Army Medical Research and Materiel Command
- U.S. Army Medical Department Center and School
- U.S. Army Public Health Command
- U.S. Army Warrior Transition Command

The USAMEDCOM also has regional medical commands responsible for oversight of day-to-day operations in military treatment facilities, exercising mission command over the military treatment facilities (MTFs) in the supported region.

U. S. Army Financial Management Command (USAFMCOM)

The U.S. Army Financial Management Command (USAFMCOM) is a strategic level command that serves as a field operating agency of the Assistant Secretary of the Army (Financial Management and Comptroller) (ASA [FM&C]). The USAFMCOM provides strategic financial management oversight and support to include: financial management operations policy; field coordination for national provider support; Army liaison with the Defense Finance and Accounting Service (DFAS); administering the Army banking program; strategic Electronic Commerce and financial management systems integration, deployment and training; contingency operations technical training and assessments for deploying units, G-8s, and Financial Management Support Operations (FM SPOs); systems deployment and support; coordination for Army financial management audits; classified financial management and accounting oversight; and Army/Joint staff coordination.

U.S. Army Installation Management Command (IMCOM)

The U.S. Army Installation Management Command (IMCOM) supports unit commanders in the conduct of pre-deployment activities. Through its installation transportation offices, IMCOM plans and coordinates the movement of units from home station to ports of debarkation. IMCOM provides capabilities to operate and manage bases in support of Army and Joint Force commanders. It also provides capabilities to support the unit deployment, redeployment and reintegration. Operational Army organizations, headquarters and units, routinely rely on civilian specialists to execute the day-to-day tasks associated with the management of munitions in transportation and storage during peacetime. Most of these civilian specialists are not organic to these operational Army organizations. Instead, they are assigned to IMCOM installations or USAMC.

U. S. Army Space and Missile Defense Command

The Army is reliant on space-based capabilities and systems, such as global positioning, communication, weather satellites, and intelligence collection platforms. These systems are critical enablers for Army personnel to plan, communicate, navigate and maneuver, maintain situational awareness, engage the enemy, provide missile warning, and protect and sustain our forces.

V. Operating Forces

Ref: ADRP 4-0, *Sustainment* (Jul '12), pp. 2-8 to 2-12.

The operating forces are those forces whose primary missions are to participate in combat and the integral supporting elements thereof (FM 1-01). Operational Army units are typically assigned to CCDRs. The Army normally executes its responsibilities to organize, train, and equip operational Army units through ASCCs.

1. Army Service Component Command /Theater Army

When an Army Service component command (ASCC) is in support of a GCC, it is designated as a Theater Army (TA). The Theater Army is the primary vehicle for Army support to joint, interagency, intergovernmental, and multinational forces (MNFs). The TA HQ performs functions that include reception, staging, onward movement, and integration; logistics over-the-shore operations; and security coordination.

The Theater Army is responsible for providing support to Army forces and common sustainment/support to other Services as directed by the CCDR and other authoritative instructions. The Theater Sustainment Command (TSC) is assigned to the Theater Army and is the Army's senior logistics headquarters (HQ) within the theater of operations. When directed, the TSC provides lead Service and executive agency support for designated logistics and services to other government agencies, MNFs, and nongovernmental organizations (NGO). When directed, the MEDCOM (DS) provides AHS support to other services.

The TA exercises administrative control over all Army forces in the area of responsibility unless modified by DA. This includes Army forces assigned, attached, or OPCON to the combatant command. The TA coordinates with the TSC for operational sustainment planning and management. The TA defines theater policies and coordinates with the TSC for technical guidance and execution of force projection and sustainment.

2. Corps

The corps provides a HQ that specializes in operations as a land component command HQ and a joint task force for contingencies. When required, a corps may become an intermediate tactical HQ under the land component command, with OPCON of multiple divisions (including multinational or Marine Corps formations) or other large tactical formations. Its primary mission command is land combat operations. The corps HQ has the capability to provide the nucleus of a joint HQ.

3. Division

Divisions are the Army's primary tactical war fighting HQ. Their principal task is directing subordinate brigade operations. Divisions are not fixed formations. Therefore, they may not have all types of Brigade Combat Teams (BCT) in an operation or they may control more than one of a particular type of BCT. A division can control up to six BCTs with additional appropriate supporting brigades during major combat operations. The types of support brigades are combat aviation, fires, maneuver enhancement, battlefield surveillance, and sustainment. The sustainment brigade normally remains attached to the TSC or ESC but supports the division. The division may have OPCON of a SUSTAINMENT BRIGADE while conducting large-scale exploitation and pursuit operations.

4. Brigade Combat Team (BCT)

As combined arms organizations, Brigade Combat Teams (BCT) form the basic building block of the Army's tactical formations. They are the principal means of executing engagements. Three standardized BCT designs exist: armor, infantry, and Stryker. Battalion-sized maneuver, fires, reconnaissance, and Brigade Support Battalion (BSB) are organic to BCTs.

5. Theater Sustainment Command (TSC)

The Theater Sustainment Command (TSC) serves as the senior Army sustainment HQ (less medical) for the Theater Army. The TSC provides mission command of units assigned, attached, or OPCON. The mission of the TSC is to provide theater sustainment (less medical) (FM 4-94).

The Theater Sustainment Command is capable of planning, preparing, executing, and assessing logistics and human resource support for Army forces in theater. It provides support to unified land operations. As the distribution coordinator in theater, the TSC leverages strategic partnerships and joint capabilities to establish an integrated theater-level distribution system that is responsive to Theater Army requirements. It employs sustainment brigades to execute theater opening (TO), theater sustainment, and theater distribution operations.

The TSC includes units capable of providing multifunctional logistics: supply, maintenance, transportation, petroleum, port, and terminal operations. Other specialized capabilities, such as mortuary affairs (MA), aerial delivery, human resources, sustainment to internment/resettlement operations, and financial management, are available from the force pool. The combination of these capabilities gives the TSC commander the ability to organize and provide tailored support.

6. Expeditionary Sustainment Command (ESC)

Expeditionary Sustainment Commands (ESC) are force pooled assets. They are normally under the mission command of the TSC. The ESC provides mission command of sustainment units (less medical) in designated areas of a theater. The ESC plans, prepares, executes, and assesses sustainment, distribution, theater opening, and reception, staging, and onward movement operations for Army forces in theater. It may serve as a basis for an expeditionary command for joint logistics when directed by the GCC or designated multinational or joint task force commander. It normally deploys when the TSC determines that a forward command presence is required. This capability provides the TSC commander with the regional focus necessary to provide effective operational-level support to Army or JTF missions.

7. Theater Engineer Command (TEC)

The Theater Engineer Command (TEC) is designed to mission command engineer capabilities for all assigned or attached engineer brigades and other engineer units and missions for the joint force land component or Theater Army commander. It is the only organization designed to do so without augmentation and can provide the joint force commander with an operational engineer headquarters or augment an engineer staff for a JTF. The TEC is focused on operational-level engineer support across all three of the engineer disciplines and typically serves as the senior engineer headquarters for a Theater Army, land component headquarters, or potentially a JTF (see FM 3-34).

8. Human Resource Sustainment Center (HRSC)

The Human Resource Sustainment Center (HRSC) is a multifunctional, modular organization (staff element), and theater-level center assigned to a TSC that integrates and ensures execution of Personnel Accountability (PA), casualty, and postal functions throughout the theater as defined by the policies and priorities established by the ASCC G-1/AG. The HRSC, in coordination with the TSC, has a defined role to ensure that the theater HR support plan is developed and supported with available resources within the TSC. This includes collaborating with the ASCC G-1/AG and TSC to ensure appropriate HR support relationships are established and properly executed through the OPORD process.

Operating Forces (Continued)

Ref: ADRP 4-0, *Sustainment* (Jul '12), pp. 2-8 to 2-12.

9. Financial Management Center (FMC)

The Financial Management Center (FMC) is a modular and tailorable operational financial management unit whose mission is inextricably linked to the TA G-8. In order to provide adequate theater and national-provider responsiveness and support, the FMC maintains visibility of all financial management operations and placement of all operational and tactical financial management units in theater. The primary mission of the FMC is to provide technical coordination of all theater finance operations and serve as the principal advisor to the TA G-8 and the TSC commander on all aspects of theater finance operations. Technical coordination of theater financial management units (financial management companies and their subordinate detachments) encompasses the provision of recommendations and advice to theater commanders and staff regarding the employment, integration, direction, and control of their financial management forces for the accomplishment of assigned missions. Other missions include but are not limited to: negotiations with host nation banking facilities, advising unit commanders on the use of local currency, and coordination with national providers (e.g., Department of the Treasury, DFAS, Assistant Secretary of the Army Financial Management & Comptroller, USAFMCOM) and the ECC to establish financial management support requirements (FM 1-06).

10. Army Field Support Brigade (AFSB)

The Army Field Support Brigade (AFSB) is assigned to the ASC and when deployed, is placed OPCON to the supported theater Army. This OPCON relationship is normally delegated to the supporting TSC or ESC as appropriate. An AFSB provides materiel readiness focused support to include coordination of acquisition logistics and technology actions, less theater support contracting and medical, to Army operational forces. AFSBs serve as ASC's link between the generating force and the operational force. AFSBs are also responsible to integrate LOGCAP support into contract support integration plans, in coordination with the theater Army G-4 and the supporting CSB (ATP 4-91).

11. Sustainment Brigade

When deployed, the sustainment brigade is a subordinate command of the TSC, or by extension the ESC. The sustainment brigade is a flexible, multifunctional sustainment organization, tailored and task organized according to mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC). It plans, prepares, executes, and assesses sustainment operations within an area of operations. It provides mission command of sustainment operations and distribution management.

See chap. 2, *Sustainment Brigade Operations*, for further discussion.

12. Combat Sustainment Support Battalion (CSSB)

The Combat Sustainment Support Battalion (CSSB) is a flexible and responsive unit that executes logistics throughout the depth of an area of operations including transportation, maintenance, ammunition, supply, MA, airdrop, field services, water, and petroleum. The CSSB is attached to a sustainment brigade and is the building block upon which the sustainment brigade capabilities are developed. The CSSB is tailored to meet specific mission requirements. Employed on an area basis, the CSSB plans, prepares, executes, and assesses logistics operations within an area of operations. The CSSB also supports units in or passing through its designated area.

13. Medical Command (Deployment Support)

The Medical Command (Deployment Support) (MEDCOM [DS]) serves as the senior medical command within the theater in support of the CCDR. The MEDCOM (DS) pro-

vides the mission command for medical units delivering health care in support of deployed forces. The MEDCOM (DS) is a regionally focused command and provides subordinate medical organizations to operate under the medical brigade (MEDBDE) and/or multifunctional medical battalion (MMB). The Medical Command (Deployment Support) is a versatile, modular mission command structure composed of a main command post (MCP) and an operational command post (OCP). *Refer to FM 4-02.12 for more information.*

14. Medical Brigade (MEDBDE)

The Medical Brigade (MEDBDE) provides a scalable expeditionary mission command capability for assigned and attached medical functional organizations task-organized for support of the BCTs and supported units at echelons above brigade (EAB). The MEDBDE provides all of the mission command and planning capabilities necessary to deliver responsive and effective AHS support. The MEDBDE ensures the right mixture of medical professional (operational, technical, and clinical) expertise to synchronize the complex system of medical functions.

The Medical Brigade has the capability to provide an early entry module, an expansion module, and the campaign module, thus enabling its capability to be tailored to METT-TC factors of a specific operation. As the supported forces grow in size and complexity, the MEDBDE can deploy additional modules that build upon one another to support unified land operations.

15. Multifunctional Medical Battalion (MMB)

The Multifunctional Medical Battalion (MMB) is designed as a multifunctional HQ. It can also be deployed to provide mission command to expeditionary forces in early entry operations and facilitate the RSOI of theater medical forces. All EAB medical companies, detachments, and teams in theater may be assigned, attached, or placed under the OPCON of an MMB. The MMB is under the mission command of the MEDBDE/MEDCOM (DS).

16. Sustainment Brigade (Special Operations) (Airborne)

The Sustainment Brigade (Special Operations) (Airborne) is a subordinate command of the U.S. Army Special Operations Command. Its mission is to provide limited sustainment, medical, and signal support to Army Special Operations Forces (ARSOF). ARSOF are not logistically self-sufficient. ARSOF units rely upon the GCC theater infrastructure for virtually all of their support above their organic capabilities. The planning and execution of logistics support to ARSOF must be nested within the GCC's concepts of operation and support, as well as tailored to interface with the theater logistics structures. *For further information on ARSOF logistics capabilities refer to FM 3-05.140.*

17. Brigade Support Battalion (BSB)

The Brigade Support Battalion (BSB) is an organic component of BCT, fires, and maneuver enhancement brigades. The BSB is tailored to support the particular brigade to which it is organic. For example, the BSB of an armor brigade combat team (HBCT) has more fuel distribution capabilities and maintenance than does a fires brigade BSB. The BSB provides supply, maintenance, motor transport, and medical support to the supported brigade. The BSB plans, prepares, and executes, logistics operations in support of brigade operations.

See chap. 3, Logistics Support to Modular Brigades (BSB/BSA), for further discussion.

18. Aviation Support Battalion (ASB)

The Aviation Support Battalion is the primary aviation logistics organization organic to Combat Aviation Brigade and the Theater Aviation Brigade. The Aviation Support Battalion performs the BSB mission. It provides aviation and ground field maintenance, brigade-wide satellite signal support, replenishment of all supplies, and medical support to the aviation brigade. The Aviation Support Battalion has been optimized to support the Combat Aviation Brigade's forward support companies, aviation maintenance companies, and the brigade HQ and HQ company (FM 3-04.111).

VI. Intergovernmental and Interagency Coordination

Interagency coordination is the coordination that occurs between elements of DOD and U.S. Government agencies for the purpose of achieving an objective. It is an essential characteristic of unified action. The SECDEF may determine that it is in the national interest to task U.S. military forces with missions that bring them into close contact with (if not in support of) intergovernmental organizations (IGOs) and NGOs. In such circumstances, it is mutually beneficial to closely coordinate the activities of all participants.

In a national emergency or complex contingency operation, DOD and the U.S. military often serve in a supporting role to other agencies and organizations. Unified action partners normally provide for their own sustainment. However, when authorized by the SECDEF, U.S. military sustainment capabilities may be provided to these organizations. This support may include inter-theater and intra-theater airlift, ground transportation of personnel, equipment, and supplies, airfield control groups, and port and railhead operations groups.

The key to interagency coordination is in understanding the civil-military relationship as collaborative rather than competitive. The most productive way to look at this relationship is seeing the comparative advantages of each of the two communities—military and civilian. While the military normally focuses on reaching clearly defined and measurable objectives within given timelines under a command and control structure, civilian organizations are concerned with fulfilling changeable political, economic, social, and humanitarian interests using dialogue, bargaining, risk taking, and consensus building.

While the ways and means between military and civilian organizations may differ, they share many purposes and risks, and the ultimate overall goal may be shared. Unity of effort between IGOs, NGOs, and military forces should be the goal. However, this is not always the case. For instance, in a hostile or uncertain environment, the military's objective may be stabilization and security of its own force. NGOs, on the other hand, may be primarily interested in addressing humanitarian needs, an objective that does not always coincide with the military's objectives. Taskings to support IGOs and NGOs are normally for a short-term purpose due to extraordinary events. In most situations, sustainment, communications, mobility, and security are the capabilities most needed. Ideally, requests to support IGOs and NGOs should be coordinated through a Civil-Military Operations Center, which establishes a system in which the military and NGO/IGO communities can meet and work together in advancing common goals. Sustainment commanders should bear in mind the wide ranging size, capabilities, expertise, and purposes of the scores of NGOs they will likely encounter. Commanders should anticipate NGOs objecting to military actions they perceive as compromising to their impartiality, independence, humanitarianism, or neutrality, principles that NGOs vigorously protect. In all cases there must be specific legal authority authorizing DOD support to U.S. agencies, the United Nations, IGOs, NGOs, and MNFs.

The following basic steps support an orderly and systematic approach to building and maintaining coordination and collaboration:

- Forge a collective definition of the problem in clear and unambiguous terms. Appropriate representatives from relevant agencies, departments, and organizations, to include field offices, should be involved at the onset of the planning process and share their perspectives.
- Understand the objectives, end state, and transition criteria for each involved organization or agency. Commanders and decision makers should establish a clearly defined end state supported by attainable objectives and transition criteria. Not all agencies and organizations will necessarily understand or agree

to clearly define the objective with the same sense of urgency or specificity as military planners.

- Develop a common, agreed set of assumptions that will drive the planning among the supported and supporting agencies. Collectively amend the assumptions as necessary throughout the planning and execution of operations.

Operations such as stability and humanitarian support are often sustainment intensive particularly in logistics, financial management, medical and engineering capabilities. Therefore, the overall sustainment concept should be closely tied into the operational strategy and be mutually supporting. Planning also should consider the potential requirements to provide support to nonmilitary personnel (e.g., IGOs, NGOs, indigenous populations and institutions, and the private sector).

For some operations, sustainment forces may be employed in quantities disproportionate to their normal military roles and in nonstandard tasks. Furthermore, they may precede other military forces or may be the only forces deployed. They also may have continuing responsibility after the departure of combat forces in support of MNFs, OGAs, NGOs, and IGOs. In such cases, they must adhere to any applicable status-of-forces agreements and acquisition cross servicing agreements (ACSAs) to which the United States is a party.

U.S. sustainment capabilities are often tasked to support civilian populations. Sustainment support to the population occurs in stability tasks and defense support of civil authorities. Sustainment provided to civilians may very well determine the success or failure of the overall mission.

VII. Sustainment in Multinational Operations

A major objective when Army forces participate in the sustainment of multinational deployments is to maximize operational effectiveness. Support provided and received in multinational operations must be in accordance with existing legal authorities. There are two types of multinational operations: alliances and coalitions.

In multinational operations, sustainment of forces is primarily a national responsibility. However, relations between the United States and its NATO allies have evolved to where sustainment is viewed as a collective responsibility (NATO Military Committee Decision 319/1). In multinational operations, the multinational commander must have sufficient authority and control mechanisms over assets, resources, and forces to effectively achieve the mission. For each nation to perform sustainment functions separately, it would be inefficient and expensive. It would also hinder the multinational commander's ability to influence and prioritize limited resources to support the operation and accomplish the mission.

See following pages (pp. 1-18 to 1-19) for further discussion.



Refer to The Stability, Peace and Counterinsurgency SMARTbook (Nontraditional approaches in a Dynamic Security Environment) for discussion of multinational operations. Topics include stability, peace and counterinsurgency operations; civil-military operations; engagement, security cooperation, and security force assistance, multinational operations and IGO/NGO coordination.

Sustainment in Multinational Operations

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 2-6 to 2-8.

NATO Logistics Options

NATO doctrine allows for the formation of a Combined Joint Force Land Component Command (CJFLCC). The CJFLCC HQ can be set at a sub-regional command level or formation level. The CJFLCC commander establishes requirements and sets priorities for support of forces in accordance with the overall direction given by the Joint Force Commander. The commander coordinates sustainment operations with all participating nations. See Allied Land Publication 4.2 (Standardization Agreement 2406) for additional details.

Merging national sustainment systems into multinational support systems requires the willingness to share the control of vital support functions with a NATO commander and requires technical interoperability of national support assets. Standardization Agreement (STANAGs) provide agreed policy and standards to NATO nations and contribute to the essential framework for specific support concepts, doctrine procedures, and technical designs. Non-NATO nations will be expected to comply with NATO publications while on NATO-led operations.

The basic sustainment support options for multinational operations may range from totally integrated multinational sustainment forces to purely national support. NATO Allied Publication 4.2 provides details on the following support options.

National Support Element

A National Support Element is any national organization or activity that supports national forces that are a part of a MNF. Their mission is nation-specific support to units and common support that is retained by the nation. It should also be noted that National Support Elements operating in the NATO commander's area of operation are subject to the status of forces agreement, memorandums of agreements, and other HN arrangements.

Host Nation Support

Host nation support (HNS) is civil and military assistance rendered by a nation to foreign forces within its territory during peacetime, crises or emergencies, or war based on agreements mutually concluded between nations. Many HNS agreements have already been negotiated between NATO nations. Potential HNS agreements may address labor support arrangements for port and terminal operations, using available transportation assets in country, using bulk petroleum distribution and storage facilities, possible supply of Class III (Bulk) and Class IV items, and developing and using field services. The U. S. initiates and continually evaluates agreements with multinational partners for improvement.

Multinational Integrated Logistics Units

A Multinational Integrated Logistics Unit is formed when two or more nations agree, under OPCON of a NATO commander, to provide logistics support to a MNF. Multinational Integrated Logistics Units are designed to provide specific logistics support where national forces cannot be provided, or could be better utilized to support the commander's overall sustainment plan.

Lead Nation

A lead nation for logistic support has agreed to assume overall responsibility for coordinating and/or providing an agreed range of sustainment for all or part of a MNF within a defined geographical area. This responsibility may also include procurement of goods and services with compensation and/or reimbursement subject to agreements between the parties involved.

Role Specialization

One nation may assume the responsibility for providing or procuring a particular class of supply or service for all or part of the MNF. A role specialization nation's responsibilities

also include the provision of assets needed to deliver the supply or service. Compensation and/or reimbursement will then be subject to agreement between the parties involved.

Contracting Support to Multinational Operations

A deployed force may be required to set up contractual arrangements with contractors. These are normally negotiated individually with vendors to make use of available HN resources. Coordination between contributing nations and the NATO HQ in contractual arrangements is essential. Coordination should be accomplished at the highest appropriate level.

Third Party Logistics Support Services

Third party logistics support services is the use of preplanned civilian contracting to perform selected sustainment. The aim is to enable competent commercial partners to provide a proportion of deployed sustainment so that such support is assured for the commander and optimizes the most efficient and effective use of resources. Third party logistics support services is most likely to be used once the operational environment has become more benign. The third party logistics support services database, which NATO Maintenance & Supply Agency developed, contains details of potential contractors worldwide, capable of providing sustainment to NATO operations. NATO commands and nations may consider using the technical expertise of NATO Maintenance & Supply Agency for their contract activities.

Mutual Support Agreements

Participating nations have the option to develop mutual support arrangements (bi- and multilaterally) to ensure provision of logistics support to their forces. This is especially useful when nations have small force contingents collocated with the forces of another nation that have the capacity to support them. By working together and sharing resources (especially services capabilities), nations can achieve economies of scale in their sustainment operations. Mutual support arrangements have the advantage of being simple to set up and can take place on an ad hoc basis.

Acquisition Cross-Servicing Agreement

Under ACSA authority (Title 10 USC, sections 2341 and 2342), the SECDEF can enter into ACSA for logistics support, supplies, and services on a reimbursable, replacement-in-kind, or exchange-for-equal value basis. These agreements can be with eligible nations and international organizations of which the United States is a member. An ACSA is a broad overall agreement, which is generally supplemented with an implementing agreement. Implementing agreements contain points of contact and specific details of the transaction and payment procedures for orders for logistics support. Neither party is obligated until the order is accepted.

Under these agreements, common support may include food, billeting, transportation (including airlift), petroleum, oils, lubricants, clothing, communications services, medical services, ammunition, base operations, storage services, use of facilities, training services, spare parts and components, repair and maintenance services, calibration services, and port services. Items that may not be acquired or transferred under the ACSA authority include weapon systems, major end items of equipment, guided missiles, nuclear ammunition, and chemical ammunition (excluding riot control agents).

Other Sustainment Options

Chapter 138 of Title 10 USC authorizes exchanging support between U.S. services and those of other countries. It authorizes DOD acquisition from other countries by payment or replacement-in-kind, without establishing a cross-servicing agreement. Supplies and services authorized under Chapter 138 do not include major end items, missiles, or bombs. It does include food, billeting, petroleum, oils, transportation, communication services, medical services, ammunition, storage, spare parts, maintenance services, and training. Therefore, negotiations in advance of operations for sharing projection and sustainment resources are recommended.

VIII. Joint Logistics

Ref: JP 4-0, *Joint Logistics* (Jul '08). See also chap. 5, *Joint Logistics*.

The Nation's ability to project and sustain military power depends on effective joint logistics. Joint logistics delivers sustained logistic readiness for the combatant commander (CCDR) and subordinate joint force commanders (JFCs) through the integration of national, multinational, Service, and combat support agency (CSA) capabilities.

Joint logistics is the coordinated use, synchronization, and sharing of two or more Military Departments' logistic resources to support the joint force. From a national perspective, it can be thought of as the ability to project and sustain a logistically ready joint force through the sharing of Department of Defense (DOD), interagency, and industrial resources. In today's operating environment this will include coordination and sharing of resources from multinational partners, intergovernmental organizations (IGOs) and nongovernmental organizations (NGOs).

Core Logistic Capabilities

Core Capabilities	Functional Capabilities
Supply	- Manage Supplies and Equipment - Inventory Management - Manage Supplier Networks
Maintenance Operations	- Depot Maintenance Operations - Field Maintenance Operations - Manage Life Cycle Systems Readiness
Deployment and Distribution	- Move the Force - Sustain the Force - Operate the Joint Deployment and Distribution Enterprise
Health Service Support	- Casualty Management - Patient Movement - Medical Logistics - Preventive Medicine and Health Surveillance - Theater Medical Information
Engineering	- Combat Engineering - General Engineering - Geospatial Engineering
Logistic Services	- Food Service - Water and Ice Service - Base Camp Services - Hygiene Services
Operational Contract Support	- Contract Support Integration - Contract Management

Ref: JP 4-0, *Joint Logistics*, fig. I-3, p. I-10.

Joint logistics can be described in terms of the capabilities it delivers. These capabilities enable achievement of objectives (ends) through combinations of functions (ways) executed by the people and processes (means) within a broad range of conditions and to a specified set of standards. Joint logistics, in the larger sense, can best be understood as a joint capability area. The ways of joint logistics are its core logistic capabilities: supply, maintenance operations, deployment and distribution, HSS, engineering, logistic services, and operational contract support.



Refer to *The Joint Forces Operations & Doctrine SMARTbook (Guide to Joint, Multinational & Interagency Operations)* for discussion of joint logistics to include sustainment as a joint function, core logistics capabilities, and planning/controlling/executing joint logistics (from a joint doctrine perspective).

II. Sustainment of Decisive Action

Ref: ADRP 4-0, Sustainment (Jul '12). chap. 3.

Decisive action is the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks (ADRP 3-0). In unified land operations, commanders seek to seize, retain, and exploit the initiative while synchronizing their actions to achieve the best effects possible. Sustainment, through mission command, enables decisive action. Sustainment provides the operational commander with operational reach, freedom of action and endurance.

Operational Context

Any operational environment consists of many interrelated variables and sub-variables, as well as the relationships among those variables and sub-variables. How the many entities and conditions behave and interact with each other within an operational environment is difficult to discern and always results in differing circumstances. Different actor or audience types do not interpret a single message in the same way. Therefore, no two operational environments are the same (ADRP 3-0).

Unified Land Operations

Unified land operations require the integration of U.S. military operations with that of multinational partners and other government agencies and nongovernmental organizations. The Army's two core competencies—combined arms maneuver and wide area security—provide the means for balancing the application of the elements of combat power in unified action to defeat enemy ground forces; to seize, occupy, and defend land areas; and to achieve physical, temporal, and psychological advantages over the enemy to seize and exploit the initiative (ADP 3-0).

The sustainment warfighting function is essential for conducting operations and providing resources for generating and maintaining combat power. Sustainment provides the operational commander operational reach, freedom of action, and operational endurance. As mentioned previously, sustainment is inherently joint and requires a coordinated and collaborated effort between joint and multinational partners and other government agencies.

A sustaining operation is an operation at any echelon that enables the decisive operation or shaping operations by generating and maintaining combat power (ADRP 3-0). Sustaining operations are inseparable from decisive and shaping operations, though not decisive in and of itself. When executing sustainment operations, commanders, staffs, and subordinates ensure their decisions and actions comply with U.S., international, and in some cases host nation, laws and regulations. Commanders at all levels ensure their Soldiers operate in accordance with the law of war (see FM 27-10) and the rules of engagement.

Sustainment determines the depth and duration of Army operations. It is essential to retaining and exploiting the initiative and it provides the support necessary to maintain operations until mission accomplishment. Failure to provide sustainment could cause a pause or culmination of an operation resulting in the loss of the initiative.



Refer to The Army Operations & Doctrine SMARTbook (Guide to Unified Land Operations and the Six Warfighting Functions) for discussion of unified land operations, decisive action, and chapters on each of the six warfighting functions: mission command, movement and maneuver, intelligence, fires, sustainment, and protection.

Sustainment of Decisive Action

Ref: ADP 4-0, *Sustainment* (Jul '12), pp. 10 to 15.

Sustainment is one of the elements of sustaining operations. Sustaining operations, typically address important sustainment and protection actions essential to the success of decisive and shaping operations. A sustaining operation is an operation at any echelon that enables the decisive operation or shaping operations by generating and maintaining combat power and is inseparable from decisive and shaping operations.

Sustainment is a critical and essential enabler that allows the U.S. forces to deploy long distances (operational reach), conduct operations across the depth and breadth of the operational area (freedom of action), and maintain operations for extended durations (prolong endurance).

I. Operational Reach

Operational reach is a necessity for successful operations. Operational reach is the distance and duration across which a unit can successfully employ military capabilities (JP 3-0). The limit of a unit's operational reach is its culminating point. Operational reach is facilitated by prepositioning stocks; capability to project Army forces and sustainment to an operational environment; to open theater ports; establish forward bases; and to close a theater upon conclusion of an operation.

See p. 1-26 for further discussion.

II. Freedom of Action

Freedom of action enables commanders with the will to act, to achieve operational initiative and control and maintain operational tempo. Enabling freedom of action requires that sustainment commanders synchronize the sustainment plan with the operations plan to ensure supported commanders can operate freely and unencumbered by limited resources. Sustainment commanders can enable freedom of action through preparing and putting in place sustainment capabilities.

Sustainment Preparation. Preparation for the sustainment of operations consists of activities performed by units to improve their ability to execute an operation. Preparation includes but is not limited to plan refinement, rehearsals, information collection, coordination, inspections, and movements. For sustainment to be effective, several actions and activities are performed across the levels of war to properly prepare forces for operations.

Sustainment Execution. Execution is putting a plan into action by applying combat power to accomplish the mission (ADP 5-0). It focuses on actions to seize, retain, and exploit the initiative.

See p. 1-34 for further discussion.

III. Endurance

Endurance refers to the ability to employ combat power anywhere for protracted periods (ADRP 3-0). Endurance stems from the ability to maintain, protect, and sustain forces, regardless of how far away they are deployed, how austere the environment, or how long land power is required.

Distribution. Distribution is key for endurance. Endurance is enabled by an Army distribution system (referred to as theater distribution) that provides forces with a continuous flow of sustainment. The distribution system is a complex of facilities, installations, methods, and procedures designed to receive, store, maintain, distribute, and control the flow of military resources between point of receipt into the military system and point of issue to using activities and units (refer to ATTP 4-0.1). An important aspect of distribution is intransit visibility.

See p. 1-34 for further discussion.

Sustainment determines the **depth and duration** of Army operations. It is essential to retaining and exploiting the initiative and it provides the support necessary to maintain operations until mission accomplishment. Failure to provide sustainment could cause a pause or culmination of an operation resulting in the loss of the initiative. It is essential that sustainment planners and operation planners work closely to synchronize all of the war fighting functions, in particular sustainment, to allow commanders the maximum freedom of action.

Sustainment plays a key role in enabling **decisive action**. For example, general engineering support provides construction support to protect key assets such as personnel, infrastructure, and bases. Horizontal and vertical construction enables assured mobility of transportation networks and survivability operations to alter or improve cover and concealment to ensure freedom of action, extend operational reach, and endurance of the force. Legal personnel supporting rule of law activities may find themselves working closely with host nation judicial, law enforcement, and corrections systems personnel.

Sustaining Offensive Tasks

An offensive task is a task conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers (ADRP 3-0). Sustainment operations in support of offensive tasks are high in intensity. Commanders and staffs plan for increased requirements and demands, anticipate where the greatest need might occur, and develop a priority of support. Sustainment planners may consider positioning sustainment units in close proximity to operations to reduce response times for critical support.

Sustaining Defensive Tasks

A defensive task is conducted to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability tasks (ADRP 3-0). For sustainment, the movement of materiel and troops within the area of operation has to be closely and continuously coordinated, controlled, and monitored. Distribution managers direct forecasted sustainment to designated units. Army health system support assets should be placed within supporting distance of maneuver forces but not close enough to impede ongoing operations.

Sustaining Stability Tasks

Stability tasks are tasks conducted as part of operations outside the United States in coordination with other instruments of national power to maintain or reestablish a safe and secure environment, provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief. Sustainment of stability tasks often involves supporting U.S. and unified action partners in a wide range of missions and tasks. It will almost always require interaction with other governmental agencies and nongovernmental organizations.

Sustaining Defense Support of Civil Authorities Tasks

Defense Support of Civil Authorities is support provided by U.S. Federal military forces, DOD civilians, DOD contract personnel, DOD component assets, and National Guard forces (when the Secretary of Defense, in coordination with the Governors of the affected States, elects and requests to use those forces in Title 32, USC, status) in response to requests for assistance from civil authorities for domestic emergencies, law enforcement support, and other domestic activities, or from qualifying entities for special events.



See pp. 4-3 to 4-8 for related discussion. Army forces demonstrate the Army's core competencies through decisive action—the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks. Refer to The Army Operations & Doctrine SMARTbook (Guide to Unified Land Operations and the Six Warfighting Functions) for further discussion.

Sustainment Planning

Sustainment planning begins with the operational commander's intent and concept of operations. This single, unifying idea provides direction for the entire operation. Based on a specific idea of how to accomplish the mission, commanders refine the concept of operations during planning. They adjust it throughout the operation as subordinates develop the situation or conditions change.

Sustainment planning indirectly focuses on a threat's ability to disrupt sustainment operations but more specifically on sustaining friendly forces to the degree that the Army as a whole accomplishes the desired end state. They must track developments and adjust plans as the operations unfold. Sustainment commanders must understand processes and procedures for how sustainment is provided, in relation to the operational environment and the resources available to them. Sustainment commanders build upon their understanding by collecting, processing, storing, displaying, and disseminating information that impacts the operation. As a result, the sustainment estimate and commanders' understanding have to be reviewed and re-evaluated throughout an operation.

Planning begins with analysis of the conditions in the operational environment with emphasis on the enemy and operational variables METT-TC. It involves understanding and framing the problem and envisioning the set of conditions that represent the desired end state (ADRP 3-0).

Planning sustainment support of an operation is vital to mission success. Sustainment commanders and their planning staffs must coordinate and synchronize every stage of the planning process with the operational staff. They must also coordinate, synchronize and integrate the sustainment plan with joint and multinational partners to ensure a continuous linkage with strategic level providers.

The sustainment staff's role in synchronizing sustainment planning with operations is necessary to assist operational commanders and staffs set the conditions for what is in the realm of the possibilities. To ensure maximum freedom of action sustainment planners must understand the commander's intent, be able to visualize the operation and articulate the operational risks. Limitations like, insufficient infrastructure or the availability of a key class of supply or replacement weapon systems has bearing on the commander's ability to execute the mission. Sustainment commanders and staffs must present credible courses of action commensurate with sustainment capabilities to allow as much freedom of action as possible to accomplish the operational end state. While sustainment should not be an impediment to an operation, poor planning, lack of coordination, and understanding could severely impact the success of the operation.

See chap. 4, Sustainment Planning, for further discussion.

Doctrinal Linkage

Sustainment commanders must ensure their staffs are conversant in operational and sustainment doctrine as well as joint and multinational doctrine. Doctrine is a guide and establishes a basic framework for the conduct of operations that facilitates the planning process. Sustainment is a complex operation with many branches and sequels. Doctrine, based on past experiences and knowledge, helps leaders understand the broad context of what is possible, and then allow commanders and staffs to use judgment in the application of doctrine to adjust to the unique circumstances facing them.

To effectively conduct sustainment in unified land operations, sustainment planners must fully understand the operations process—the major mission command activities performed during operations: planning, preparing, executing, and continuously assessing the operation; operational art; and mission command. Additionally, sustainment planners must understand the mechanics of Joint operations and the necessary links that ensure strategic level support (see JP 3.0, JP 4.0, and JP 5.0).

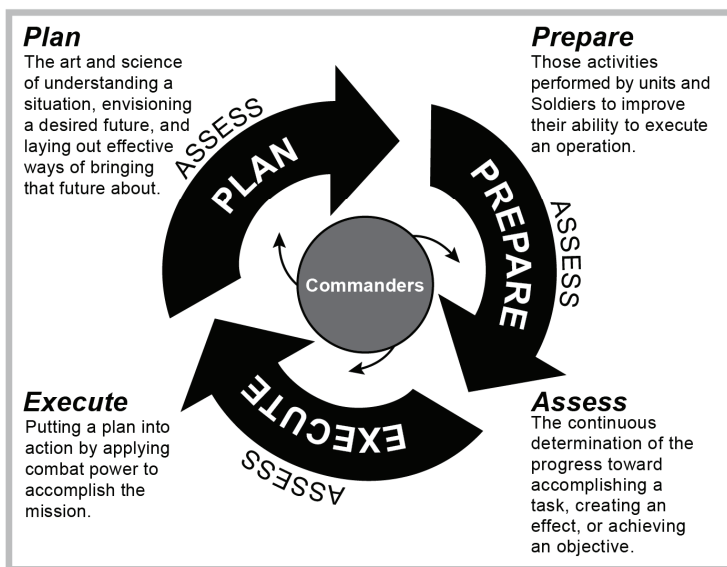
See facing page for an overview of the operations process.

Activities of the Operations Process

Ref: ADP 5-0, *The Operations Process* (Mar '12), pp. 2 to 6.

The Army's framework for exercising mission command is the operations process -- the major mission command activities performed during operations: planning, preparing, executing, and continuously assessing the operation.

The Operations Process (Underlying Logic)



Central idea...

Commanders, supported by their staffs, use the **operations process** to drive the conceptual and detailed planning necessary to understand, visualize, and describe their operational environment; make and articulate decisions; and direct, lead, and assess military operations.

Principles

guided by...

- Commanders drive the operations process
- Apply critical and creative thinking
- Build and maintain situational understanding
- Encourage collaboration and dialogue

Ref: ADP 5-0, *The Operations Process*, fig. 1, p. iv.



Refer to *The Battle Staff SMARTbook (Guide to Designing, Planning & Conducting Military Operations)* for discussion of the operations process. Commanders, supported by their staffs, use the operations process to drive the conceptual and detailed planning necessary to understand, visualize, and describe their operational environment; make and articulate decisions; and direct, lead, and assess military operations.

A firm doctrinal grasp enables sustainment staffs to use and apply the planning tools of the operations process (see ADP 5-0, 3-0 and 6-0, respectively). In addition to a firm foundation in planning, operational, and sustainment doctrine, planners must understand maneuver doctrine in order to arrange sustainment actions in a manner to effectively support the operation.

Planning Considerations

Sustainment staffs create viable plans that are well coordinated and synchronized, facilitate operational tempo and support the commander's priorities before, during, and after operations. Sustainment planners in an operational headquarters generally do not drive the planning process but must be fully integrated throughout the Army design methodology. Sustainment planners use the commander's intent, planning guidance, and the military decision making process to develop the sustainment concept of support.

The concept of support is derived from running estimates developed using a variety of planning tools. These running estimates project consumption rates for key classes of supply, casualty figures, maintenance requirements, and other sustainment requirements (see ADRP 5-0 for additional information). Sustainment planners participate in all aspects of the military decision making process to ensure synchronization and unity of effort.

Planning in a sustainment headquarters requires lead planners to take an active role in the planning process. They assist the development of the commander's understanding of the operational environment, identify the problems, and articulate the sustainment commander's vision. It requires they have regular access to the commander. Sustainment planners must have the most current products from the organizations they support as well as planning products from their higher headquarters to ensure proper nesting and synchronization. Developing effective plans facilitates well synchronized transitions between operational phases.

A comprehensive analysis of host nation capabilities and plans incorporating these resources, provides sustainment commanders with an array of options. For example, the availability of reliable contractible resources could reduce the burden on military resources and an already strained distribution system. Contracted resources could enable military resources to be focused on high priority operations that are unsuitable for civilian personnel. The use of contractors and host nation support are often directly tied to the level of violence and threat in the operational environment.

I. Operational Reach

Operational reach is a necessity in order to conduct decisive action. Operational reach is the distance and duration across which a unit can successfully employ military capabilities (JP 3-0). The limit of a unit's operational reach is its culminating point.

Sustainment enables operational reach. It provides Army forces with the lift, materiel, supplies, health services, and other support necessary to sustain operations for extended periods of time. Army forces require strategic sustainment capabilities and global distribution systems to deploy, maintain, and conduct operations over great distances. Army forces increase the joint force's ability to extend operational reach by securing and operating bases in the AOR. In many instances, land operations combine direct deployment with movements from intermediate staging bases located outside the operational area.

Extending operational reach is a paramount concern for commanders. To achieve the desired end state, forces must possess the necessary operational reach to establish and maintain conditions that define success. Commanders and staffs increase operational reach through deliberate, focused operational design, and the appropriate sustainment to facilitate endurance.

Army Prepositioned Stocks (APS)

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 3-5 to 3-7.

Army Prepositioned Stocks (APS) is essential in facilitating strategic and operational reach. The APS program is a key Army strategic program. The USAMC manages and the ASC executes the APS program and provides accountability, storage, maintenance, and transfer (issue and receipt) of all equipment and stocks (except medical supplies and subsistence items) (ATTP 4-15). Medical APS stocks are managed by U.S. Army Medical Materiel Agency for the Office of the Surgeon General and subsistence items are managed for the Army by DLA.

Prepositioning of stocks in potential theaters provides the capability to rapidly resupply forces until air and sea lines of communication are established. Army pre-positioned stocks are located at or near the point of planned use or at other designated locations. This reduces the initial amount of strategic lift required for power projection, to sustain the war fight until the line of communication with CONUS is established, and industrial base surge capacity is achieved (FM 3-35.1). The four categories of APS are:

Prepositioned Unit Sets

Prepositioned unit sets consist of pre-positioned organizational equipment (end items, supplies, and secondary items) stored in unit configurations to reduce force deployment response time. Materiel is pre-positioned ashore and afloat to meet the Army's global prepositioning strategic requirements of more than one contingency in more than one theater of operations.

Operational Projects Stocks

Operational projects stocks are materiel above normal table of organization and equipment, table of distribution and allowances, and common table of allowance authorizations, tailored to key strategic capabilities essential to the Army's ability to execute force projection. They authorize supplies and equipment above normal modified table of organization and equipment authorizations to support one or more Army operation, plan, or contingency. They are primarily positioned in CONUS, with tailored portions or packages pre-positioned overseas and afloat. The operational projects stocks include aerial delivery, mortuary affairs, and Force Provider base camp modules.

Army War Reserve Sustainment Stocks

Army war reserve sustainment stocks are acquired in peacetime to meet increased wartime requirements. They consist of major and secondary materiel aligned and designated to satisfy wartime sustainment requirements. The major items replace battle losses and the secondary items provide minimum essential supply support to contingency operations. Stocks are pre-positioned in or near a theater of operations to reduce dependence on strategic lift in the initial stages of a contingency. They are intended to last until resupply at wartime rates or emergency rates are established.

War Reserve Stocks For Allies

War reserve stocks for allies is an Office of the Secretary of Defense –directed program that ensures U.S. preparedness to assist designated allies in case of war. The United States owns and finances war reserve stocks for allies and prepositions them in the appropriate theater.

Land-based APS in Korea, Europe, or Southwest Asia allows the early deployment of a BCT to those locations. These pre-positioned sets of equipment are essential to the timely support of the U.S. national military strategy in the areas of U.S. national interest and treaty obligations. Fixed land-based sites store Army pre-positioned sets of BCT equipment, operational projects stocks, and sustainment stocks. Land based sets can support a theater lodgment to allow the off-loading of Army pre-positioned afloat equipment and can be shipped to support any other theater worldwide.

Refer to FM 3-35.1.

Force Projection

Force projection is the ability to project the military instrument of national power from the United States or another theater, in response to requirements for military operations (JP 3-0). Force projection includes the processes of mobilization, deployment, employment, sustainment, and redeployment of forces. These processes are a continuous, overlapping, and repeating sequence of events throughout an operation. Force projection operations are inherently joint and require detailed planning and synchronization.

Sustainment of force projection operations is a complex process involving the GCC, strategic and joint partners such as USTRANSCOM, and transportation component commands like AMC, military sealift command, SDDC, USAMC, DLA, Service Component Commands, and Army generating forces.

- **Mobilization** is the process of bringing the armed forces to a state of readiness in response to a contingency. Upon alert for deployment generating force sustainment organizations, ensure Army forces are manned, equipped, and meet all Soldier readiness criteria.
- **Deployment** is the movement of forces to an operational area in response to an order. Sustainment is crucial to the deployment of forces. Joint transportation assets including air and sealift provide the movement capabilities for the Army.
- **Employment** encompasses a wide array of operations—including, but not limited to—entry operations, decisive action, conduct of operations, and post-conflict operations.
- **Sustainment** provides logistics, personnel services, and health service support to maintain forces until mission completion. It gives Army forces its operational reach, freedom of action and endurance.
- **Redeployment** is the return of forces and materiel to the home or mobilization station or to another theater. It requires retrograde of logistics, personnel services, and health service support and reuniting unit personnel and equipment at their home station.

See chap. 6, *Deployment and Redeployment Operations*, for further discussion.

A. Theater Opening

Theater opening (TO) is the ability to establish and operate ports of debarkation (air, sea, and rail) to establish a distribution system and sustainment bases, and to facilitate port throughput for the reception, staging, onward movement and integration of forces within a theater of operations (ADP 4-0). Preparing for TO operations requires unity of effort among the various commands and a seamless strategic-to-tactical interface. It is a complex joint process involving the GCC and strategic and joint partners such as USTRANSCOM and DLA. TO functions set the conditions for effective support and lay the groundwork for subsequent expansion of the theater distribution system.

See following pages (pp. 1-30 to 1-31) for further discussion.

B. Theater Closing

Theater closing is the process of redeploying Army forces and equipment from a theater, the drawdown and removal or disposition of Army non-unit equipment and materiel, and the transition of materiel and facilities back to host nation or civil authorities. Theater closing begins with the termination of joint operations.

See pp. 1-32 to 1-33 for further discussion.

Basing

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 3-9 to 3-10.

Basing directly enables and extends operational reach, and involves the provision of sustainable facilities and protected locations from which units can conduct operations. Army forces typically rely on a mix of bases and/or base camps to deploy and employ combat power to operational depth. Options for basing range from permanent basing in CONUS to permanent or contingency (non-permanent) basing OCONUS. A base camp is an evolving military facility that supports military operations of a deployed unit and provides the necessary support and services for sustained operations.

Bases or base camps may be joint or single service and will routinely support both U.S. and multinational forces, as well as interagency partners, operating anywhere along the range of military operations. Commanders often designate a single commander as the base or base camp commander that is responsible for protection, terrain management, and day-to-day operations of the base or base camp. This allows other units to focus on their primary function. Units located within the base or base camp are under the tactical control of the base or base camp commander for base security and defense.

Within large echelon support areas, controlling commanders may designate base clusters for mutual protection and mission command. Within a support area, a designated unit such as a brigade combat team or maneuver enhancement brigade provides area security, terrain management, movement control, mobility support, clearance of fires, and required tactical combat forces.

1. Intermediate Staging Bases

An intermediate staging base (ISB) is a tailorable, temporary location used for staging forces, sustainment and/or extraction into and out of an operational area (JP 3-35). While not a requirement in all situations, the intermediate staging base may provide a secure, high-throughput facility when circumstances warrant. The commander may use an ISB as a temporary staging area en route to a joint operation, as a long-term secure forward support base, and/or secure staging areas for redeploying units, and noncombatant evacuation operations.

An intermediate staging base is task organized to perform staging, support, and distribution functions as specified or implied by the CCDR and the theater Army operations order. The intermediate staging base task organization is dependent on the operational situation and the factors of METT-TC. It may provide life support to staging forces in transit to operations or serve as a support base supporting the theater distribution plan.

As a support base, an intermediate staging base may serve as a transportation node that allows the switch from strategic to intratheater modes of transportation. Whenever possible an intermediate staging base takes advantage of existing capabilities, serving as a transfer point from commercial carriers to a range of tactical intratheater transport means that may serve smaller, more austere ports. Army forces may use an intermediate staging base in conjunction with other joint force elements to pre-position selected sustainment capabilities.

See p. 6-37 for further discussion of intermediate staging bases.

2. Forward Operating Bases

Forward operating bases extend and maintain the operational reach by providing secure locations from which to conduct and sustain operations. They not only enable extending operations in time and space; they also contribute to the overall endurance of the force. Forward operating bases allow forward deployed forces to reduce operational risk, maintain momentum, and avoid culmination.

Forward operating bases are generally located adjacent to a distribution hub. This facilitates movement into and out of the operational area while providing a secure location through which to distribute personnel, equipment, and supplies.

A. Theater Opening

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 3-7 to 3-10.

Theater opening (TO) is the ability to establish and operate ports of debarkation (air, sea, and rail) to establish a distribution system and sustainment bases, and to facilitate port throughput for the reception, staging, onward movement and integration of forces within a theater of operations (ADP 4-0). Preparing for TO operations requires unity of effort among the various commands and a seamless strategic-to-tactical interface. It is a complex joint process involving the GCC and strategic and joint partners such as US-TRANSCOM and DLA. TO functions set the conditions for effective support and lay the groundwork for subsequent expansion of the theater distribution system.

When given the mission to conduct TO, a sustainment brigade, designated a sustainment brigade (TO), and a mix of functional battalions and multi-functional CSSBs are assigned based on mission requirements. The sustainment brigade HQ staff may be augmented with a Transportation Theater Opening Element to assist in managing the TO mission. The augmentation element provides the sustainment brigade with additional manpower and expertise to command and control TO functions, to conduct transportation planning, and provide additional staff management capability for oversight of RSOI operations, port operations, node and mode management, intermodal operations, and movement control. The sustainment brigade will participate in assessing and acquiring available HN infrastructure capabilities and contracted support and coordinating with military engineers for general engineering support (FMI 4-93.2 and ATPP 4-0.1)

See related discussion on p. 6-33.

Port Opening

Port opening is a subordinate function of theater opening. Port opening is the ability to establish, initially operate and facilitate throughput for ports of debarkation (POD) to support unified land operations. The port opening process is complete when the POD and supporting infrastructure is established to meet the desired operating capacity for that node. Supporting infrastructure can include the transportation needed to support port clearance of cargo and personnel, holding areas for all classes of supply, and the proper in-transit visibility systems established to facilitate force tracking and end to end distribution.

Port opening and port operations are critical components for preparing TO. Commanders and staffs coordinate with the HN to ensure sea ports and aerial ports possess sufficient capabilities to support arriving vessels and aircraft. USTRANSCOM is the port manager for deploying U.S. forces (ATPP 4-0.1).

Joint Task Force Port Opening (JTF-PO)

The Joint Task Force Port Opening (JTF-PO) is a joint capability designed to rapidly deploy and initially operate aerial and sea ports of debarkation, establish a distribution node, and facilitate port throughput within a theater of operations (JP 4-0). The JTF-PO is a standing task force that is a jointly trained, ready set of forces constituted as a joint task force at the time of need. The Army contribution to the JTF-PO is the Rapid Port Opening Element (RPOE) which deploys within hours to establish air and sea ports of debarkation in contingency response operations. The RPOE also provides in-transit visibility and cargo clearance.

The Joint Task Force Port Opening facilitates joint RSOI and theater distribution by providing an effective interface with the theater JDDOC and the sustainment brigade for initial aerial port of debarkation (APOD) operations. The JTF-PO is designed to deploy and operate for up to 60 days. As follow-on theater logistics capabilities arrive, the JTF-PO will begin the process of transferring mission responsibilities to arriving sustainment brigade forces or contracted capabilities to ensure the seamless continuation of airfield and distribution operations.

Seaports

Surface Deployment and Distribution Command is the single port manager (SPM) for all common user seaports of debarkation (SPOD) and as the SPM it develops policy and advises the GCC on port management, recommends ports to meet operational demands, and is primarily responsible for the planning, organizing, and directing the operations at the seaport. The TSC and its subordinate Sustainment Brigades, Terminal Battalions and Seaport Operating Companies perform the port operator functions at SPODs. These functions can include port preparations and improvement, cargo discharge and upload operations, harbor craft services, port clearance and cargo documentation activities. If the operational environment allows, SDDC may have the ability to contract locally for port operator support eliminating or decreasing the requirement for the TSC and its subordinate units.

The single port manager may have OPCON of a port support activity which is an ad hoc organization consisting of military and/or contracted personnel with specific skills to add in port operations. The TSC and SDDC will coordinate the PSA requirement. The PSA assists in moving unit equipment from the piers to the staging/marshaling/loading areas, assisting the aviation support element with movement of helicopters in preparation for flight from the port, providing limited maintenance support for equipment being offloaded from vessels, limited medical support, logistics support, and security for port operations.

Ideally, the SPOD will include berths capable of discharging large medium speed roll-on/roll-off ships. The SPOD can be a fixed facility capable of discharging a variety of vessels, an austere port requiring ships to be equipped with the capability to conduct their own offloading, or beaches requiring the conducting of JLOTS operations. Whatever the type of SPOD, it should be capable of accommodating a HBCT.

The Theater Gateway Personnel Accounting Team and supporting HR company and platoons will normally operate at the SPOD as well as movement control teams to facilitate port clearance of personnel and equipment. The movement control team that has responsibility for the SPOD, coordinates personnel accounting with the supporting CSSB or sustainment brigade for executing life support functions (billeting, feeding, transportation, and so forth) for personnel who are transiting into or out of the theater.

Aerial Ports

Airfields supporting strategic air movements for deployment, redeployment, and sustainment are designated aerial ports. Aerial ports are further designated as either an aerial port of embarkation (APOE) for departing forces and sustainment, or as an aerial port of debarkation (APOD) for arriving forces and sustainment. Reception at the APOD is coordinated by the senior logistics commander and executed by an Air Force contingency response group/element and an arrival/departure airfield control group (A/DACG). The A/DACG is an ad hoc organization established to control and support the arrival and departure of personnel, equipment, and sustainment cargo at airfields and must be a lead element when opening an APOD. Elements of a movement control team and an inland cargo transfer company typically operate the A/DACG however the mission can be performed by any unit with properly trained personnel and the appropriate equipment.

USTRANSCOM's Air Mobility Command (AMC) is the single port manager for all common user APODs. Ideally, the APOD will provide runways of varying capacity, cargo handling equipment, adequate staging areas, multiple links to the road and rail network, and a qualified work force. The single port manager works with the service provided A/DACG of offload aircraft and assists in moving unit equipment to the staging/marshaling/loading areas. The A/DACG also assists the aviation support element with movement of helicopters in preparation for flight from the APOD.

Basing

A base camp is an evolving military facility that supports military operations of a deployed unit and provides the necessary support and services for sustained operations.

See p. 1-29 for further discussion.

B. Theater Closing

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 3-10 to 3-12.

Theater closing is the process of redeploying Army forces and equipment from a theater, the drawdown and removal or disposition of Army non-unit equipment and materiel, and the transition of materiel and facilities back to host nation or civil authorities. Theater closing begins with the termination of joint operations.

Terminating Joint Operations

Terminating joint operations is an aspect of the CCDR's functional or theater strategy that links to achievement of national strategic objectives (JP 5-0). Based on the President's strategic objectives that compose a desired national strategic end state, the supported CCDR can develop and propose termination criteria. The termination criteria describe the standards that must be met before conclusion of a joint operation. These criteria help define the desired military end state, which normally represents a period in time or set of conditions beyond which the President does not require the military instrument of national power as the primary means to achieve remaining national objectives. Termination criteria should account for a wide variety of operational tasks that the joint force may need to accomplish, to include disengagement, force protection (including force health protection support to conduct retrograde cargo inspections and pest management operations), transition to post-conflict operations, reconstitution, and redeployment. While there may be numerous terminating tasks the Army must achieve, the discussion below is deliberately broad and not all inclusive. The discussion focuses on redeployment, drawdown of non-unit materiel, and transitioning of materiel, facilities and capabilities to host nation or civil authorities.

Planning for the transition from sustained combat operations to the termination of joint operations, and then a complete handover to civil authority, must commence during plan development and be ongoing during all phases of a campaign or major operation. Planning for redeployment should be considered early and continued throughout the operation and is best accomplished in the same time-phased process in which deployment was accomplished.

Redeployment

Redeployment involves the return of personnel, equipment, and materiel to home and/or demobilization stations and is considered as an operational movement critical in reestablishing force readiness (FM 3-35). Under the ARFORGEN model deployment and redeployment of forces in support of extended operations is a cyclic process. However, for terminating joint operations, Army forces may be completely redeployed from the joint operational area. Many of the procedures used to in the initial deployment of forces to theater apply during redeployment. Unlike cyclic deployment where units fall in on positioned unit equipment and sets, termination redeployment efforts require movement of unit sets to APOEs/SPOEs for shipment to home station or other designated locations. After completion of military operations, redeploying forces move to designated assembly areas or directly to redeployment assembly areas. The same elements that operate and manage the theater distribution system during deployment and sustainment will usually perform support roles during redeployment.

Two critical aspects of equipment and materiel redeployment are property book accountability and asset visibility. Furthermore, the identification of how much equipment is on the ground, location of the equipment, type of equipment, condition of the equipment, and reporting procedures will allow for timely planning, as it will impact mode of transportation, resources, timeline, personnel, storage capabilities, and the like. Moreover, the accurate reporting of equipment on property books, locations, and condition will influence strategic-level decision making in terms of funding, field or sustainment reset, and disposal of equipment.

See pp. 6-41 to 6-44 for related discussion of redeployment.

Drawdown

Planning for drawdown of non-unit equipment and materiel should occur early in the operational and strategic planning process. Drawdown planning entails more than returning equipment to CONUS. At the strategic level, the requirement for specific types of equipment may necessitate the redistribution of equipment to another AOR.

Even though equipment drawdown is an important mission in the redeployment operation, it may not be the Army's or the GCC main priority; thus, prioritization of equipment redistribution/disposition must be established early on to maximize distribution capacity and velocity. A challenge is visibility of strategic level materiel requirements synthesized into the already established priority timeline. Overcoming this challenge is through strategic-level collaboration between partners including Service Headquarters, GCCs, USAMC, DLA, and USTRANSCOM to effectively and efficiently strategically reset both Joint and Army forces.

As planners begin the process of reducing forces in a theater of operations, they must develop a balance between operational capability and sustainment capability. There is a natural tendency to eliminate the sustainment and enabler forces first because they do not provide an inherent capability to engage with the population or enemy. However, as the sustainment and enabling force are withdrawn, there is a direct impact on the operational forces in the form of reduced operational reach and requirements for assumption of additional missions.

To provide unity of effort and ensure operational freedom of action through rapid return, repair, redistribution, and combat power regeneration for the Army, a USAMC Responsible Reset Task Force provides a comprehensive solution for drawdown. Reset is a coordinated effort to methodically plan and execute the timely, repair, redistribution, and/or disposal of non-unit equipment, non-consumable and materiel identified as excess to theater requirements, to home station, sources of repair, or storage or disposal facilities. Through the phased redeployment of forces, the Responsible Reset Task Force mission will reset the Army in the shortest time possible.

The TSC/ESC work closely with the DLA in the close out of materiel in the theater. Support Team serves as the single point of contact to the TSC/ESC. The DLA Support Teams are tasked to provide support to the theater closure plan and are focused on providing support to echelons at the theater level and below based on the priorities of effort. During theater closure, the DLA provides support in the form of adjusting the flow of CL I, II, III (B) (P), IV, VIII and IX to ensure support to the war fighter.

Closing Operational Contracts

The supporting contracting organization will be required to terminate and close out existing contracts and orders. Ratifications and claims must be processed to completion. Contracting for life support services and retrograde support may continue until the last element departs, but standards of support should be reduced as much as possible prior to final contract closeout. In some operations, the supporting contracting organization may be required to assist in the transition of contracted support (the contracts themselves are not transferable) to the Department of State, a multi-national partner or to the host nation. This transition of contract support may include limited continuation of existing contracts in support of high priority Department of State operations.

Port Closing

USTRANSCOM, through SDDC is responsible for providing and managing strategic common-user sealift, and terminal services in support GCC's drawdown or termination requirements. As the single port manager, it is Sod's responsibility to integrate and synchronize strategic and theater re-deployment execution and distribution operations within each CCDR's area of responsibility. It ensures termination/termination requirements are met through the use of both military and commercial transportation assets based on the supported commander business rules and JDDE best business practices.

II. Freedom of Action

Freedom of action enables commanders with the will to act, to achieve operational initiative and control, and maintain operational tempo. Enabling freedom of action requires that the sustainment commanders synchronize the sustainment plan with the operation plan to ensure supported commanders can operate freely and unencumbered due to limited resources. Sustainment commanders can enable freedom of action through preparing and putting in place sustainment activities.

A. Sustainment Preparation

Preparation for the sustainment of operations consists of activities performed by units to improve their ability to execute an operation. Preparation includes but is not limited to plan refinement, rehearsals, information collection, coordination, inspections, and movements. For sustainment to be effective, several actions and activities are performed across the levels of war to properly prepare forces for operations.

See facing page for further discussion to include negotiations and agreements, and sustainment preparation of the battlefield.

B. Sustainment Execution

Execution is putting a plan into action by applying combat power to accomplish the mission (ADP 5-0). It focuses on actions to seize, retain, and exploit the initiative.

Sustainment determines the depth and duration of Army operations. It is essential to retaining and exploiting the initiative and it provides the support necessary to maintain operations until mission accomplishment. Failure to provide sustainment could cause a pause or culmination of an operation resulting in the loss of the initiative. It is essential that sustainment planners and operation planners work closely to synchronize all of the war fighting functions, in particular sustainment, to allow commanders the maximum freedom of action.

Sustainment plays a key role in enabling decisive action. For example, general engineering support provides construction support to protect key assets such as personnel, infrastructure, and bases. Horizontal and vertical construction enables assured mobility of transportation networks and survivability operations to alter or improve cover and concealment to ensure freedom of action, extend operational reach, and endurance of the force. Legal personnel supporting rule of law activities may find themselves working closely with host nation judicial, law enforcement, and corrections systems personnel.

See page 1-23 for an overview of how sustainment supports decisive action tasks (offense, defense, stability and defense support to civil authorities)

III. Endurance

Endurance refers to the ability to employ combat power anywhere for protracted periods. Endurance stems from the ability to create, protect, and sustain a force, regardless of the distance from its base and the austerity of the environment (ADRP 3-0). Endurance involves anticipating requirements and continuity of integrated networks of interdependent sustainment organizations. Prolonged endurance is enabled by an effective distribution system and the ability to track sustainment from strategic to tactical level.

The sustainment principle continuity is paramount for ensuring endurance. Sustainment commanders must ensure the continuous link between strategic to tactical levels are maintained and free flowing. Commanders must be able to track sustainment in near real time and quickly make decisions resulting from changes to missions or operations.

See pp. 1-51 to 1-53 for further discussion (of distribution as a primary means of prolonging endurance).

Sustainment Preparation

Ref: ADRP 4-0, *Sustainment* (Jul '12), pp. 3-12 to 3-13.

Preparation for the sustainment of operations consists of activities performed by units to improve their ability to execute an operation. Preparation includes but is not limited to plan refinement, rehearsals, information collection, coordination, inspections, and movements. For sustainment to be effective, several actions and activities are performed across the levels of war to properly prepare forces for operations.

Negotiations and Agreements

Negotiating and establishing agreements with host nation resources is an important task of mission command for sustainment operations. Through negotiation and agreements, Army forces are able to reduce its military sustainment footprint and/or all military sustainment resources to focus on higher priority operations that may not be conducive to civilian support functions.

Negotiation of agreements enables access to HNS resources identified in the requirements determination phase of planning. This negotiation process may facilitate force tailoring by identifying available resources (such as infrastructure, transportation, warehousing, and other requirements) which if not available would require deploying additional sustainment assets to support.

Host Nation Support agreements may include pre-positioning of supplies and equipment, OCONUS training programs, and humanitarian and civil assistance programs. These agreements are designed to enhance the development and cooperative solidarity of the host nation and provide infrastructure compensation should deployment of forces to the target country be required. The pre-arrangement of these agreements reduces planning times in relation to contingency plans and operations.

Sustainment Preparation of the Operational Environment

Sustainment preparation of the operational environment is the analysis to determine infrastructure, physical environment, and resources in the operational environment that will optimize or adversely impact friendly forces means for supporting and sustaining the commander's operations plan (ADP 4-0). The sustainment preparation of the operational environment assists planning staffs to refine the sustainment estimate and concept of support. It identifies friendly resources (HNS, contractible, or accessible assets) or environmental factors (endemic diseases, climate) that impact sustainment. Some of the factors considered (not all inclusive) are as follows:

- **Geography.** Information on climate, terrain, and endemic diseases in the AO to determine when and what types of equipment are needed. For example, water information determines the need for such things as early deployment of well-drilling assets and water production and distribution units.
- **Supplies and Services.** Information on the availability of supplies and services readily available in the AO. Supplies (such as subsistence items, bulk petroleum, and barrier materials) are the most common. Common services consist of bath and laundry, sanitation services, and water purification.
- **Facilities.** Information on the availability of warehousing, cold-storage facilities, production and manufacturing plants, reservoirs, administrative facilities, hospitals, sanitation capabilities, and hotels.
- **Transportation.** Information on road and rail networks, inland waterways, airfields, truck availability, bridges, ports, cargo handlers, petroleum pipelines, materials handling equipment, traffic flow, choke points, and control problems.
- **Maintenance.** Availability of host nation maintenance capabilities.
- **General Skills.** Information on the general skills such as translators and skilled and unskilled laborers.

Mission Command of Sustainment Operations

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 3-1 to 3-4.

Mission command is the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations (ADP 6-0). It blends the art of command and the science of control while integrating the war fighting functions to accomplish decisive action. Mission command is a pivotal aspect of providing sustainment to operational forces.

1. Build Cohesive Teams Through Mutual Trust

Sustainment commanders and their staffs must be a part of the overall team and work as an integral team member. Sustainment must be synchronized and planned in conjunction with operational planning.

2. Create Shared Understanding

Understanding is fundamental to mission command. Sustainment commanders must understand the supported commanders' intents and concept of operations. They must understand how and what the supported commanders think.

3. Provide a Clear Commander's Intent

Sustainment commanders and staffs at every level must have a clear understanding of the supported commanders' intent. This is essential to making sure sustainment is synchronized and the appropriate level and type of sustainment is forecasted. Sustainment commanders then provide a clear supporting vision and intent to their subordinates to ensure required sustainment to supported commanders.

4. Exercise Disciplined Initiative

There are four sustainment principles that support the exercise disciplined initiative principle: anticipation, responsiveness, economy, and improvisation. Sustainment commanders cannot wait for a supported commander to request support.

5. Use Mission Orders

Mission orders are the most effective means for conducting mission command of sustainment units. Sustainment commanders must have confidence that subordinate sustainment leaders know and understand the maneuver commander's concept of operations and intent. Often sustainment leaders do not have the luxury of asking for permission.

6. Accept Prudent Risk

The ability of threats to disrupt the flow of sustainment could significantly degrade forces' ability to conduct operations as well as sustain them. Sustainment planners and staffs must consider risk factors when planning sustainment. Sustainment commanders may have to balance risk with survivability in considering redundant capabilities and alternative support plans.

7. Mission Command Headquarters and Staffs for Sustainment

Sustainment commanders facilitate confidence building by establishing and maintaining personal contact with supported commanders. Sustainment staffs must constantly coordinate with supported operational staffs to synchronize and assess support and make adjustments as METT-TC factors warrant.

The sustainment staffs are responsible for providing staff support activities for the commander. The sustainment staff integrator monitors and coordinates sustainment functions between the sustainment staffs and other war fighting function staffs and advises the commander on force readiness.

(III. Elements of Sustainment)

A. Logistics

Ref: ADRP 4-0, *Sustainment* (Jul '12). pp. 4-1 to 4-6.

Logistics involves both military art and science. Knowing when and how to accept risk, prioritizing a myriad of requirements, and balancing limited resources all require military art while understanding equipment capabilities incorporates military science. Logistics integrates strategic, operational, and tactical support of deployed forces while scheduling the mobilization and deployment of additional forces and materiel. Logistics include; maintenance, transportation, supply, field services, distribution, operational contract support, and general engineering support.

Logistics



Maintenance (ATTP 4-33)



Transportation (FM 55-1)



Supply (FM 10-1)



Field Services (FM 10-1)



Distribution (ATTP 4-0.1)



Operational Contract Support (ATTP 4-10)



General Engineering Support (FM 3-34)

Ref: ADRP 4-0, *Sustainment*, chap. 4.

A. Maintenance

Maintenance is all actions taken to retain materiel in a serviceable condition or to restore it to serviceability. The Army's two levels of maintenance are field maintenance and sustainment maintenance. Maintenance is necessary for endurance and performed at the tactical through strategic levels of war.

Editor's note: The following maintenance discussion from ADRP 4-0 is supplemented with material from ATTP 4-33, Maintenance Operations (Mar '11). ATTP 4-33 describes Operating Force Maintenance Operations.

Principles of Sustainment (and Logistics)

Ref: ADRP 4-0, *Sustainment* (Jul '12), pp. 1-2 to 1-4.

The principles of sustainment are essential to maintaining combat power, enabling strategic and operational reach, and providing Army forces with endurance. While these principles are independent, they are also interrelated. The principles of sustainment and the principles of logistics are the same.

Principles of Sustainment (and Logistics)

1. Integration
2. Anticipation
3. Responsiveness
4. Simplicity
5. Economy
6. Survivability
7. Continuity
8. Improvisation

1. Integration

Integration is combining all of the sustainment elements within operations assuring unity of command and effort. It requires deliberate coordination and synchronization of sustainment with operations across all levels of war. Army forces integrate sustainment with joint and multinational operations to maximize the complementary and reinforcing effects of each Service component's and national resources. One of the primary functions of the sustainment staff is to ensure the integration of sustainment with operations plans.

2. Anticipation

Anticipation is the ability to foresee operational requirements and initiate necessary actions that most appropriately satisfy a response without waiting for operations orders or fragmentary orders. It is shaped by professional judgment resulting from experience, knowledge, education, intelligence, and intuition. Commanders and staffs must understand and visualize future operations and identify appropriate required support. They must then start the process of acquiring the resources and capabilities that best support the operation. Anticipation is facilitated by automation systems that provide the common operational picture upon which judgments and decisions are based. Anticipation is also a principle of personnel services.

3. Responsiveness

Responsiveness is the ability to react to changing requirements and respond to meet the needs to maintain support. It is providing the right support in the right place at the right time. It includes the ability to anticipate operational requirements. Responsiveness involves identifying, accumulating, and maintaining sufficient resources, capabilities, and information necessary to meet rapidly changing requirements. Through responsive sustainment, commanders maintain operational focus and pressure, set the tempo of friendly operations to prevent exhaustion, replace ineffective units, and extend operational reach.

4. Simplicity

Simplicity relates to processes and procedures to minimize the complexity of sustainment. Unnecessary complexity of processes and procedures leads to the confusion. Clarity of tasks, standardized and interoperable procedures, and clearly defined command relationships contribute to simplicity. Simplicity enables economy and efficiency in the use of resources, while ensuring effective support of forces. Simplicity is also a principle of financial management (see FM 1-06).

5. Economy

Economy is providing sustainment resources in an efficient manner that enables the commander to employ all assets to the greatest effect possible. Economy is achieved through efficient management, discipline, prioritization, and allocation of resources. Economy is further achieved by eliminating redundancies and capitalizing on joint interdependencies. Disciplined sustainment assures greatest possible tactical endurance and constitutes an advantage to commanders. Economy may be achieved by contracting for support or using host nation resources that reduce or eliminate the use of limited military resources.

6. Survivability

Survivability is all aspects of protecting personnel, weapons, and supplies while simultaneously deceiving the enemy (JP 3-34). Survivability consists of a quality or capability of military forces to avoid or withstand hostile actions or environmental conditions while retaining the ability to fulfill their primary mission. This quality or capability of military forces is closely related to protection (the preservation of a military force's effectiveness) and to the protection/force protection warfighting function (the tasks or systems that preserve the force). Hostile actions and environmental conditions can disrupt the flow of sustainment and significantly degrade forces' ability to conduct and sustain operations. In mitigating risks to sustainment, commanders often must rely on the use of redundant sustainment capabilities and alternative support plans.

7. Continuity

Continuity is the uninterrupted provision of sustainment across all levels of war. Continuity is achieved through a system of integrated and focused networks linking sustainment to operations. Continuity is achieved through joint interdependence; linked sustainment organizations; a strategic to tactical level distribution system, and integrated information systems. Continuity assures confidence in sustainment allowing commanders freedom of action, operational reach, and endurance.

8. Improvisation

Improvisation is the ability to adapt sustainment operations to unexpected situations or circumstances affecting a mission. It includes creating, inventing, arranging, or fabricating resources to meet requirements. It may also involve changing or creating methods that adapt to a changing operational environment. Sustainment leaders must apply operational art to visualize complex operations and understand additional possibilities. These skills enable commanders to improvise operational and tactical actions when enemy actions or unexpected events disrupt sustainment operations. In regards to financial management, it includes task organizing units in non-traditional formations, submitting fiscal legislative proposals to acquire new fiscal authorities, applying existing financial and communication technologies (FM 1-06).

1. Field Maintenance

Field maintenance is repair and return to user and is generally characterized by on-(or near) system maintenance, often utilizing line replaceable unit, component replacement, battle damage assessment, repair, and recovery. It is focused on returning a system to an operational status. Field level maintenance is not limited to remove and replace, but also provides adjustment, alignment, and fault/failure diagnoses. Field maintenance also includes battlefield damage and repair tasks performed by either the crew or support personnel to maintain system in an operational state.

- **Crew maintenance** is the responsibility of a using organization's operators/crews to perform maintenance on its assigned equipment. These operators/crews receive formal training from their proponent (normally advanced individual training, new equipment training etc.) on a specific system. Tasks normally consist of inspecting, servicing, lubricating, adjusting, replacing minor components/assemblies as authorized by the Maintenance Allocation Chart (MAC) using Basic Issue Items and onboard spares. The remove and replace authority for this level of maintenance is indicated by the letter "C" in the third position of the Source, Maintenance, and Recoverability (SMR) code. A "C" appearing in the fourth position of the SMR code, though rare, would indicate complete repair is possible at the crew maintenance level.
- **Operator/maintainers** are System specialists in those military occupational specialties (e.g. signal, military intelligence, or a maneuver unit's Master Gunner) that receive formal training from their proponent (normally advanced individual training, specialized functional courses, etc.) on diagnosing specific system faults. Their primary focus is on a system's performance and integrity. These personnel troubleshoot the entire system using simplified (or embedded) diagnostic equipment to identify, isolate, and trace problems to a faulty LRU, LRU replacement (utilizing on-board spares), and identifying/correcting crew training deficiencies.
- **Maintainer maintenance** is maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed by a trained maintainer in CMF 91 or 94. The remove and replace authority for this level of maintenance is indicated by the letter "F" appearing in the third position of the SMR code. An "F" appearing in the fourth position of the SMR code indicates complete repair is possible at the field maintenance level. Items are returned to the user after maintenance is performed at this level

2. Sustainment Maintenance

Sustainment maintenance is generally characterized as "off system" and "repair rear". The intent is to perform commodity-oriented repairs on all supported items to one standard that provides a consistent and measurable level of reliability. Off-system maintenance consists of overhaul and remanufacturing activities designed to return components, modules, assemblies, and end items to the supply system or to units, resulting in extended or improved operational life expectancies.

Sustainment maintenance supports both operational forces and the Army supply system. There are exceptions when sustainment level maintenance activities may conduct maintenance and return items to the using unit. Sustainment maintenance will normally be performed by industrial-type activities operated by the Army; it may also be performed by contract and interdepartmental or interagency agreement. Sustainment maintenance is comprised of below depot sustainment and depot sustainment.

- **Below depot sustainment level maintenance.** This level of maintenance is maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion generally after it is removed from the system.

Maintenance System Overview

Ref: ATTP 4-33 (FM 4-30.3), *Maintenance Operations* (Mar '11), pp. 1-1 to 1-2.

The purpose of the Army maintenance system is to generate/regenerate combat power, and to preserve the capital investment of weapons systems and equipment to enable mission accomplishment. Maintenance actions are divided into field and sustainment level tasks.

Maintenance is a combat multiplier central to operational success across full spectrum operations. The maintenance system is designed to be fast, agile, and responsive to the needs of the Soldier as far forward as possible. Maintenance managers anticipate maintenance requirements by utilizing robust communications networks, tracking and analyzing maintenance reporting, and soon, by being enabled by equipment sensor data to monitor and evaluate equipment performance. The commander that combines skillful use of assigned equipment with effective maintenance management processes has a decided advantage.

Principles of Maintenance

Army maintenance is founded on the principle that the useful service life of Army equipment is achieved when the item is operated within its intended purposes, parameters, and maintained in accordance with its designed or engineered specifications. Army maintenance processes and procedures are based on the following principles:

- Commanders are responsible for establishing a command climate that ensures all assigned equipment is maintained in accordance with appropriate TMs and AR 750-1
- Preventive Maintenance Checks and Services (PMCS) are the foundation of materiel readiness
- Commanders are responsible for providing resources, assigning responsibility, and training their Soldiers to achieve maintenance standards
- Expeditious return of non-mission capable equipment back to operational status
- Field level maintenance forward/sustainment level maintenance at echelons above Brigade
- Commanders are responsible for the readiness and safety of equipment

Maintenance Processes

The Army relies on four core maintenance processes to manage equipment during the course of its useful service life to achieve a high state of readiness. They are performance observation, equipment services, fault repair, and single-standard repair. Each of these processes is discussed in greater detail in AR 750-1.

- **Performance observation and reporting** is the foundation of the Army maintenance program and is the basis of the preventive maintenance checks and services (PMCS), required by all equipment operator Technical Manuals (TMs) before, during and after operations.
- **Equipment services** are specified maintenance actions performed according to a schedule where equipment, components, and systems are routinely checked, adjusted, changed, analyzed, and lubricated in accordance with design specifications.
- **Fault repair** is the process used by operators and maintenance personnel to restore equipment to full functionality as originally designed or engineered.
- **Single repair standard** is applied to all end items, secondary items, and components repaired and returned to supply. This process assures high quality and establishes a predictable service life by repairing to a specific technical standard.

The remove and replace authority for this level of maintenance is indicated by the letter "H" appearing in the third position of the SMR code. An "H" appearing in the fourth position of the SMR code indicates complete repair is possible at the below depot sustainment maintenance level. Items are returned to the supply system after maintenance is performed at this level. Below depot sustainment level maintenance can also apply to end item repair and return to the supply system.

- **Depot maintenance.** Depot maintenance is maintenance accomplished on end items or on a component, accessory, assembly, subassembly, plug-in unit, either on the system or after it is removed. The remove and replace authority for this level of maintenance is indicated by the letter "D" or "K" appearing in the third position of the SMR code. Depot sustainment maintenance can be performed by either depot personnel or contractor personnel when authorized by the Army Materiel Command. A "D" or "K" appearing in the fourth position of the SMR code indicates complete repair is possible at the depot maintenance level. Items are returned to the supply system, or by exception directly to a using unit after maintenance is performed at this level.

B. Transportation Operations

Army transportation units play a key role in facilitating endurance. Transportation units move sustainment from ports to points of need and retrograde materiel as required. Transportation operations encompass the wide range of capabilities needed to allow joint and Army commanders to conduct operations. Important transportation functions are movement control, intermodal operations (terminal and mode), and container management.

1. Movement Control

Movement control is the dual process of committing allocated transportation assets and regulating movements according to command priorities to synchronize distribution flow over lines of communications to sustain land forces. Movement control balances requirements against capabilities and requires continuous synchronization to integrate military, host nation, and commercial movements by all modes of transportation to ensure seamless transitions from the strategic through the tactical level of an operation. It is a means of providing commanders with situational awareness to control movements in their operational area. Movement control responsibilities are imbedded in an infrastructure that relies on coordination for the planning and execution to ensure transportation assets are utilized efficiently while ensuring LOCs are deconflicted to support freedom of access for military operations.

2. Intermodal Operations

Intermodal operations is the process of using multiple modes (air, sea, highway, rail) and conveyances (i.e. truck, barge, containers, pallets) to move troops, supplies and equipment through expeditious entry points and the network of specialized transportation nodes to sustain land forces. It uses movement control to balance requirements against capabilities against capacities to synchronize terminal and mode operations ensuring an uninterrupted flow through the transportation system.

- **Terminal Operations.** Terminal operations consist of the receiving, processing, and staging of passengers; the receipt, transit storage and marshalling of cargo; the loading and unloading of transport conveyances; and the manifesting and forwarding of cargo and passengers to a destination (JP 4-01.5).
- **Mode Operations.** Mode operations are the execution of movements using various conveyances (truck, lighterage, railcar, aircraft) to transport cargo. It includes the administrative, maintenance, and security tasks associated with the operation of the conveyances.

See following pages (pp. 1-44 to 1-45) for further discussion of mode and terminal and mode operations.

Common Logistics Operating Environment (CLOE)

Ref: ATP 4-33 (FM 4-30.3), *Maintenance Operations* (Mar '11), pp. 1-4 to 1-5.

The “Common Logistics Operating Environment (CLOE)” is the Army Campaign Plan initiative to synchronize logistics concepts, organizational approaches, information, and a new generation of technologies into a single operational and technical architecture for current and future force structures. The ultimate goal is to enable Soldiers, at all levels, to have total situational awareness within a common operating picture (COP) for all aspects of logistics, from factory to foxhole. At the same time, logisticians will have a single set of interfaces for “business” processes such as calls for support to include maintenance, requisitions of supplies, in-transit visibility, and domain-wide total asset visibility—all supporting a unity of effort and enabling rapid, precise response across a wide spectrum of conflict. CLOE is a collaborative initiative to synchronize multiple systems enabling processes to work seamlessly. The technologies that constitute CLOE mark a steep change in sustainment processes. These enablers have the potential to substantially improve agility and effectiveness, and provide major increases in the Commander’s situational awareness and the unit’s combat power.

Condition Based Maintenance (CBM)

Condition Based Maintenance (CBM) is a proactive equipment maintenance capability that uses system health monitoring to predict functional failure ahead of the event, allowing the maintainer to take appropriate preemptive action. Potential actions range from “stop-now” to scheduling a repair at a time convenient to the mission profile. CBM is based on diagnostics, predictive maintenance, and prognostics.

- **Diagnostics.** Are failure indication capabilities provided by the system to the operator/crew or maintenance personnel by sensors or built-in test (BIT) capabilities.
- **Predictive Maintenance.** Maintenance that is based on trend analysis of historically collected data that, in the case of current force equipment, uses sensors that were originally designed for diagnostic indications.
- **Prognostics.** Are performed principally on-board as a real-time process, and are capable of analyzing component conditions and the prediction of failure based on the equipment’s real-time operating time-stress environment.

Condition Based Maintenance Plus (CBM+)

Condition Based Maintenance Plus (CBM+) is a Department of Defense initiative that includes many components of the CBM concept. CBM+ is aimed at enhancing the efficiency and effectiveness of CBM implementation through the application of enabling technologies, knowledge management, learning/training technologies, and life-cycle management processes. Beyond the CBM tasks themselves, CBM+ includes the additional infrastructures to make use of platform-generated information. This information provides operating commanders with unprecedented visibility into their fleet operating condition, enhancing force planning, and combat power. The information also feeds multiple business processes and provides performance information for problem analysis and performance optimization. Results include improved platform availability and reduced deployment footprint.

Reliability Centered Maintenance (RCM)

Reliability Centered Maintenance (RCM) defines what must be done for a system to achieve the desired levels of safety, operational readiness, and environmental soundness at best cost. It is a structured process used to determine the best method to manage system failures based upon system reliability characteristics and the intended operating context.

Mode Operations

Ref: Adapted from FM 4-0, Sustainment (Aug '09), p. 5-6.

Mode operations and movement control elements working together match up the correct asset capability depending on cargo characteristics and required delivery time. Movement control sections coordinate transportation assets. When allocated, Army aviation assets for sustainment support direct coordination between the MCB and the Aviation Brigade is vital in providing responsive support. Requests for use of Air Force fixed winged aircraft for sustainment resupply requires coordination between the MCB and the theater airlift liaison officer. Airlift providers may be the Army, Navy, Air Force, MNFs, host nation military, or commercial aircraft.

1. Motor

Army motor transportation provides essential distribution capabilities for Army organizations. Army transportation units are the single largest provider of land surface movement within joint forces. Motor transportation includes organic, host nation, and contracted resources.

2. Rail

Rail is potentially the most efficient ground transportation method for hauling large tonnages. The Army has limited railway operating, construction, and repair capabilities. Rail capability may be provided through HNS. The Army augments HNS by providing personnel resources.

3. Air

Airlift is a mode of transportation. Wide-ranging sustainment needs within a theater require Air Force and Army airlift assets to support. Army utility helicopters provide support at the through movement control channels in response to mission requirements and the commander's priorities. Likewise, the U.S. Air Force provides intratheater airlift to all services within a theater through an allocation process on a routine basis or provides immediate support to operational requirements. While airlift is the preferred method of delivery, airdrop is a field service that can provide additional flexibility. It makes possible rapid resupply of critical items over extended distances directly to or near forward units.

4. Water

Army watercraft is a component of intratheater transportation. It can augment other modes when integrated with appropriate terminal operations or may be the primary means of transport in specific areas in a theater. Army watercraft move materiel and equipment over inland waterways, along theater coastlines, and within marine terminals. Their primary role is to support cargo discharge from strategic lift assets, conduct onward movement, and provide distribution of cargo and equipment from the SPOD to inland terminals and austere delivery points or retrograde materiel from those areas.

Watercraft can perform utility missions including patrolling, salvage, ship-to-shore transport of personnel, and harbor master duties. Although not an Army watercraft mission, they can perform limited docking and undocking services for strategic transport vessels when required. The watercraft fleet consists of a variety of vessels such as landing craft, tug boats, floating cranes, barges, causeways, and associated equipment. Army watercraft are organized into companies and detachments which can operate under a variety of command relationships (such as attached to a Transportation Terminal Battalion or SDDC units (see FM 55-80).

Terminal Operations

Ref: Adapted from FM 4-0, Sustainment (Aug '09), pp. 5-6 to 5-8.

Terminal operations are key elements in Army force projection operations and support endurance and reach operations. They provide loading, unloading, and handling of materiel, cargo, and personnel between various transportation modes. When linked by the modes of transport (air, rail, and sea), they define the physical network for distribution operations.

Well established terminal operations are essential in supporting deployment, reception, staging, and onward movement and sustainment of the force. Crucial to the successful execution of the terminal/nodal operation is the assignment of the right personnel, cargo, and material handling equipment at each terminal. ITV of materiel moving through the transportation system also provides the GCC with information pertaining to location and destination of all cargo and equipment. There are two types of terminal/nodal operations: marine and inland.

1. Marine Terminals

The type, size, number, and location of military marine terminals selected for use, dictate the number and types of units needed to sustain theater support requirements. Using small or geographically dispersed terminals may be necessary for flexibility and survivability. However, this creates a greater need for C2 organizations. A fixed-port facility operated by a HN under contract may only require a contract supervision team. A similar facility operated as a military marine terminal may require a terminal battalion. Fixed-port facilities are designed for oceangoing vessel discharge operations and port clearance. These facilities have sufficient water depth and pier length to accommodate deep-draft vessels. They also have highly sophisticated facilities, equipment, and organization to effectively support cargo discharge and port clearance operations (see FM 55-60). Marine terminals consist of three types of facilities :

- Fixed-port facilities
- Unimproved port facilities
- Bare beach facilities

2. Inland Terminals

Inland terminals provide cargo transfer facilities. These include air, motor transport, inland waterway, and rail:

- **Air.** Air cargo transfer takes place at common-use APDs and service controlled airfields and landing strips throughout the theater. A capability assessment should be conducted for each airfield to determine the maximum aircraft on the ground (MOG) that can be parked (called parking MOG) and the number and type of aircraft that can be worked (called working MOG) with available personnel, MHE, and ramp space.
- **Motor transport.** Distribution terminals of Centralized Receiving and Shipping Points are normally located at both ends of a line-haul operation. They form the connecting link between local hauls and the line-haul service. They may also be located at intermediate points along the line-haul route where terrain necessitates a change in type of carrier.
- **Inland waterway.** Inland waterway terminals are limited by the size and configuration of the terminal, types of watercraft, and capabilities of the unit's cargo handling equipment.
- **Rail.** Rail terminals may include yard tracks, repair and servicing facilities, train crew accommodations, and railheads. They are located at originating and terminating points and at sites that mark the limits of rail operations.

3. Container Management

Container management is the process of establishing and maintaining visibility and accountability of all cargo containers moving within the Defense Transportation System. In theater, container management is conducted by commanders at the operational and tactical levels.

The TSC distribution management center coordinates intermodal operations with the movement control battalion at transportation, storage, and distribution nodes. The TSC maintains information on the location and status of containers and flat racks in the theater. The movement control battalion provides essential information on container location, use, flow and condition. They assist with control of containers by identifying that they are ready for return to the distribution system. The distribution management center sets priorities for container shipment and diversion.

C. Supply

Supply is essential for enhancing Soldiers' quality of life. Supply provides the materiel required to accomplish the mission. Supply includes ten classes of supply.

Supply operations include the requisitioning, receipt, storage, issue, distribution, protection, maintenance, retrograde, and redistribution of supplies. Levels of supply are broadly classified under the levels of war as tactical, operational, and strategic.

See pp. 2-25 to 2-49 for discussion of supply operations in support of the warfighter.

1. Tactical-Level Supplies

Tactical level supplies are those items provided to and carried within each maneuver or support brigade to sustain operational endurance. They also consist of those supplies held by Sust Bdes to provide area support.

See following pages (1-48 to 1-49) for a discussion of supply in tactical operations to include night and NBC operations, jungle operations, urban operations, desert operations, cold weather and mountain operations.

2. Operational-Level Supplies

Operational supplies are theater stocks positioned to replenish tactical stocks, when strategic replenishment is not feasible.

3. Strategic-Level Supplies

Strategic supplies are items under the control of strategic managers and are available for worldwide materiel release. These supplies are considered inventory in motion and part of the distribution system.

Supply operations with total asset visibility enablers merge the tactical, operational, and strategic levels into a seamless supply system. The automated management systems allow units to place their requests and assists sustainment units in providing responsive support in a timely manner.

While munitions is a class of supply, it is unique due to the complexities of activities associated with its handling. Munitions are a dominant factor in determining the outcome of full spectrum operations. Munitions provide the means to defeat and destroy the enemy. Planning munitions support is considered and synchronized from strategic to tactical levels. The results of planning and integrating munitions operations is to ensure munitions arrive in the right quantities and proper types where and when needed.

Classes of Supply

Ref: ADRP 1-02, *Operational Terms and Military Symbols* (Aug '12), p. 8-10.

The Army divides supply into ten classes for administrative and management purposes.

Class I		Subsistence, including health and welfare items.
Class II		Clothing, individual equipment, tentage, organizational tool sets and kits, hand tools, administrative and housekeeping supplies and equipment (including maps).
Class III		POL, petroleum and solid fuels, including bulk and packaged fuels, lubricating oils and lubricants, petroleum specialty products; solid fuels, coal, and related products.
Class IV		Construction materials, to include installed equipment and all fortification/barrier materials.
Class V		Ammunition of all types (including chemical, radiological, and special weapons), bombs, explosives, mines, fuses, detonators, pyrotechnics, missiles, rockets, propellants, associated items.
Class VI		Personal demand items (nonmilitary sales items).
Class VII		Major items: A final combination of end products which is ready for its intended use.
Class VIII		Medical material, including medical peculiar repair parts.
Class IX		Repair parts and components, including kits, assemblies and subassemblies, reparable and non-reparable, required for maintenance support of all equipment.
Class X		Material to support nonmilitary programs; such as, agricultural and economic development, not included in Class I through Class IX.

Supply in Tactical Operations

Ref: FM 10-27-4, *Organizational Supply and Services for Unit Leaders* (Apr '00), chap. 5.

Organizational supply procedures are different in garrison than in a deployed situation. Procedures during tactical operations can vary based on the type of environment. Each class of supply may require different quantities or type depending on the environment where the unit is deployed. This section outlines differences in supply procedures and how environmental differences can change quantities and amounts of the differing classes of supply.

Night Operations

Night operations affect the resupply of all classes of supply, especially Classes I and III. Class I supply points and field kitchens must operate at night. Night vehicle use tends to increase idling and use of lower gears, thus increasing POL requirements. As a rule, demand increases for luminous paint and tape, engineer tape and stakes, shelters, night vision devices, flashlights, all batteries, infrared filters, redlens goggles, replacement bulbs, and chemical light sticks.

Nuclear, Biological, or Chemical Warfare

Under conditions of NBC warfare, weather, terrain, and weapons all impact supply operations. Commanders should use terrain for cover and concealment and to disperse the force. They should maintain sufficient stocks of NBC detection supplies, MOPP suits, water, and decontamination equipment. The rate of decontamination varies with time and the weather. Weather factors include precipitation, humidity, wind, and sunlight. Requirements for Classes I, II, VI, VIII, and water are much less predictable than usual. More petroleum, especially JP8, is consumed. More time is needed for LOGPAC resupply, casualty treatment, and on-site repairs. Enemy use of NBC weapons increases delousing and maintenance requirements and the need for Class IX. Contamination may render equipment and supplies temporarily or permanently unusable.

Jungle Operations

Jungle operations are affected by terrain, weather, and vegetation. Traffic and security problems increase. The transportation network may require resupply by pack animals, human portage, helicopters, and airdrop. US forces in jungle operations may be at the end of a long line of communication. Logistics operations must be done as far forward as possible to take advantage of the security offered by combat units, to cut road movement, and to reduce response time. Unit distribution is the norm. High temperature, humidity, and rainfall cause rapid rusting of weapons and equipment; deterioration of clothing, boots, canvas, and rubber items; weakening of batteries; and corrosion of electrical connections. Lenses and dials fog up rapidly. Frequent weapon cleaning and oiling are required. The terrain makes aerial resupply common. Its responsiveness allows combat trains to stock less supplies. Thus, combat trains may consist only of medics, a maintenance element, and emergency resupply of Class III and V supplies. The field trains would have subsistence, POL, vehicles, ammunition, an aid station, maintenance elements, and water purification facilities. Trains should be far enough forward to respond quickly, but still have minimal enemy exposure. However, the predominance of aerial resupply may allow collocation of the combat and field trains in the brigade trains area. All trains should be near landing zones. Field, combat, and company trains should also be close to a road, river, or trail as an alternative LOC. New landing zones and supply routes may have to be constructed to meet these requirements. The prevalence of ambushes, mines, and infiltration requires securing both the supply routes and CSS convoys.

Urban Operations

Urban areas have the advantages of cover, concealment, and adequate road networks. They sometimes have operable utility services, airfields, railroads, waterways, and underground passageways. CSS units should use existing facilities and should be dispersed throughout built-up areas to reduce vulnerability to detection and attack. Urban areas require a greater emphasis on fire protection and security against attack, sabotage, and pilferage of all classes of supply. Communications are hindered by the extremely short range of tactical radios in built-up areas. An increased emphasis is put on unit distribution. Forward delivery of supplies may be more difficult due to refugees. They may be panic-stricken and infiltrated by enemy agents and sympathizers. Obstacles, rubble, mines, snipers, and ambushes may also hinder the forward delivery of supplies. Enemy capabilities may preclude much forward aerial resupply. Resupply may require using armed convoys, substituting lightly armored vehicles for trucks, and portage by unit personnel.

Desert Operations

The desert provides nothing to sustain and much to hinder a force. Units use more water and fuel. Units move faster and more often in the desert. Also, great distances between units stretch LOC. Thus, requirements for Class III and transportation support increase. Only tactical vehicles may be able to go off the few roads and only with reduced loads. The lack of significant terrain features hinders navigation. Also, the environment leaves trains and supply points exposed to the sun and sandstorms as well as land and air observation and attack. Vulnerability to attack requires wide dispersion. This increases the problems of command and control and security. Minimize stockage levels and off-vehicle stockpiling to enhance mobility.

Cold Weather and Mountain Operations

Weather in mountainous regions is extreme. It varies depending on altitude, storms, and wind exposure. Fog clouds that can severely reduce visibility and mobility are common. Rain, snow, and ice can hinder operations by obscuring, degrading, blocking, or damaging bridges, roads, and trails. Landslides, flash floods, and avalanches are common. The nature of mountain warfare means that LOC are limited and difficult to maintain and secure. Tactical radios can have reduced operating ranges in mountainous terrain. Airfields, good roads, and railroads are not always readily available. A footpath may have to substitute for a good road. Mountainous terrain and weather constrain CSS units. At the same time, they offer enemy airmobile and infiltration forces opportunities to attack, ambush, mine, and set up roadblocks on supply routes. Thus, CSS units may have to enhance their mobility and dispersion while aggravating their command and control and local security difficulties. Therefore, they should emphasize security and move support as far forward as possible. Throughput distribution using aerial resupply is the preferred method of distribution in mountainous terrain. Heavy wheeled vehicles with tractor trailers can rarely negotiate narrow, unimproved, mountain roads or move cross-country over rugged terrain. The various classes of supply are affected differently by cold weather.



Army doctrine addresses five regional environments: desert, cold, temperate, mountain, and jungle. Another area of special consideration involves urban areas. Refer to The Small Unit Tactics SMARTbook, 2nd Rev. Ed. (Leader's Reference Guide to Conducting Tactical Operations) for discussion of these urban and regional environments. Topics include tactical mission fundamentals, stability & counterinsurgency operations, tactical enabling operations, special purpose attacks, urban operations & fortifications, and patrols & patrolling.

Ammunition Support

The ASCC has overall responsibility for in-theater receipts, accountability, and management of munitions stocks. The ASCC is also responsible for establishing a Theater Support Area and Ammunition Supply Points (ASPs). It is also responsible for coordinating distribution between storage sites, forward Ammunition Transfer and Holding Point (ATHP), and direct issue to using units on an area support basis.

- **Ammunition Supply Point (ASP).** The ASP is run by an ordnance company assigned to a sustainment brigade. ASPs receive, store, issue, and maintain a one- to three-day supply of ammunition to meet a routine surge and emergency requirements for supported units. ASP stockage levels are based on tactical plans, availability of ammunition, and the threat to the supply operations.
- **Ammunition Transfer and Holding Point (ATHP).** ATHPs are the most mobile and responsive of all ASAs. Each BCT and selected support brigades are authorized an ATHP. It is located within the brigade support area (BSA) and is manned and operated by the ATHP section of the BSB distribution company.

Refer to FM 4-30.13 for more details of munitions support.

D. Field Services

Field services maintain combat strength of the force by providing for its basic needs and promoting its health, welfare, morale, and endurance. Field services provide life support functions.

1. Shower and Laundry

Shower and laundry capabilities provide Soldiers a minimum of one weekly shower and up to 15 pounds of laundered clothing each week (comprising two uniform sets, undergarments, socks, and two towels). The shower and laundry function does not include laundry decontamination support.

2. Field Feeding

Food preparation is a basic unit function and one of the most important factors in Soldiers' health, morale, and welfare. The standard is to provide Soldiers at all echelons three quality meals per day (AR 30-22). Proper refuse and waste disposal is important to avoid unit signature trails and maintain field sanitation standards.

3. Water Production and Distribution

Water production and distribution are essential for hydration, sanitation, food preparation, medical treatment, hygiene, construction, and decontamination. The water production is both a field service and a supply function. Quartermaster supply units normally perform purification in conjunction with storage and distribution of potable water.

4. Clothing and Light Textile Repair

Clothing and light textile repair is essential for hygiene, discipline, and morale purposes. Clean, serviceable clothing is provided as far forward as the brigade area.

5. Aerial Delivery

Aerial delivery includes parachute packing, air item maintenance, and rigging of supplies and equipment. This function supports airborne insertions, airdrop and air-land resupply. It is a vital link in the distribution system and provides the capability of supplying the force even when land LOCs have been disrupted or terrain is too hostile, thus adding flexibility to the distribution system. *Refer to FM 4-20.41 for details.*

6. Mortuary Affairs

Mortuary affairs is a broadly based military program to provide for the necessary care and disposition of deceased personnel. The Army is designated as the Executive Agent for the Joint Mortuary Affairs Program (JP 4-06, Mortuary Affairs).

E. Distribution

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 3-16 to 3-18.

Distribution is the primary means to prolong endurance. Distribution is the operational process of synchronizing all elements of the logistic system to deliver the “right things” to the “right place” at the “right time” to support the geographic combatant commander. Additionally, it is also the process of assigning military personnel to activities, units, or billets (JP 4-0).

The distribution system consists of a complex of facilities, installations, methods, and procedures designed to receive, store, maintain, distribute, manage, and control the flow of military materiel between point of receipt into the military system and point of issue to using activities and units.

See following pages (pp. 1-52 to 1-53) for discussion of the principles of distribution.

Global Distribution

The Joint segment of the distribution system is referred to as global distribution. It is defined as the process that synchronizes and integrates the fulfillment of joint requirements with the employment of joint forces (JP 4-09). It provides national resources (personnel and materiel) to support the execution of joint operations.

Theater Distribution

The Army segment of the distribution system is referred to as theater distribution. Theater distribution is the flow of equipment, personnel, and materiel within theater to meet the CCDR's mission. The theater segment extends from the ports of debarkation or source of supply (in theater) to the points of need (Soldier). It is enabled by a distribution management system synchronizes and coordinates a complex of networks (physical, communications, information, and resources) and the sustainment war fighting function to achieve responsive support to operational requirements. Distribution management includes the management of transportation and movement control, warehousing, inventory control, order administration, site and location analysis, packaging, data processing, accountability for equipment (materiel management), people, and communications. See ATPP 4-0.1, Army Theater Distribution for details.

The distribution management of medical materiel is accomplished by a support team from the Medical Logistics Management Center (MLMC). The MLMC support team collocates with the DMC of the TSC/ESC to provide the MEDCOM (DS) with visibility and control of all Class VIII.

In-transit visibility is the ability to track the identity, status, and location of DOD units, and non-unit cargo (excluding bulk petroleum, oils, and lubricants) and passengers; patients and personal property from origin to consignee, or destination across the range of military operations (JP 3-35). This includes force tracking and visibility of convoys, containers/pallets, transportation assets, other cargo, and distribution resources within the activities of a distribution node.

Another aspect of distribution is **retrograde of materiel**. Retrograde of materiel is the return of materiel from the owning/using unit back through the distribution system to the source of supply, directed ship-to location, and/or point of disposal (ATPP 4-0.1). Retrograde includes turn-in/classification, preparation, packing, transporting, and shipping. To ensure these functions are properly executed, commanders must enforce supply accountability and discipline and utilize the proper packing materials. Retrograde of materiel can take place as part of theater distribution operations and as part of redeployment operations. Retrograde of materiel must be continuous and not be allowed to build up at supply points/nodes.

Early retrograde planning is essential and necessary to preclude the loss of materiel assets, minimize environmental impact, and maximize use of transportation capabilities. Planners must consider environmental issues when retrograding hazardous materiel.

Principles of Theater Distribution

Ref: ATTP 4-0.1 (FM 100-10-1), *Army Theater Distribution* (May '11), pp. 1-2 to 1-5.

Distribution is the operational process of synchronizing all elements of the logistics system to deliver the right things to the right place at the right time to support the combatant commander. It also delivers the 'right quantity' as determined by logisticians in synchronization with operational commanders and mission of the force. The distribution system is a combination of four networks (physical, financial, information, and communication) that must be managed and synchronized and tailored to meet the theater requirements across an area of operations.

The principles of distribution include centralized management, optimized infrastructure; maximized throughput; minimized handling; rapid and precise response; continuous, seamless, two-way flow of resources; and time definite delivery. All of these principles rely upon solid property accountability as a leadership function. Property accountability gives the visibility needed to make distribution possible. Commanders, logistics planners, and distribution managers must understand each of these principles and consider how they are applied when developing strategic, operational, and tactical plans.

See also p. 1-36 for related discussion of distribution.

Centralized Management

Centralizing management of the theater distribution system ensures a unity of effort between the supply and transportation systems that are essential to efficient and effective distribution operations. A most important aspect of centralizing theater distribution is designating who is in charge. The deployment and distribution operations center (DDOC), which is an element of United States Transportation Command (USTRANSCOM), provides centralized management of distribution across the strategic level. It provides the GCC's joint deployment and distribution operations center (JDDOC) with centralized management of critical information concerning sustainment movement through the strategic to theater pipeline. The Distribution Management Center (DMC) of the Theater Sustainment Command (TSC) and the Expeditionary Sustainment Command (ESC) provide centralized management of the distribution system across the theater (operational to tactical). The JDDOC interacts with the TSC/ESC DMC to provide the information needed to coordinate and synchronize the theater distribution pipeline. The JDDOC may be colocated with the TSC/ESC DMC to effectively provide and synchronize the distribution pipeline from source to point of need. Fundamental to centralized management are the elements control, visibility, and capacity.

- **Control.** Control of the distribution system is the focal point of centralized management. The distribution manager exercises control through the identification of shipments and the monitoring of their location as shipments move through the distribution system. The DMC located within the TSC/ESC controls the movement of resources in accordance with the commander's intent.
- **Visibility.** Visibility is the tracking of forces and commodities moving within the distribution system. It provides commanders with a positive control over the flow of materiel, including arrival and departure of unit personnel, equipment, and all cargo at all nodes, from origin to destination on all modes. The four categories of visibility are—in-process, in-storage, in-transit, and in-theater.
- **Capacity.** Capacity is the measure of personnel and materiel that can move through the distribution system and the capability of the infrastructure to support a two-way flow of forces and materiel.

Optimized Infrastructure

Optimizing the theater infrastructure (roads, railways, waterways, structures, seaports, airports and open staging areas, other structures, distribution nodes, and warehouses)

means synchronizing the movement of forces and materiel moving over or through the existing infrastructure. In optimizing infrastructure planners must maintain a balance between distribution capability and the infrastructure capacity to support operations. The available vehicles (air, ground, and watercraft), sustainment units and personnel (Army and contractor), and assets (physical and organizational) affect distribution system optimization. This allows distribution managers to divert, reallocate, or acquire physical capabilities to meet changing operational, environmental, and location requirements.

Maximized Throughput

Throughput is defined as bypassing one or more nodes in the distribution system to minimize handling and increase speed of delivery. An efficient distribution system maximizes tonnage, minimizes handling, and improves velocity using containerization, pallets and flatracks. Velocity is achieved by the throughput of commodities from the sustaining base to tactical-level support organizations. The delivery of requested materiel and personnel to forces on the move requires integrated communications and tracking.

Minimized Handling

This principle stipulates that the theater distribution system deliver sustainment with minimal handling. Logistic planners should anticipate points of congestion and look for ways to minimize the handling of materiel. The distribution system should be designed to focus on minimal handling of sustainment.

Rapid and Precise Response

Rapid and precise response is the ability to meet requirements of the constantly changing operational environment. This includes meeting the customer's minimal requirements without disrupting mission-essential operations. The effectiveness of distribution can be measured by assessing the following attributes, or key performance indicators:

- **Speed is at the core of responsiveness.** Speed does not mean everything moves at the same rate or fastest rate, but everything moves according to priority at the rate that produces the most effective support to the force.
- **Reliability** is reflected in the dependability of the global providers to deliver required support when promised. Reliability is characterized by a high degree of predictability, or time-definite delivery of support.
- **Efficiency** is directly related to the amount of resources required to deliver a specific outcome. In the tactical and operational environments, inefficiency increases the logistic footprint and increases personnel protection requirements and risk.

Continuous, Seamless, Two-Way Flow of Resources

The principle of continuous and seamless pipeline two-way flow of resources describes the flow sustainment materiel and retrograde cargo between the strategic, operational, and tactical levels. It ensures transportation assets are maximized in the delivery of sustainment and in support of retrograde and redeployment activities. It provides that all nodes and modes are operating effectively. To accomplish this, logistics operators and planners continuously monitor the distribution system and make adjustments as required. Logistics operators provide valuable feedback on distribution system operations and provide insight to planners as to what is happening on the ground.

Time-Definite Delivery (TDD)

Time-definite delivery is the consistent delivery of requested logistic support at a time and specified destination. Time definite delivery is ensuring commanders receive the right materiel at the required location, in the right quantity, and within the required time-frame. It is based on the distribution managers and logistic planners anticipating needs to support operational requirements. To achieve TDD, logistic planners must link materiel to those available resources that will deliver them within the required time. Time definite delivery reinforces commander's confidence in the ability of the logistic system to support operational requirements and eliminate the need for stockpiled materiel.

F. Operational Contract Support

Operational contract support is the integration of commercial sector support into military operations. Operational contract support consists of two complementary functions: contract support integration and contractor management. Operational contract support has three types of contract support: theater support, external support, and systems support.

See facing page for discussion of the types of operational contract support.

Contract Support Integration

Contract support integration is the process of synchronizing operational planning, requirements development and contracting in support of deployed military forces and other designated organizations in the area of operations (ATTP 4-10). The desired end state of contract support integration actions include:

- Increased effectiveness, efficiencies, and cost savings of the contracting effort
- Increased visibility and control of contracting functions
- Minimized competition for scarce commercial resources
- Increased ability for the Army force commander to enforce priorities of support
- Decreased and/or mitigated contract fraud
- Limiting sole source (vice competitively awarded) and cost-plus contracts (vice fixed price) as much as practical
- Enhanced command operational flexibility through alternative sources of support

Contractor Management

Contractor management is the process of managing and integrating contractor personnel and their equipment into military operations (ATTP 4-10). Contractor management includes planning and deployment/redeployment preparation; in-theater management; force protection and security; and executing government support requirements. Integrating the two related operational contract support functions is a complex and challenging process. Multiple organizations are involved in this process including commanders, their primary/special staffs (at the ASCC down to, and including, battalion levels) and the supporting contracting organizations.

G. General Engineering Support

The Army has a broad range of diverse engineer capabilities, which commanders can use to perform various tasks for various purposes. One such purpose is to provide support that helps ground force commanders enable logistics. To accomplish this purpose, engineers combine and apply capabilities from all three engineer disciplines (combat, general, and geospatial engineering) to establish and maintain the infrastructure necessary for sustaining military operations in the AO. This involves primarily general engineering tasks that consist largely of building, repairing, and maintaining roads, bridges, airfields, and other structures and facilities needed for APODs, SPODs, main supply routes, and base camps. Depending on the range of military operations, other tasks include the planning, acquisition, management, remediation and disposition of real estate, supplying mobile electric power, utilities and waste management, environmental support and firefighting.

Although engineering tasks that help enable logistics are primarily considered general engineering tasks, engineers also use capabilities from the other engineer disciplines to enable logistics. Similarly, although general engineering tasks are often used to enable logistics, engineers also use capabilities from the general engineering discipline for other purposes and to support other war fighting functions.

See following page (p. 1-56) for further discussion.

Types of Operational Contract Support

Ref: ADRP 4-0, Sustainment (Jul '12), p..4-6

There are three types of operational contract support: theater support contracts, external support contracts, and system support contract.

Theater Support Contracts

Theater support contracts are a type of contingency contract awarded by contracting officers deployed to the AO serving under the direct contracting authority of the designated head of contracting activity for that particular contingency operation. These contracts, often executed under expedited contracting authority (e.g. reduced time frames for posting of contract solicitations; allowing for simplified acquisition procedures for higher dollar contracts, etc.), provide goods, services, and minor construction from commercial sources, normally within the AO. Also important from a contractor management perspective are local national employees that often make up the bulk of the theater support contract workforce.

External Support Contracts

External support contracts are awarded by contracting organizations whose contracting authority does not derive directly from the theater support contracting head(s) of contracting activity or from systems support contracting authorities. External support contracts provide a variety of logistics and other non combat related services and supply support. External support contracts normally include a mix of U. S. citizens, host nation, and local national contractor employees. Examples of external support contracts are:

- Service (Air Force, Army and Navy) civil augmentation programs
- Special skills contract (e.g. staff augmentation, linguists, etc.)
- Defense Logistics Agency prime vendor contract

The largest and most commonly known external support contract is the Army's LOGCAP. LOGCAP can provide a complete range of logistics services, including supply services (e.g. storage, warehousing, distribution, etc.) for the 9 classes of supplies, but the Services source the actual commodities. LOGCAP does not provide personal services type contracts.

System Support Contracts

System support contracts are prearranged contracts awarded by and funded by acquisition PEOs and project/product management officers. These contracts provide technical support, maintenance support and, in some cases, Class IX support for a variety of Army weapon and support systems. Systems support contracts are routinely put in place to provide support to newly fielded weapon systems, including aircraft, land combat vehicles and automated command and control information systems. Systems support contracting authority and contract management resides with the Army Contracting Command, while program management authority and responsibility for requirements development and validation resides with the system materiel acquisition program executive officers and project/product management offices. The AFSB assists in systems support integration. Systems support contractor employees, made up mostly of U.S. citizens, provide support both in garrison and in contingency operations. Operational commanders generally have less influence on the execution of systems support contracts than other types of contracted support.

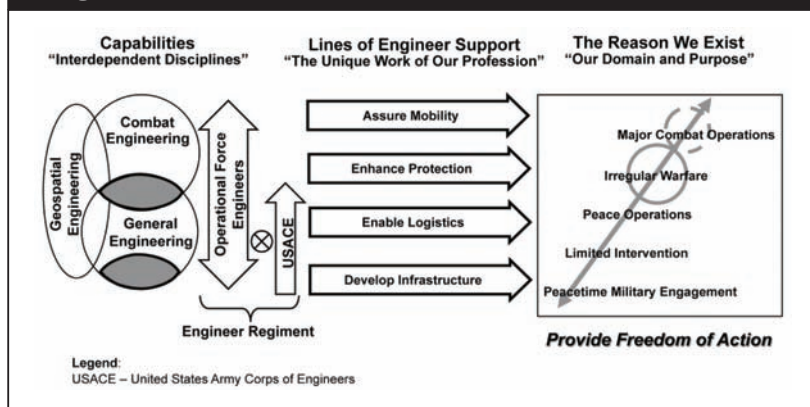
For more information on operational contract support refer to ATP 4-10 and JP 4-10.

General Engineering

Ref: FM 3-34, *Engineer Operations* (Aug '11).

The Army has a broad range of diverse engineer capabilities, requiring many different types of units, personnel, and equipment. These capabilities are grouped together into three engineer disciplines. Engineer disciplines are the interdependent areas of expertise within the Engineer Regiment. The three engineer disciplines are combat, general, and geospatial engineering. (Joint doctrine refers to these as engineer functions.) The engineer disciplines are interdependent, each one focused on capabilities that support, or are supported by, the other disciplines.

Engineer Framework



Ref: FM 3-34, *Engineer Regiment*, fig. 1, p. vii.

General engineering is the engineer discipline that is focused on affecting terrain while not in close support to maneuver forces. General engineering is distinguished from geospatial engineering by its focus on affecting terrain (rather than improving understanding about terrain). General engineering is distinguished from combat engineering by its focus on conditions other than close support to maneuver forces. Tasks that are most frequently performed under general engineering conditions include the construction, repair, maintenance, and operation of infrastructure, facilities, LOCs, and bases; protection of natural and cultural resources; terrain modification and repair; selected EH activities; and environmental activities. These are the primary focus for general engineer units.

General engineer units can also conduct mobility, countermobility, and survivability operations, when not under combat engineering conditions. Although organized, manned, equipped, and trained to perform their tasks in combat, they are not organized, manned, equipped, and trained to do so while in close support to maneuver forces that are in close combat. General engineer units are not designed to perform as combat engineers without significant augmentation and training.

For more information on general engineering, see FM 3-34.400.



Refer to *The Army Operations & Doctrine SMARTbook, 5th Rev. Ed. (Doctrine 2015 Guide to Unified Land Operations and the Six Warfighting Functions)* for complete discussion of the engineer disciplines, lines of engineer support, and "mobility and countermobility" as part of the movement and maneuver warfighting function.

(III. Elements of Sustainment)

B. Personnel Services

Ref: ADRP 4-0, *Sustainment* (Jul '12), pp. 4-6 to 4-11.

Personnel services relate to personnel welfare (i.e. readiness, quality of life) and economic power. Personnel services facilitate the Army's capability to achieve endurance. Personnel services include: human resources, financial management, legal, religious, and band support.

Personnel Services



Human Resources (HR) Support (*FM 1-0*)



Financial Management (FM) (*FM 1-0*)



Legal Support (*FM 1-04*)



Religious Services (*FM 1-05*)



Band Support (*ATTP 1-19*)

Ref: ADRP 4-0, *Sustainment*, chap. 4.

A. Human Resources Support

Human resources support maximizes operational effectiveness and facilitates support to Soldiers, their families, Department of Defense civilians, and contractors authorized to accompany the force. Human resources support includes personnel readiness management; personnel accountability; strength reporting; personnel information management; casualty operations; essential personnel services, band support, postal operations; reception, replacement, return-to-duty, rest and recuperation, and redeployment operations; morale, welfare, and recreation (MWR); and human resource planning and staff operations.

See p. 1-59 for an overview of the principles of personnel services, and p. 1-60 for an overview of human resources support from FM 1-0.

1. Personnel Accountability

Personnel accountability is the process for recording by-name data on Soldiers, Department of the Army civilians, and contractors when they arrive and depart from units; when their location or duty status changes (such as from duty to hospital); or when their grade changes. These activities include the reception of personnel, the assignment and tracking of replacements, return-to-duty, rest and recuperation, and redeployment operations.

2. Strength Reporting

Strength reporting is a numerical end product of the accounting process, achieved by comparing the by-name data obtained during the personnel accountability process (faces) against specified authorizations (spaces or in some cases requirements) to determine a percentage of fill. Strength reporting relies on timely, accurate, and complete personnel information into the database of record. It is a command function conducted by the G1/S1 to enable them to provide a method of measuring the effectiveness of combat power.

3. Personnel Information Management

Personnel information management encompasses the collecting, processing, storing, displaying, and disseminating of information about Soldiers, units, and civilians. Personnel information management is the foundation for conducting or executing all human resources functions and tasks.

4. Personnel Readiness Management

Personnel readiness management involves analyzing personnel strength data to determine current combat capabilities, projecting future requirements, and assessing conditions of individual readiness. Personnel readiness management is directly inter-related and interdependent upon the functions of personnel accountability, strength reporting, and personnel information management.

5. Casualty Operations Management

The casualty operations management process includes the recording, reporting, verifying, and processing of information from unit level to HQ, Department of the Army. The process collects casualty information from multiple sources and then collates, analyzes, and determines the appropriate action.

6. Essential Personnel Services

Essential personnel services provide Soldiers and units timely and accurate personnel services that efficiently update Soldier status, readiness and quality of life. It allows the Army leadership to effectively manage the force, including actions supporting individual career advancement and development, proper identification documents for security and benefits entitlements, recognition of achievements, and service. It also includes personal actions such as personnel support.

7. Personnel Support

Personnel support encompasses command interest/human resources programs, MWR, and retention functions. Personnel support also includes substance abuse and prevention programs, enhances unit cohesion, and sustains the morale of the force.

8. Postal Operations

The Military Postal Service serves as an extension of the U.S. Postal Services; therefore, its services are regulated by public law and federal regulation. Postal operations require significant logistics and planning for air and ground transportation, specialized equipment, secured facilities, palletization crews, and mail handlers.

9. Morale, Welfare, and Recreation and Community Support

Morale, welfare, and recreation (MWR) and community support provide Soldiers, Army civilians, and other authorized personnel with recreational and fitness activities, goods, and services. The morale, welfare, and recreation support network provides unit recreation, library books, sports programs, and rest areas for brigade-sized and larger units. Community support programs include the American Red Cross, Army Air Force Exchange System, and family support system. They capital-

Principles of Personnel Services

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 1-4 to 1-5.

The principles of personnel services guide the functions for maintaining Soldier and Family support, establishing morale and welfare, funding the force, and enforcing the rules of law. In addition to the principles of sustainment, the following principles are unique to personnel services:

Principles of Personnel Services

1. Synchronization
2. Timeliness
3. Stewardship
4. Accuracy
5. Consistency

1. Synchronization

Synchronization is ensuring personnel services are effectively aligned with military actions in time, space, and purpose to produce maximum relative readiness and operational capabilities at a decisive place and time. It includes ensuring that personnel services are synchronized with the operations process: plan, prepare, execute, and assess.

2. Timeliness

Timeliness ensures decision makers have an access to relevant personnel services information and analysis that support current and future operations. It also supports a near real-time common operational picture across all echelons of support.

3. Stewardship

Stewardship is the careful and responsible management of resources entrusted to the government in order to execute responsible governance. Stewardship most closely relates to financial management operations. The Department of Defense (DOD) is entrusted by the American people as a steward of vital resources (funds, people, material, land, and facilities) provided to defend the nation (JP 1-06, Financial Management Support in Joint Operations). The Army operates under the mandate to use all available resources in the most effective and efficient means possible to support the CCDR. Good stewardship requires the availability of timely and accurate financial information to facilitate sound decision making and ensures that resources are used in compliance with existing statutory and regulatory guidance.

4. Accuracy

Accuracy of information impacts the decisions made by commanders and also Soldiers and their Families. For Soldiers, accurate information impacts their careers, retention, compensation, promotions, and general well being. For Family members, accuracy of information is critical for next of kin (NOK) notification. Personnel services providers must understand the dynamic nature of a system's architecture and the fact that data input at the lowest level has direct impact on decisions being made at the highest level.

5. Consistency

Consistency involves providing uniform and compatible guidance and support to forces across all levels of operations. Providers of personnel services must coordinate with the appropriate DOD organizations, governmental organizations and Services to ensure uniformity of support. For example, in financial management consistency is essential for making appropriate provisions for pay support and services, establishing banking and currency support, payment of travel entitlements and cash operations to support the procurement process (JP 1-06).

Human Resources (HR) Support

Ref: FM 1-0, Human Resources Support (Apr '10), chap. 1.

The HR community has undergone significant transformation in the execution and delivery of HR support that enables a greater HR support capacity within the battalion and brigade S-1 section. This transformation provides continuity of service and support to Soldiers whether they are deployed or at home station. This increased capacity allows for decentralized execution of HR support and provides higher-level G-1/AGs the ability to focus on planning and analysis and less on the day-to-day management of the force.

HR Objective

The objective of HR support is to maximize operational effectiveness of the total force by anticipating, manning, and sustaining military operations across the full spectrum of conflict. HR support operations accomplishes this by building, generating, and sustaining the force providing combatant commanders the required forces for missions and supporting leaders and Soldiers at all levels. The operational mission determines the relative weight of HR effort among the different HR core competencies in support of unified land operations.

HR providers must understand the fluid nature of Army policies and procedures within the HR domain. As such, they must monitor and implement changes received through Army regulations, Military Personnel messages, All Army Activities messages, Headquarters, Department of the Army (HQDA) G-1 Personnel Policy Guidance (PPG), etc., and understand the intent of these changes in order to best support the force.

Strategic HR Support

Strategic HR support involves the national-level capability to plan, resource, manage, and control the HR management life cycle functions for the Army. It involves integrating HR functions and activities across the Army staff, among the respective components, and among the Services. At the strategic level, the Army G-1, Chief, Army Reserve, and Director, National Guard Bureau (NGB) manages HR support for their respective component. The Assistant Secretary of the Army (Manpower and Reserve Affairs) is responsible for civilian personnel policy and operations. The Army G-1 develops Army policy for all HR systems and functions, while the U.S. Army Human Resources Command (HRC) applies and implements these policies for military personnel. The Installation Management Command (IMCOM), the Family and Morale, Welfare, and Recreation Command (FMWRC), and the Military Postal Service Agency (MPSA) provide strategic support to the Force for Morale, Welfare, and Recreation (MWR) services and postal operations.

Operational and Tactical HR Support

HR policies and procedures developed at the national level translate into action at the operational and tactical levels. FM 7-15, The Army Universal Task List (AUTL), provides a detailed list of tasks at the operational and tactical level.

Joint tasks are contained in the Universal Joint Task List. The Universal Joint Task List is a comprehensive collection of tasks in a common language and serves as the foundation for capabilities-based planning across the range of military operations.

Enduring Principles

HR support uses a competency-based and performance-oriented strategy guided by HR enduring principles that assure a higher quality, more diverse and ready Total Army enabled by effective HR systems and agile policies. HR leaders have a responsibility to not only understand the importance of their efforts and unit mission, but also the missions of all their supported and supporting units. To meet the challenges of current and future operations, leaders are guided by six interdependent enduring principles of HR support that must be thoughtfully weighted and applied during the planning, execution, and assessment of missions.

The six enduring principles of HR support are:

- **Integration.** Integration maximizes efficiency by joining all elements of HR support (tasks, functions, systems, processes, and organizations) with operations ensuring unity of purpose and effort to accomplish the mission.
- **Anticipation.** Anticipation relies on professional judgment resulting from experience, knowledge, education, intelligence, and intuition to foresee events and requirements in order to initiate the appropriate HR support.
- **Responsiveness.** Responsiveness is providing the right support to the right place at the right time. It is the ability to meet ever-changing requirements on short notice and to apply HR support to meet changing circumstances during current and future operations. It involves identifying, accumulating, and maintaining sufficient resources, capabilities, and relevant information to enable commanders to make rapid decisions.
- **Synchronization.** Synchronization is ensuring HR support operations are effectively aligned with military actions in time, space, and purpose to produce maximum relative readiness and operational capabilities at a decisive place and time. It includes ensuring the HR operational process is planned, executed, and assessed.
- **Timeliness.** Timeliness ensures decision makers have access to relevant HR information and analysis that support current and future operations. It also supports a near real-time common operational picture across all echelons of HR support.
- **Accuracy.** Accuracy of information impacts not only on decisions made by commanders, but impacts Soldiers and their Families. For Soldiers, accurate information impacts their careers, retention, compensation, promotions, and general well being. For Family members, accuracy of information is critical for next of kin (NOK) notification if a Soldier becomes a casualty. HR providers must understand the dynamic nature of HR system's architecture and the fact that data input at the lowest level has direct impact on decisions being made at the highest level.

Focus of HR Operations

Meeting the goal of providing efficient and effective HR support relies on multi-functional HR leaders who focus their knowledge and skills in support of the Army's most important asset—its people. Only those who think strategically and work collaboratively, while inspiring and leading Soldiers and civilians can achieve desired outcomes. In all areas, HR personnel should focus on the following:

- **Agile and clear HR policies.** HR policies must be clear, encompassing, and flexible enough to apply to the greatest number of personnel and address the widest range of circumstances. They must be adaptable enough to be able to guide and inform personnel in complex and changeable circumstances
- **Effective HR practices.** HR practices that emanate from the policy-level should be streamlined, intuitive, and able to effect stable and predictable process results.
- **Competency-based skills.** HR personnel must be competent and able to accomplish HR core competencies and key functions. Competencies align the responsibilities, knowledge, skills and attributes needed to fulfill mission requirements.
- **Outcome-oriented actions.** In an environment that measures HR performance, the emphasis is on successful outcomes in fulfillment of mission priorities. While it is important to have effective HR processes and practices in place, it is critical that the ends drive the means.
- **Self development.** Self development is one of three domains of leader development and requires leaders to display discipline and a desire for excellence in lifelong learning. Using assessments, HR leaders must invest the time to become competent and confident in HR operations.

ize on using cellular, e-mail, and video-teleconference technologies to provide links between Soldiers and their Families. Soldiers are also entertained through the latest in visual and audio entertainment over satellite, worldwide web, and virtual reality technologies.

B. Financial Management (FM)

The financial management mission is to ensure that proper financial resources are available to accomplish the mission in accordance with commander's priorities. The financial management mission generates economic power by providing banking and disbursing support, as well as resources to fund the force. This is accomplished by two mutually supporting core functions: finance and resource management operations. See FM 1-06 for additional information on financial management.

1. Finance Operations

The finance operations mission is to support the sustainment of Army, joint, and multinational operations through the execution of key finance operations tasks. These key finance operations tasks are to provide timely commercial vendor services and contractual payments, various pay and disbursing services, oversee and manage the Army's Banking Program and to implement financial management policies and guidance prescribed by the Office of the Under Secretary of Defense (Comptroller) and national providers (e.g., U.S. Treasury, Defense Finance and Accounting Service, Federal Reserve Bank).

- **Banking.** Banking support encompasses financial management activities ranging from currency support of U.S. military operations to liaison with host nation banking officials to strengthen local financial institutions. Other financial management activities within banking support include Limited Depositary selection and Limited Depositary Account establishment, coordination with U.S. embassies, USAFMCOM, DFAS, and Department of the Treasury in order to integrate all agencies in support of banking initiative.
- **Disbursing.** Disbursing is the arm within financial management that ensures all payments are made IAW DOD regulations. It is strongly recommended that all elements of the fiscal triad are co-located to facilitate fiscal communication, accuracy of documentation, and timely payment of goods and services. Disbursing is the paying of public funds to entities in which the U.S. Government is indebted; the collection and deposit of monies; the safeguarding of public funds; and the documenting, recording, and reporting of such transactions (FM 1-06). Disbursements are cash, check, electronic funds transfer, intra-governmental payment and collection system, or inter-fund payments that liquidate established obligations, disburse amounts previously collected into a deposit fund account, or provide payment in advance of performance.
- **Pay Support.** This competency provides for full U.S. pay (including civilian pay where not supported by DFAS); travel support; local and partial payments; check-cashing and currency exchange to Soldiers, civilians and U.S. contractors; and non-U.S. pay support (e.g., enemy prisoner of war, host nation employees, day laborers, civilian internee). Pay support also includes support to noncombatant evacuation operations in the form of travel advances. Financial management units providing pay support must ensure that all Soldiers, regardless of component, receive timely and accurate pay in accordance with existing statutes and regulations.

2. Resource Management

The resource management mission is to analyze resource requirements, ensure commanders are aware of existing resource implications in order for them to make resource informed decisions, and then obtain the necessary funding that allows them to accomplish their mission. Resource management is the critical capability

Principles of Financial Management (FM)

Ref: FM 1-06, *Financial Management Operations* (Apr '11), pp. 1-2 to 1-4.

Similar to sustainment, there are six FM principles: stewardship, synchronization, anticipation, improvisation, simplicity, and consistency. These principles are critical to maintaining combat power, operational reach throughout the levels of war, and the endurance of Army forces. Although independent of one another, these principles must be integrated in the planning and execution of FM operations at the strategic, operational and tactical levels of war.

Stewardship. From an FM perspective, "stewardship" can be defined as the careful and responsible management of those resources entrusted to the government in order to execute responsible governance. The Department of Defense (DOD) is entrusted by the American people as a steward of vital resources (funds, people, material, land, and facilities) provided to defend the nation (JP 1-06, *Financial Management Support in Joint Operations*). The Army operates under the mandate to use all available resources in the most effective and efficient means possible to support the CCDR. Although not mutually exclusive, these two goals – effectiveness and efficiency do not have the same meaning.

Synchronization. Synchronization is the arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time. Synchronization of FM operations requires that FM leaders arrange the placement of FM units and personnel in time, space, and purpose in order to ensure that commanders receive the requisite FM support. In order to achieve synchronization,

Anticipation. Anticipation is the ability of FM leaders to forecast requirements based upon professional judgment honed by experience, knowledge, education, intelligence, and intuition. The ability to anticipate requirements in support of the mission enhances the commander's understanding of the situational context in which his forces operate, and the commander's visualization of his desired end state are key components of battle command.

Improvisation. Improvisation is the ability to adapt operations and plans for FM to changing situations and missions. It includes task organizing FM units in non-traditional formations, submitting fiscal legislative proposals to acquire new fiscal authorities, applying existing financial and communication technologies in new ways, and creating new tactics, techniques and procedures to meet evolving requirements resulting from changes in the OE and consequent modifications to the mission.

Simplicity. Simplicity is defined as the freedom from complexity in the sustainment of operations. This principle speaks to FM processes and procedures and the requirement to minimize complexity in FM functions in order to reduce confusion. Simplicity fosters efficiency in the conduct of FM operations and enhances the effective control of FM support to our forces. Clarity of tasks, standardized and interoperable procedures, and clearly defined command relationships contribute to simplicity. Simplicity facilitates the optimal utilization of resources, while ensuring effective FM support of forces.

Consistency. The principle of consistency involves the provision of consistent FM support and guidance to forces throughout the AO. FM providers must coordinate with the appropriate DOD organizations and other Military Services to ensure the uniform provision of FM support to all forces in theater. This includes making appropriate provisions for pay support and services, establishing banking and currency support, payment of travel entitlements and cash operations to support the procurement process (JP 1-06). Consistent FM guidance requires involvement in the running estimate process and the command's requirements board's process, developing FM appendices to OPLANS, and close coordination among FM units within theater.

within the financial management competency that matches legal and appropriate sources of funds with thoroughly vetted and validated requirements. Key resource management tasks are providing advice and recommendations to the commander, identifying sources of funds, forecasting, capturing, analyzing and managing costs; acquiring funds, distributing and controlling funds; tracking costs and obligations; establishing and managing reimbursement processes; and establishing and managing the Army Managers' Internal Control Program.

C. Legal Support

The Office of the Staff Judge Advocate participates in actions related to mission command of its subordinates (ADP 6-0). The Office of the Staff Judge Advocate's command and staff functions include advising commanders, their staffs, and Soldiers on the six core legal disciplines: military justice, international and operational law, contracts and fiscal law, administrative and civil law, claims, and legal assistance. *See facing page for further discussion. For additional information on legal support refer to FM 1-04.*

D. Religious Support

Religious support facilitates the Soldier's right to the free exercise of religion, provides religious activities that support resiliency efforts to sustain Soldiers, and advises commands on matters of religion, morals, morale, and their impact on military operation). As chaplain sections and unit ministry teams, Chaplains and Chaplain Assistants provide and perform religious support in the Army. Three core competencies provide the fundamental direction as the Chaplain Corps executes its mission through nurturing the living, caring for the wounded, and honoring the dead.

See following page (1-66) for a discussion of unified action and religious support. Refer to FM 1-05 for further discussion.

1. Nurture the Living

In preparation for and during the execution of missions, unit ministry teams develop and execute a religious support plan that seeks to strengthen and sustain the resilience of Soldiers and Family members. Unit ministry teams also provide religious support, care, comfort, and hope to the living.

2. Caring for the Wounded

Unit ministry teams bring hope and strength to those who have been wounded and traumatized in body, mind, and spirit, by assisting in the healing process. Through prayer and presence, the unit ministry teams provide the Soldier with courage and comfort in the face of death.

3. Honoring the Dead

Our nation reveres those who have died in military service. Religious support honors the dead. Memorial ceremonies, services, and funerals reflect the emphasis the American people place on the worth and value of the individual. Chaplains conduct these services and ceremonies, fulfilling a vital role in rendering tribute to America's sons and daughters who paid the ultimate price serving the nation in the defense of freedom.

E. Band Support

Army bands provide support to the force by tailoring music support throughout military operations. Music instills in Soldiers the will to fight and win, fosters the support of our citizens, and promotes America's interests at home and abroad. Music serves as a useful tool to reinforce relations with host nation populations and favorably shapes the civil situation throughout the peace building process. Inherently capable of providing a climate for international relations, bands serve as ambassadors in multi-national operations or to the host nation population.

Refer to FM 1-0 and ATP 1-19 for further discussion.

Legal Support

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 4-9 to 4-10.

Military Justice. Military justice is the administration of the Uniform Code of Military Justice (FM 1-04). The purpose of military justice, as a part of military law, is “to promote justice, to assist in maintaining good order and discipline in the armed forces, to promote efficiency and effectiveness in the military establishment, and thereby to strengthen the national security of the United States.” Military justice (Preamble, Manual for Courts-Martial, 2008). The Judge Advocate General is responsible for the overall supervision and administration of military justice within the Army. Commanders are responsible for the administration of military justice in their units and must communicate directly with their servicing Staff Judge Advocate about military justice matters (AR 27-10).

International and Operational Law. International law is the application of international agreements, U.S. and international law, and customs related to military operations and activities (FM 1-04). The practice of international law includes the interpretation and application of foreign law, comparative law, martial law, and domestic law affecting overseas activities, intelligence, security assistance, counter-drug, operations with a stability focus, and rule of law activities. Operational law is that body of domestic, foreign, and international law that directly affects the conduct of military operations (FM 1-04). Operational law encompasses the law of war, but goes beyond the traditional international law concerns to incorporate all relevant aspects of military law that affect the conduct of operations.

Administrative and Civil Law. Administrative and civil law is the body of law containing the statutes, regulations, and judicial decisions that govern the establishment, functioning, and command of military organizations (FM 1-04). The practice of administrative law includes advice to commanders and litigation on behalf of the Army involving many specialized legal areas, including military personnel law, government information practices, investigations, relationships with private organizations, labor relations, civilian employment law, military installations, regulatory law, intellectual property law, and government ethics.

Contract and Fiscal Law. Contract law is the application of domestic and international law to the acquisition of goods, services, and construction (FM 1-04). The practice of contract law includes battlefield acquisition, contingency contracting, bid protests and contract dispute litigation, procurement fraud oversight, commercial activities, and acquisition and cross-servicing agreements. Fiscal law is the application of domestic statutes and regulations to the funding of military operations and support to non-federal agencies and organizations (FM 1-04).

Claims. The Army claims program investigates, processes, adjudicates, and settles claims on behalf of and against the United States world-wide under the authority conferred by statutes, regulations, international and interagency agreements, and DOD Directives. The claims program supports commanders by preventing distractions to the operation from claimants, promoting the morale of Army personnel by compensating them for property damage suffered incident to service, and promoting good will with the local population by providing compensation for personal injury or property damage caused by Army or DOD personnel.

Legal Assistance. Legal assistance is the provision of personal civil legal services to Soldiers, their dependents, and other eligible personnel (FM 1-04). The mission of the Army Legal Assistance Program is to assist those eligible for legal assistance with their personal legal affairs quickly and professionally. The program assists eligible people by meeting their needs for help and information on legal matters and resolving their personal legal problems whenever possible. The legal assistance mission ensures that Soldiers have their personal legal affairs in order before deploying.

Unified Action and Religious Support

Ref: FM 1-05, *Religious Support* (Oct '12), pp. 2-3 to 2-4.

Army operations plan to integrate **joint, multinational, and interagency capabilities** and religious support needs. Additional requirements may include regional and multinational support and cooperation. Stability and DSCA operations involve legal, cultural, demographic, and physical environmental factors adding to the fog of war. Events of a humanitarian crisis, natural disaster, and ethnic and religious conflicts offer even more deliberate religious planning considerations and demand more nuanced responses. When directed, chaplains consider the ramifications of delivering religious support with the cultural and social behaviors in these complex and ambiguous environments.

Interagency coordination occurs between agencies of the U.S. government, including the DOD, for the purpose of accomplishing a mission. Interagency relationships and activities are part of any unified action. In such operations, federal government agencies other than the DOD may have the mission lead (such as in a DSCA operation). In fact, the DOD may be only called upon in a supporting capacity in some operations, particularly those involving foreign humanitarian aid or homeland security. Interagency capabilities supplement military activities to facilitate solving strategic challenges; however, these agencies may lack chaplain support. The presence of these agency partners may increase demand on RS resources. A key consideration in the interagency environment is the communication of expectations and the detailed alignment of capabilities with resources and authority. Religious support in interagency operations requires initiative, appropriate authorization and sensitivity to the religious needs of non-DOD civilians while remaining fully committed to unit responsibilities and Soldiers. Success in interagency religious support requires clear command guidance and restraints, reasonable expectations, and a genuine spirit of teamwork and respect. The greatest of these challenges will be initial contact, continuous coordination, and visibility. Chaplains and chaplain assistants make early contact with appropriate agency leaders and continually coordinate actions with Army leaders.

An **intergovernmental organization (IGO)** is created by a formal agreement (a treaty) between two or more governments and is formed to protect and promote national interests shared by member states. They may be established on a global, regional, or functional basis. Examples of IGOs include the United Nations, the North Atlantic Treaty Organization (NATO), and the African Union. IGOs have defined structures, roles, responsibilities, and resources and expertise to participate in unified action. IGO relationships and operations allow the U.S. forces to operate from a force projection base without extensive forward deployed footprints to meet regional challenges. Often religious support in IGOs encounters challenges of communicating with representatives from other governments, ameliorating national religious prejudices, not creating the appearance of sanctioning a particular religion, interoperability, mutual cooperation, and relationship building. All religious affairs activities that occur in the context of IGOs are directed by and coordinated through the combatant command or joint force command of the theater.

Multinational operations describe military actions conducted by forces of two or more nations working together to achieve the same mission objective. NATO is one organization that participates on many levels of multinational operations. Each country approaches the American concepts of religious toleration and free exercise differently. Again, all religious affairs activities that occur in the context of multinational operations are directed and coordinated through the combatant command or joint force command of the theater. Religious support in multinational operations considers the challenges of multinational political perceptions regarding—

- Communication and cooperation with chaplains or chaplain assistants
- Religious cooperation
- Understanding cultural and organizational differences
- Relationship building

(III. Elements of Sustainment)**C. Health Service Support**

Ref: ADRP 4-0, Sustainment (Jul '12). pp. 4-11 to 4-12.

Under the Army sustainment warfighting function, the health service support provides continual, flexible, and deployable medical support designed to sustain a force projection Army and its varied missions. The health service support mission includes—casualty care, medical evacuation, and medical logistics.

Health Services Support**Casualty Care****Medical Evacuation****Medical Logistics**

Ref: ADRP 4-0, Sustainment, chap. 4.

A. Casualty Care

Casualty care encompasses all issues pertaining to the provision of clinical services for the treatment of Soldiers from the point of injury to successive roles of care. Casualty care includes the following sub-functions: organic and area medical support, hospitalization, the treatment aspects of dental care and behavioral health/neuropsychiatric treatment, clinical laboratory services, and treatment of chemical, biological, radiological, and nuclear patients.

1. Organic and Area Medical Support

The medical treatment function encompasses Roles 1 and 2 medical treatment support. Role 1 medical treatment is provided by the combat medic or by the physician, the physician assistant, or the health care specialist in the battalion aid station/ Role 1 medical treatment facility. Role 2 medical care provides greater resuscitative capability than is available at Role 1 and is rendered by the medical company (brigade support battalion) or by the medical company (area support), which is an echelon above brigade asset. These roles of care are provided by organic assets or on an area support basis from supporting medical companies or detachments. The area support function encompasses emergency medical treatment, advanced trauma management, routine sick call, emergency dental care, preventive medicine, and combat and operational stress control support. See ATTP 4-02 for additional information on organic and area medical support and a full description of the roles of medical care.

2. Hospitalization

The Army's hospitalization capability consists of Role 3 combat support hospitals purposely positioned to provide support in the area of operations. At Role 3, the combat support hospital expands the support provided at Role 2 and is staffed and

Principles of the Army Health System

Ref: ADRP 4-0, Sustainment (Jul '12), pp. 1-5 to 1-6.

The principles of the Army health system (AHS) are the enduring tenets upon which the delivery of health care in a field environment is founded. The principles guide medical planners in developing operational plans which are effective, efficient, flexible, and executable. The AHS plans are designed to support the tactical commander's scheme of maneuver while still retaining a Soldier/patient focus. The AHS principles apply across all medical functions and are synchronized through medical mission command and close coordination and synchronization of all deployed medical assets through medical technical channels.

Principles of the Army Health System

1. Conformity
2. Proximity
3. Flexibility
4. Mobility
5. Continuity
6. Control

1. Conformity

Conformity with the tactical plan is the most basic element for effectively providing AHS support. In order to develop a comprehensive concept of operations, the medical commander must have direct access to the tactical commander. AHS planners must be involved early in the planning process and once the plan is established it must be rehearsed with the forces it supports.

2. Proximity

Proximity is to provide AHS support to sick, injured, and wounded Soldiers at the right time and to keep morbidity and mortality to a minimum. AHS support assets are placed within supporting distance of the maneuver forces which they are supporting, but not close enough to impede ongoing combat operations. As the battle rhythm of the medical commander is similar to the tactical commander's, it is essential that AHS assets are positioned to rapidly locate, acquire, stabilize, and evacuate combat casualties. Peak workloads for AHS resources occur during combat operations.

3. Flexibility

Flexibility is being prepared and empowered to shift AHS resources to meet changing requirements. Changes in tactical plans or operations make flexibility in AHS planning and execution essential. In addition to building flexibility into operation plans to support the tactical commander's scheme of maneuver, the medical commander must also ensure that he has the flexibility to rapidly transition from one level of violence to another across the range of military operations. As the current era is one characterized by conflict, the medical commander may be supporting simultaneous actions along the continuum from stable peace through general war (JP 3-0). The medical commander exercises command authority to effectively manage scarce medical resources to benefit the greatest number of Soldiers in the area of operations.

4. Mobility

Mobility is to ensure that AHS assets remain in supporting distance to support maneuvering forces. The mobility, survivability (such as armor plating and other force protection measures), and sustainability of medical units organic to maneuver elements must be equal to the forces being supported. Major AHS headquarters in echelons above brigade continually assess and forecast unit movement and redeployment. AHS support must be continually responsive to shifting medical requirements in the operational environment. In noncontiguous operations, the use of ground ambulances may be limited depending on the security threat and air ambulance use may be limited by environmental conditions and enemy air defense threat. Therefore, to facilitate a continuous evacuation flow, medical evacuation must be a synchronized effort to ensure timely, responsive, and effective support is provided to the tactical commander. The only means available to increase the mobility of medical units is to evacuate all patients they are holding. Medical units anticipating an influx of patients must medically evacuate patients on hand prior to the start of the engagement.

5. Continuity

Continuity in care and treatment is achieved by moving the patient through progressive, phased roles of care, extending from the point of injury or wounding to the continental United States (CONUS)-support base. Each type of AHS unit contributes a measured, logical increment in care appropriate to its location and capabilities. In current operations, lower casualty rates, availability of rotary-wing air ambulances, and other situational variables often times enables a patient to be evacuated from the point of injury directly to the supporting combat support hospital. In more traditional combat operations, higher casualty rates, extended distances, and patient condition may necessitate that a patient receive care at each role of care to maintain physiologic status and enhance chances of survival. The medical commander's depth of medical knowledge, ability to anticipate follow-on medical treatment requirements, and assessment of the availability of specialized medical resources can adjust the patient flow to ensure each Soldier receives the care required to optimize patient outcome. The medical commander can recommend changes in the theater evacuation policy to adjust patient flow within the deployed setting.

6. Control

Control is required to ensure that scarce AHS resources are efficiently employed and support the tactical through strategic plans. It also ensures that the scope and quality of medical treatment meet professional standards, policies, and U.S. and international law. As the Army Medical Department (AMEDD) is comprised of 10 medical functions which are interdependent and interrelated. Control of AHS support operations requires synchronization to ensure the complex interrelationships and interoperability of all medical assets remain in balance to optimize the effective functioning of the entire system.

Army Health System (AHS) Overview

Ref: ATTP 4-02, Army Health System (Oct '11), pp. 1-9 to 1-13.

The AHS is a component of the Military Health System that is responsible for operational management of the HSS and FHP missions for training, predeployment, deployment, and postdeployment operations. The AHS includes all mission support services performed, provided, or arranged by the AMEDD to support HSS and FHP mission requirements for the Army and as directed, for joint, intergovernmental agencies, and multinational forces. The AHS is a complex system of systems. The systems which comprise the AHS are divided into medical functions which align with medical disciplines and scientific knowledge. These systems are interrelated and interdependent and must be meticulously and continuously synchronized to reduce morbidity and mortality and to maximize patient outcome. The ten medical functions are—

- Medical mission command
- Medical treatment (area support)
- Hospitalization
- Medical evacuation (to include medical regulating)
- Dental services
- Preventive medicine services
- Combat and operational stress control
- Veterinary services
- Medical logistics (to include blood management)
- Medical laboratory services (to include both clinical laboratories and area laboratories)

The AHS supports and is in consonance with joint doctrine as described in JP 4-02. However, rather than relying on broad terms to describe medical capabilities, the Army refers to capability packages which align the right mix of medical skills across the ten medical functions to the type of military formation where the support can be found. These descriptions provide the tactical commander with a composite sketch of what medical capabilities are available within his area of operations and what medical capabilities are available elsewhere in the operational environment. This graduated system of increasing levels of medical capabilities is referred to as the roles of medical care.

Health Service Support (HSS) Mission

The Army HSS mission is defined as all support and services performed, provided, and arranged by the AMEDD to promote, improve, conserve, or restore the mental and physical well-being of personnel in the Army, and as directed in other Services, agencies, and organizations. This includes casualty care (encompassing a number of AMEDD functions—organic and area medical support, hospitalization, the treatment aspects of dental care, behavioral health/neuropsychiatric treatment, clinical laboratory services, and the treatment of CBRN patients), medical evacuation, and medical logistics.

Force Health Protection (FHP) Mission

The Army FHP mission is defined as the measures to promote, improve, or conserve the mental and physical well-being of Soldiers. These measures enable a healthy and fit force, prevent injury and illness, and protect the force from health hazards and includes the prevention aspects of a number of AMEDD functions (preventive medicine—including medical surveillance and occupational and environmental health surveillance—veterinary services—including the food inspection, animal care missions, and the prevention of zoonotic diseases transmissible to man), COSC, dental services (preventive dentistry), and laboratory services (area medical laboratory support).

Roles of Medical Care

Ref: ATP 4-02, Army Health System (Oct '11), pp. 1-13 to 1-15.

A basic characteristic of organizing modern AHS is the distribution of medical resources and capabilities to facilities at various levels of command, diverse locations, and progressive capabilities, which are referred to as roles of care. As a general rule, no role will be bypassed except on grounds of medical urgency, efficiency, or expediency. The rationale for this rule is to ensure the stabilization/survivability of the patient through advanced trauma management and far forward resuscitative surgery prior to movement between MTFs (Roles 1 through 3).

Role 1

The first medical care a Soldier receives is provided at Role 1 (also referred to as unit-level medical care). This role of care includes—

- Immediate lifesaving measures
- Disease and nonbattle injury prevention
- Combat and operational stress preventive measures
- Patient location and acquisition (collection)
- Medical evacuation from supported units to supporting MTFs
- Treatment provided by designated combat medics or treatment squads

Nonmedical personnel performing first-aid procedures assist the combat medic in his duties. First aid is administered by an individual (self-aid/buddy aid) and enhanced first aid is provided by the combat lifesavers.

Role 2

At this role, care is rendered at the Role 2 MTF which is operated by the treatment platoon of medical companies/troops. Here, the patient is examined and his wounds and general medical condition are evaluated to determine his treatment and evacuation precedence, as a single patient among other patients. Advanced trauma management and emergency medical treatment including beginning resuscitation is continued, and if necessary, additional emergency measures are instituted, but they do not go beyond the measures dictated by immediate necessities. The Role 2 MTF has the capability to provide packed red blood cells (liquid), limited x-ray, clinical laboratory, dental support, COSC, and preventive medicine. The Role 2 MTF provides a greater capability to resuscitate trauma patients than is available at Role 1. Those patients who can return to duty within 72 hours (1 to 3 days) are held for treatment. Patients who are nontransportable due to their medical condition may require resuscitative surgical care from a forward surgical team collocated with a medical company/troop. This role of care provides medical evacuation from Role 1 MTFs and also provides Role 1 medical treatment on an area support basis for units without organic Role 1 resources.

Role 3

At Role 3, the patient is treated in an MTF staffed and equipped to provide care to all categories of patients, to include resuscitation, initial wound surgery, damage control surgery, and postoperative treatment. This role of care expands the support provided at Role 2. Patients who are unable to tolerate and survive movement over long distances receive surgical care in a hospital as close to the supported unit as the tactical situation allows. This role includes provisions for evacuating patients from supported units, providing care for all categories of patients in a MTF with the proper staff and equipment, and providing support on an area basis to units without organic medical assets.

Role 4

Role 4 medical care is found in CONUS-base hospitals and other safe havens. Mobilization requires expansion of military hospital capacities and the inclusion of Department of Veterans Affairs and civilian hospital beds in the National Disaster Medical System to meet the increased demands created by the evacuation of patients from the area of operations. The support-base hospitals represent the most definitive medical care available within the AHS.

Army Health System (AHS) Operational Environment

Ref: ATTP 4-02, Army Health System (Oct '11), chap. 1.

The operational environment has evolved to an era of persistent conflict—a period of protracted confrontation among state, nonstate, and individual actors increasingly willing to use violence to achieve their political and ideological ends. The AMEDD views threats from two perspectives: the general threat and the health threat. Although the AMEDD’s primary concern is that of the health threat, the general threat must also be fully considered as it influences the—

- Character, types, and severity of wounds and injuries to which our forces may be exposed
- Enemy’s ability and willingness to disrupt AHS operations and to respect the conditions of the Geneva Conventions in regards to the protection of medical personnel while engaged in the humanitarian mission.

Health Threat

The health threat faced by deployed US forces is depicted in the table below. The health threat is a composite of ongoing or potential enemy actions; adverse environmental, occupational, and geographic and meteorological conditions; endemic diseases; and employment of CBRN weapons (to include weapons of mass destruction that have the potential to affect the short- or long-term health (including psychological impact) of personnel.

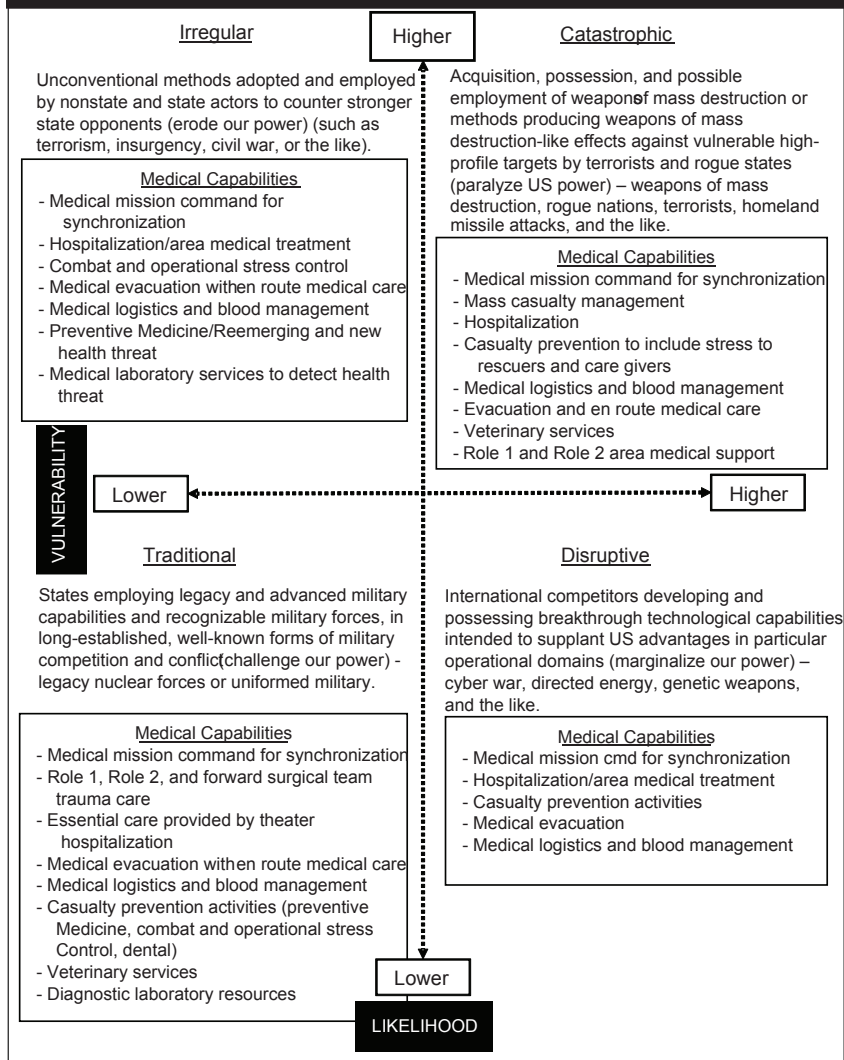
Health Threat	
Diseases	Endemic and epidemic Foodborne Waterborne Arthropodborne Zoonotic Vectors and breeding grounds
Occupational and Environmental Health Hazards	Climatic (heat, cold, humidity, and significant elevations above sea level) Toxic industrial materials Accidental or deliberate dispersion of radiological and biological material Disruption of sanitation services/facilities (such as sewage and waste disposal) Disruption of industrial operations or industrial noise
Poisonous or Toxic Flora and Fauna	Poisonous reptiles, amphibians, arthropods, and animals Toxic poisonous plants and bacteria
Medical Effects of Weapons	Conventional Chemical, biological, radiological, and nuclear warfare agents Directed energy Weapons of mass destruction
Physiologic and Psychological Stressors	Continuous operations Combat and operational stress reactions Wear of mission-oriented protective posture ensemble Stability operations Home front issues

Ref: ATTP 4-02, Army Health System, table 1-1, p. 1-3.

General Threat

There are four categories of threat which are defined. An adversary may use elements from within each of the threat groups to achieve an end. The four categories of threat are— traditional threats, irregular threats, catastrophic threats, and disruptive threats.

General Threats and Medical Conditions



Ref: ATP 4-02, Army Health System, fig. 1-1, p. 1-2.



Refer to The Army Operations & Doctrine SMARTbook (Guide to Unified Land Operations and the Six Warfighting Functions) for an in-depth discussion of the operational environment and the categories of threat.

equipped to provide care for all categories of patients, to include resuscitation, initial wound surgery, damage control surgery, and postoperative treatment. Hospitalization capabilities deploy as modules or multiple individual capabilities that provide incrementally increased medical services in a progressively more robust area of operations. The hospitalization capability in the area of operations offers essential care to either return the patient to duty (within the theater patient movement policy) and/or stabilization to ensure the patient can tolerate evacuation to a definitive care facility outside the area of operations (this support is key to early identification and treatment of mild traumatic brain injuries).

3. Dental Care

Dental care provided as part of health service support includes far forward dental treatment, treatment of oral and dental disease, and early treatment of severe oral and maxillofacial injuries. Dental personnel may also be used to augment medical personnel (as necessary) during mass casualty operations.

4. Behavioral Health

The primary focus of behavioral health/neuropsychiatric treatment is to screen and evaluate Soldiers with maladaptive behaviors. The purpose of this function is to provide diagnosis, treatment, and disposition for Soldiers with neuropsychiatric/behavioral health-related issues.

5. Clinical Laboratory Services

Clinical laboratory services provide basic support within the theater, to include procedures in hematology, urinalysis, microbiology, and serology. Role 2 area support medical companies and brigade support medical companies receive, maintain, and transfuse blood products. The combat support hospital performs procedures in biochemistry, hematology, urinalysis, microbiology, and serology in support of clinical activities. The hospital also blood-banking services.

6. Treatment of Chemical, Biological, Radiological, and Nuclear Patients

Health service support operations in a chemical, biological, radiological, and nuclear (CBRN) environment are complex. Medical personnel may be required to treat CBRN injured and contaminated casualties in large numbers. Medical treatment must be provided in protected environments and protective clothing must be worn. Movement of CBRN casualties can spread contamination to clean areas. All casualties are decontaminated as far forward as the situation permits and must be decontaminated before they are admitted into a clean medical treatment facility. The admission of one contaminated casualty into a clean medical treatment facility will contaminate the facility; thereby, reducing treatment capabilities in the facility. See FM 4-02.7 for additional information.

B. Medical Evacuation

Medical evacuation provides en route medical care and emergency medical intervention. En route medical care enhances the Soldiers' prognosis, reduces long-term disability, and provides a vital linkage between the roles of care necessary to sustain the patient during transport.

C. Medical Logistics

Medical logistics encompasses planning and executing all Class VIII supply support to include medical materiel procurement and distribution, medical equipment maintenance and repair, blood management, optical fabrication and repair, and the centralized management of patient movement items. It also includes contracting support, medical hazardous waste management and disposal, and production and distribution of medical gases. The system is anticipatory with select units capable of operating in a split based mode.

I. Sustainment Brigade Operations

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), chap. 1.

In response to the challenge of transforming into an expeditionary Army, the modular force was designed. To compliment the modular force, the Modular Force Logistics Concept was developed to provide commensurate increased operational flex and unity of command. For the logistician, this involved streamlining traditional systems for command and control (C2), theater opening, and theater distribution. Logisticians today must be prepared to conduct a wide-ranging array of concurrent operations to support deployment, employment, sustainment, redeployment, and reconstitution.

I. Theater Operational Environment

In the recent past, the nature of operational environments changed significantly. This section addresses these changes and how the Army has adapted to accommodate them. One key feature is a distribution system that relies on visibility and flexibility instead of mass. The sustainment brigade is a key element in providing support and services to war-fighting units to ensure freedom of action, extended operational reach, and prolonged endurance.

A. Changes in the Operational Environment

Commanders must be prepared and able to conduct operations in permissive, uncertain, and hostile environments. These environments are likely to comprise difficult terrain, adverse climates, and adaptive enemies. Within the context of social, physical, and economic conditions characteristic of failed states and fractured societies, commanders may expect rampant crime with international linkages as well as religious and ethnic tension. This environment is further characterized by:

- A complex, noncontiguous battlefield, where boundaries will not be clearly defined
- A threat scenario in which potential adversaries are not readily identifiable
- Simultaneous, geographically dispersed operations that will result in extremely long and potentially unsecured lines of communications (LOCs)
- The prevalence of joint organizations at the operational level and single service organizations operating in a collaborative or interdependent joint environment at the tactical level
- A significant degree of joint and single service interaction with other governmental and nongovernmental organizations (NGO's), multinational forces, and contractors

B. Theater of Operations

A theater of operations is a geographical area for which a Geographic Combatant Commander (GCC) is assigned military responsibility. The command views a theater of operations from a strategic perspective and assesses the level of international military cooperation available with the degree of dedicated US military resources necessary. These factors influence prospective Army operations in each theater of operations or GCC area of responsibility (AOR).

C. Designation of the Area of Operations

To conduct operations within its geographic area of responsibility, the GCC may designate a specific area within the AOR as a theater of war, theater of operations, or a joint operations area (JOA). Commanders may use these terms independently or in conjunction with one another, depending on the needs of the operation. If used in conjunction, the theater of war would encompass the larger area with smaller theaters of operation and JOA's within it. Joint Publication (JP) 3-0 describes the criteria for each designation in more detail. This manual uses the more generic term area of operations (AO) to refer to any area where the commander may deploy a sustainment brigade to conduct operations. The GCC (or subordinate combatant commander) maintains responsibility for the operations of US forces in an AOR or designates a joint task force (JTF) to command forces in a designated area. The Army Service Component Commander (ASCC) provides Army forces to the joint force commander (JFC)/JTF to support those operations.

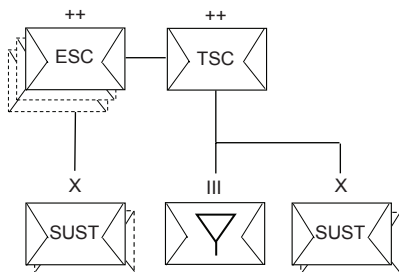
II. Command and Support Relationships

A. Command Relationships

1. Theater Sustainment Command (TSC)

The TSC is the central Army logistics C2 headquarters (HQ) in a theater of operations and the senior Army logistics HQ for the Theater Army (for example, USAREUR-7th Army, United States Army, Pacific Command-8th Army) or a JFC. The TSC consolidates many of the functions previously performed by Corps Support Commands and Theater Support Commands into a central operational echelon that is responsible for C2 of theater opening (TO), theater distribution (TD), and sustainment operations conducted in support of Army and, on order, joint, interagency, and multinational forces. The TSC is regionally focused and globally employable. Its modular design provides the TSC commander with the operational flexibility to adapt C2 as requirements develop, including deploying an Expeditionary Sustainment Command (ESC) to provide an additional measure of responsiveness, agility, and flexibility for employment. *See pp. 2-71 to 2-78 for further discussion.*

Notional Command Relationships



ESC – Expeditionary Sustainment Command
SUST – Sustainment Brigade
TSC – Theater Sustainment Command

* ESC functions as an operational command post of the TSC

Ref: FMI 4-93.2, *The Sustainment Brigade*, fig. 1-1, p. 1-3.

2-2 (Sustainment Bde) I. Operations

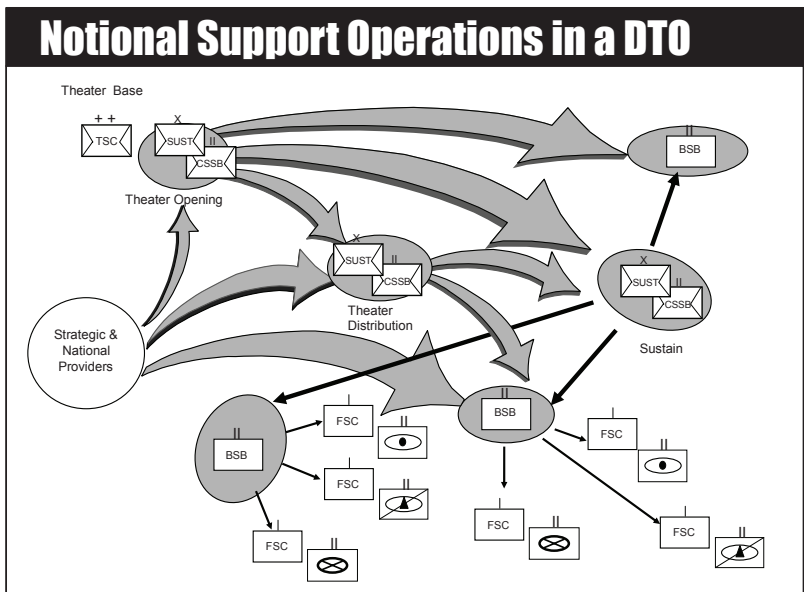
2. Expeditionary Sustainment Command (ESC)

The Expeditionary Sustainment Command (ESC), attached to a Theater Sustainment Command (TSC), provides command and control (C2) for attached units in an area of operation as defined by the TSC. As a deployable command post for the TSC, the ESC provides operational reach and span of control. The ESC plans and executes sustainment, distribution, theater opening and reception, staging, and onward movement for Army forces in full spectrum operations. It may serve as the basis for an expeditionary joint sustainment command when directed by the Combatant Commander or his designated Coalition/Joint Task Force Commander. The TSC establishes C2 of operational level theater opening, sustainment, distribution, and redistribution in specific areas of operation by employing one or more ESC. Each ESC provides a rapidly deployable, regionally focused, control and synchronization capability, mirroring, on a smaller scale, the organizational structure of the TSC. By design, the ESC provides C2 for operations that are limited in scale and scope; employing reach capabilities to provide augmented support where practical. The ESC also oversees TO, TD, and sustainment operations in accordance with TSC plans, policies, programs, and mission guidance.

The TSC may operate from a command center located in sanctuary, employing one or multiple ESC to establish a forward presence to control and direct deployed units. See FM 4-93.4 and also pp. 2-71 to 2-78 for further discussion.

3. Sustainment Brigades

The sustainment brigades consolidate selected functions previously performed by corps and division support commands and area support groups into a central operational echelon and provide C2 of TO, TD, and sustainment operations. Combat Sustainment Support Battalions (CSSB) are the building blocks of the sustainment brigades. Their designs are standardized and can consist of up to eight companies. CSSB's are modular and task organized to support TO, TD, area sustainment, or life support missions.



Ref: FMI 4-93.2, The Sustainment Brigade, fig. 1-2, p. 1-4.

B. Support Relationships

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 1-4 to 1-6. See also p. 2-73.

In the Army, support is a specified relationship whereas in JP 3-0 support is a joint command relationship. Support is the action of a force that aids, protects, complements, or sustains another force in accordance with a directive requiring such action. The primary purpose of the support relationship is to indicate which commanders are providing support to a designated command/organization. Designation of a support relationship does not provide authority to organize and employ commands and forces, nor does it include authoritative direction for administrative and logistics support.

- The support is more effective when the supporting unit is controlled by a commander with the requisite technical and tactical expertise
- The echelon of the supporting unit is the same as or higher than that of the supported unit. For example, the supporting unit may be a brigade and the supported unit may be a battalion. It would be inappropriate for the brigade to be subordinated to the battalion, hence the use of an Army support relationship.
- The supporting unit may provide support to several units simultaneously. Prioritization of requirements is an essential function of command, as assigning support relationships is an aspect of mission command.

1. Echelons Above Brigade (EAB) Sustainment Units

The parent organization of the TSC is the Theater Army. The ESC is intended to be an operational command post of the TSC, but may be employed as a separate echelon of command. When employed as a separate command, the ESC may need augmentation from the TSC as determined through mission analysis. The sustainment brigade is assigned to the TSC, or the ESC when employed as a separate command. Any of these EAB support units may be placed under tactical control (TACON) of a combined arms HQ for a specific purpose such as protection or METT-TC. CSSB's and functional battalions are assigned to the sustainment brigade. The TSC is assigned to support a particular theater of operations. Sustainment brigades and their CSSB's provide support on an area basis and may also be assigned specific units to support. In a small operation and in the absence of an ESC, a sustainment brigade may be the senior logistical C2 HQ in a JOA and may be TACON to the senior maneuver HQ. During theater opening operations, the sustainment brigade may also provide C2 for all units in their AO (such as MPs, engineer, or chemical) as directed by an OPORD and in the absence of their brigade HQ. The TSC, ESC, sustainment brigade, and CSSB are in a general support relationship to the ARFOR, Corps as JTF, Division, brigade combat teams (BCT), and functional Brigades (see also JP 3-0 and FM 3-0).

Unit ⁹	Parent Org	ARFOR in JOA	Corps as JTF	Division	BCT & Support BDE
TSC ²	Theater Army	GS ^{2/3}	GS	GS	GS
TSC/TSC (-) ⁴	Theater Army	GS ^{4/5}	GS ⁶	GS	GS
ESC ^{6/7}	TSC	GS	GS	GS	GS
SUST	TSC	GS	GS	GS ⁸	GS
CSSB / Functional Bn	SUS BDE	GS	GS	GS	GS
All of the logistics units listed here are assigned to the TSC. This chart describes the support relationships that typically exist within a theater of operations.					

2. Relationships For Brigades and Below

The heavy BCT, infantry BCT, and the fires brigade have organic Brigade Support Battalions (BSB's) and Forward Support Companies (FSC's). The FSC's are assigned to the BSB and can be in direct support, operational control (OPCON), attached, or assigned to the supported battalions. Combat aviation brigades also have organic BSB's and FSC's, but the FSC's are assigned to the supported aviation battalions. The Striker Brigade Combat Team (SBCT) has an organic BSB, but no FSC's. The SBCT task organizes support packages into forward logistics elements to provide support similar to that of an FSC. The Maneuver Enhancement Brigade (MEB) has organic BSB's and FSC's. Within the MEB, engineer battalions have FSC's, but military police (MP) and chemical battalions do not. The engineer battalions are the parent of the FSC's. Support to the Battlefield Surveillance Brigade (BFSB) comes from a brigade support company assigned directly to the BFSB. The sustainment brigades have neither BSB's nor FSC's.

Bde Type	organic BSB ¹	organic FSC ¹	FSC'S Parent ²	FSC to BSB Relationship ³	FSC to SPT'd BN Relationship ⁴
H/IBCT	Yes	Yes	BSB	Assigned	DS/OPCON/Attached
SBCT	Yes	No ⁵	N/A	N/A	N/A
SUST	No	No	N/A	N/A	N/A
FIRES	Yes	Yes	BSB	Assigned	DS/OPCON/Attached
AVN Bde	Yes	Yes	AV Bn	DS ⁶	Assigned
MEB	Yes	Yes ⁷	EN Bn	DS ⁶	Assigned
BFSB	No	BSC	N/A ⁸	N/A ⁸	N/A

1— These 2 columns address which BDEs have BSBs and FSCs

2— Addresses what unit the FSC is assigned to.

3— Addresses the relationship between the FSC and the BSB.

4— Defines the likely command or support relationship that may exist between the FSC and the unit it supports.

5— The SBCT task organizes support packages into forward logistics elements (FLEs).

6— 'DS' means that the BSB provides replenishment to the FSC, but no formal relationship exists.

7— Engineers battalions have FSCs, but MP and chemical battalions do not.

8— Support to BFSB comes from a Bde Support Company assigned directly to BFSB; there is no BSB or FSC.

Priorities of Support and Unity of Effort

From the President, Secretary of Defense, and GCC's, on down to divisions; commanders communicate their requirements and priorities for support through commander's intent, orders, the planning process, and briefings/conferences. While doing so, they also ensure that coordination occurs not only with subordinate units, but also with their higher HQ and laterally to units which may be called upon to perform in a supporting role. Commanders at all levels continually ensure cohesiveness and unity of effort. Under the concept of centralized logistics C2, the TSC/ESC supports the GCC or JTF commander by ensuring that all actions throughout the theater of operations or JOA, for which the TSC/ESC is responsible, continually support unified action and reinforce the commander's intent. Commanders at all levels must ensure that the supported commander has confidence in the concept of support and that supporting plans enable the objectives of the supported commanders. They do this by continuous coordination, to include attending battlefield update briefings and commanders' conferences of both the supported commander and their own higher HQ (or sending appropriate command representation).

III. Strategic Level Support Organizations

A. US Transportation Command (USTRANSCOM)

USTRANSCOM provides air, land, and sea transportation for the Department of Defense (DOD), both in time of peace and in time of war through its component commands: the Air Force's Air Mobility Command, the Army's Military Surface Deployment and Distribution Command, and the Navy's Military Sealift Command. The command maintains the capability to rapidly open and manage common-use aerial ports and seaports for the GCC. The contributions of USTRANSCOM's component commands are discussed below.

1. Air Mobility Command (AMC)

AMC provides strategic and tactical airlift, air refueling, and aero-medical evacuation services for deploying, sustaining, and redeploying US forces, including rapidly employing aerial ports around the world. The AMC also contracts with commercial air carriers through Civil Reserve Air Fleet and other programs for movement of DOD passengers and cargo. The sustainment brigade will receive airlift schedules from and coordinate strategic air movements with representatives of AMC.

2. Military Sealift Command (MSC)

MSC provides sealift transportation services to deploy, sustain, and redeploy US forces around the globe with a fleet of government-owned and chartered US-flagged ships. MSC executes Voluntary Inter-modal Sealift Agreement contracts for chartered vessels. Sealift ships principally move unit equipment from the US to theaters of operation all over the world. In addition to sealift ships, MSC operates a fleet of pre-positioned ships strategically placed around the world and loaded with equipment and supplies to sustain Army, Navy, Marine Corps, Air Force, and DLA operations. These ships remain at sea, ready to deploy on short notice, which significantly reduces the response time for the delivery of urgently needed equipment and supplies to a theater of operation.

3. Military Surface Deployment and Distribution Command (SDDC)

SDDC provides ocean terminal, commercial ocean liner service, and traffic management services to deploy, sustain, and redeploy US forces on a global basis. The command is responsible for surface transportation and is the interface between DOD shippers and the commercial transportation carrier industry. The command also provides transportation for troops and materiel to ports of embarkation in the US and overseas and manages seaports worldwide, coordinating for onward movement with the sustainment brigade.

4. Joint Task Force – Port Opening (JTF-PO)

The JTF-PO facilitates joint reception, staging, onward movement, and integration and theater distribution by providing an effective interface with the theater JDDOC and the sustainment brigade for initial aerial port of debarkation (APOD) operations. Its capabilities include:

- APOD assessment
- APOD opening and initial operation
- Movement control including coordination for onward movement of arriving cargo and passengers
- Establishment of joint in-transit visibility and radio frequency identification
- Moving cargo up to 10 miles to a designated location for handover to the sustainment brigade for onward movement

The JTF-PO is designed to deploy and operate for 45 to 60 days. As follow-on theater logistic capabilities arrive, the JTF-PO will begin the process of transferring mission responsibilities to arriving sustainment brigade forces or contracted capabilities. See pp. 1-30 to 1-31 for updated discussion from ADRP 4-0 (Jul '12).

2-6 (Sustainment Bde) I. Operations

5. Joint Deployment Distribution Operations Center (JDDOC)

The JDDOC is a joint capability designed to support GCC operational objectives by assisting in the synchronization of strategic and theater resources to maximize distribution, force deployment, and sustainment. Its goal is to maximize GCC combat effectiveness through improved total asset visibility.

The JDDOC, under the control and direction of the GCC, directs, coordinates, and synchronizes forces' deployment and redeployment execution and strategic distribution operations to enhance the GCC's ability to effectively and efficiently build and sustain combat power. The JDDOC is an integral component of the GCC staff, normally under the direction of the GCC Director of Logistics (J4). However, GCC's can place the JDDOC at any location required or under the operational control of another entity in the GCC area of responsibility. The JDDOC will normally be coordinating with the TSC/ESC, but on small-scale operations, may be coordinating directly with a sustainment brigade operating as the senior Army LOG C2 HQ in the theater of operations.

B. Defense Logistics Agency (DLA)

DLA is the DOD's primary strategic-level logistics provider and is responsible for providing a variety of logistics support to the military services. DLA has the capability of providing a forward presence in the operational area via its DLA contingency support teams (DCST's). DLA normally provides a DCST to each major joint operation to serve as the focal point for coordinating DLA support. The DLA DCST's may either collocate with the joint force commander J-4, the TSC Distribution Management Center (DMC), or the AFSB when the Army is the lead Service for significant common user logistics (CUL) support. The in-theater DCST integrates strategic to operational level materiel management support of DLA common commodities such as subsistence, clothing and other general supplies, Class IV construction/barrier materiel, package/bulk petroleum, and medical materiel.

DLA also provides in-theater defense reutilization and marketing services. DLA assists the joint force commander J-4; establishes theater specific procedures for the reuse, demilitarization, or disposal of facilities, equipment, and supplies, to include hazardous materiel (HAZMAT) and waste. Initially, salvage and excess materiel is collected in the main theater distribution point and/or the brigade support areas as the situation permits. As the theater of operations matures, this materiel is evacuated to collection points for inspection and classification. The TSC or sustainment brigade coordinates with Defense Reutilization and Marketing Service to perform distribution management operations for the Army forces.

C. US Army Materiel Command (USAMC)

USAMC support to deployed Army forces is coordinated via the Army Sustainment Command (ASC) and is executed in the operational area by the Army Field Support Brigade (AFSB) and Contracting Support Brigade (CSB). The AFSB, when deployed, will be OPCON to the TSC and responsible for planning and controlling all USAMC and other acquisition logistics and technology (ALT) functions in the operational area less theater support contracting. The CSB, when deployed, will also be OPCON to the TSC and responsible for theater support contracting. *See also p. 1-10.*

1. Operational Contract and Other Acquisition, Logistics, and Technology Support

Acquisition, logistics, and technology (ALT) support consists of a numerous unique support functions in a deployed AO to include rapid equipment fielding support, technical equipment support, pre-positioned stock support, and contracting support. Most of this ALT support is conducted through two O-6 level USAMC units: the Army Field

Support Brigade (AFSB) and the Contracting Support Brigade (CSB). AFSB and CSB provide support to the sustainment brigade under the C2 of the TSC or ESC. The exception to this doctrinal rule of thumb is when the sustainment brigade is the senior Army LOG C2 HQ in the AO, when the ARFOR commander may choose to OPCON AFSB and CSB elements to the sustainment brigade. *See also p. 1-15.*

2. The Army Field Support Brigade (AFSB)

The AFSB is the primary ALT unit for the Army and is responsible to control all ALT functions, less theater support contracting and Logistic Civil Augmentation Program (LOGCAP) support, in the AO. The AFSB is a small table of organization and equipment (TOE) and augmented table of distribution and allowances (TDA) HQ that leverages reach (for technical support) and call-forward procedures to bring the requisite USAMC and Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA[ALT]) program executive officers (PEOs) (such as, PEO Ground Combat Systems) and their subordinate product/project managers (PM's) (such as, PM Stryker Brigade Combat Team) capabilities forward to the AO. *See also p. 1-14.*

3. Contracting Support Brigade (CSB)

The Army has recently consolidated its theater support contracting capabilities into separate TOE units. These units include the CSB, Contingency Contracting Battalions (CCBN), Senior Contingency Contracting Teams (SCCT), and Contingency Contracting Teams (CCTs). These consolidated units are made up of primarily 51C military occupational specialty officers and noncommissioned officers. Like the AFSB, these units are currently assigned to the ASC, but are scheduled to come under the command of the new, US Army Contracting Command, and its subordinate, Expeditionary Contracting Command, in the near future. In major operations, the CSB will normally be OPCON to the TSC or a separate joint theater support contracting command. In these situations, theater support contracting actions will provide general support to the sustainment brigade. In smaller operations, a CCBN could be placed OPCON to the sustainment brigade, if the sustainment brigade is the senior sustainment command in the AO and the CSB is not deployed.

See following pages (pp. 2-10 to 2-11) for further discussion of managing contracting support.

IV. Support of Military, Civilian, Joint, and Multinational Organizations

The Army may operate in a joint coalition or multinational environment.

Organizing the Joint Force

The JFC can organize forces in several different ways. The JFC directs operations through service component commanders or establishes functional commands. Such functional commands may include a joint forces land component to provide centralized direction and control of all land operations, including other Services land forces. The combatant commander or JFC may assign a lead Service to provide CUL to avoid redundancy and achieve greater efficiency.

A. Interagency Support

The DOD performs both supported and supporting roles with other agencies. During combat or in humanitarian assistance operations, the DOD may likely be the lead agency and supported by other agencies. When the Army (through the DOD) is tasked to provide military support to civil authorities, its forces perform in a supporting role. The sustainment brigade may be tasked to support the local head of another agency, such as an ambassador, or may employ the resources of other US Government agencies or even private firms. Whether supported or supporting, close coordination is the key to efficient and effective interagency operations.

2-8 (Sustainment Bde) I. Operations

Sustainment Brigade's Role in Support of Joint and/or Multinational Operations

Ref: FMI 4-93.2, *Sustainment Brigade* (Feb '09), pp. 1-4 to 1-6.

The TSC and/or Sustainment Brigade may be called upon to support joint and/or multinational operations. As such, the roles and missions of the Sustainment Brigade may expand to include support to other services in accordance with Title 10, and/or support to forces of other nations in accordance with bilateral and multilateral agreements.

1. Setting the Theater Base

A critical component of the TSC's effort to set the theater base is its focus on organizing and positioning of capabilities to support the conduct of future operations. The sustainment brigade performing theater opening has OPCON of units processing through reception, staging, and onward movement until their HQ arrives and is operational. Key activities include: ensuring the timely arrival of deploying units in the theater of operations; coordinating support from national/strategic partners; establishing theater personnel accountability and fiscal oversight; and establishing visibility of the distribution network. The sustainment brigade must also consider and integrate the Finance Management Center and the Human Resources Sustainment Center (HRSC), including a Reception, Replacement, Rest and Recuperation, Return to Duty, and Redeployment (R5) element as appropriate.

2. Building the Theater Base

The TSC expands its operational capabilities and capacity to meet the future operational requirements of the JFC. A key consideration is the establishment of interdependencies between the Services and government agencies to minimize competition for limited strategic and theater resources. Critical tasks for the sustainment brigade (TO) include:

- Provide C2 for theater opening capabilities
- Maintain connectivity with national/strategic partners
- Conduct reception, staging, and onward movement operations
- Update/finalize distribution plans to ensure the JFC's concept is supportable

3. Setting Conditions For Follow-On Operations

The TSC sets the conditions for follow-on operations by providing for the integrated support of land component forces throughout the theater of operations. It accomplishes this through the continued synchronization of distribution operations, executed by a network of sustainment brigades. It capitalizes on the inter-dependencies created between the Services and government agencies to achieve greater operational with fewer redundant capabilities.

4. Facilitating the Redeployment Process

The sustainment brigade facilitates the redeployment and the retrograde process through its C2 of the distribution system, maintaining situational awareness of system capacity and leveraging joint capabilities. While many of the procedures used to deploy forces, draw pre-positioned stocks, conduct reception staging and onward movement (RSO), and distribute supplies within the theater of operations apply to the redeployment process, two factors in particular complicate redeployment operations.

The challenge for the sustainment brigade is effective coordination and synchronization, vertically and horizontally, to ensure responsive simultaneous support to not only on going distributed operations, but also redeployment. R5 elements are critical to the coordination and synchronization effort.

Sustainment Brigade's Role in Planning & Managing Operational Contract Support

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 1-13 to 1-14.

Contracting is a key source of support for deployed armed forces across full spectrum operations. Because of the importance and unique challenges of operational contract support, the sustainment brigade commander and staff need to fully understand their role in planning for and managing contracted support in the AO. Current doctrine describes three broad types of contracted support: theater support, external support, and systems support.

See pp. 1-54 to 1-55 for updated discussion from ADRP 4-0 (Jul '12).

1. Theater Support Contracts

These contracts support deployed operational forces under prearranged contracts, or contracts awarded from the mission area, by contracting officers under the C2 of the CSB. Theater support contractors are employed to acquire goods, services, and minor construction support, usually from local commercial sources, to meet the immediate needs of operational commanders. Theater support contracts are the type of contract typically associated with contingency contracting. Sustainment brigades will often be the requiring activity for theater support contract support actions related to both internal and external missions. Theater support contracts in support of the sustainment brigade's missions are normally executed through a general support CCT or regional contracting office.

2. External Support Contracts

These types of contracts provide a variety of support to deployed forces. External support contracts may be prearranged contracts or contracts awarded during the contingency itself to support the mission and may include a mix of US citizens, third-country nationals, and local national subcontractor employees. The largest and most commonly used external support contract is LOGCAP. This Army program is commonly used to provide life support, transportation support, and other support functions to deployed Army forces and other elements of the joint force as well. Depending on METT-TC factors, the sustainment brigade may or may not serve as a major requiring activity (the unit responsible to develop and assist in managing specific contract support requirements) for LOGCAP support, but in almost all operations will serve as supported unit relative to LOGCAP support. If designated by the ARFOR and/or TSC commander as the lead requiring activity for any significant LOGCAP task order support actions, the sustainment brigade would normally be augmented by an USAMC logistic support officer (LSO) from Team LOGCAP Forward (TLF).

3. System Support Contracts

System support contracts are pre-arranged contracts by the USAMC LCMC's and separate ASA(ALT) PEO and PM offices. Supported systems include, but are not limited to, newly fielded weapon systems, C2 infrastructure, such as the Army Battle Command Systems (ABCS) and standard Army management information system (STAMIS), and communications equipment. System contractors, made up mostly of US citizens, provide support in garrison and may deploy with the force to both training and real world operations. They may provide either temporary support during the initial fielding of a system, called interim contracted support or long-term support for selected materiel systems, often referred to as contractor logistic support. The sustainment brigade does not normally have a significant role to play in planning for or coordinating system support contracts other than coordinating and executing support of system support contract related personnel.

For the sustainment brigade, the major challenge is ensuring theater support and external contract support (primarily LOGCAP related support) actions are properly incorporated and synchronized with the overall sustainment brigade support effort. It is imperative that the sustainment brigade SPO, with or without LSO augmentation, closely work with the TSC/ESC SPO, the ARFOR G-4, the CSB, and the supporting TLF. It is also important to understand the sustainment brigades do not have any dedicated contingency contracting officers on their staff and this support will be provided on a GS basis through the supporting CSB. Because of these new modular force contracting support arrangements, it is imperative for the sustainment brigade staff be trained on their role in the operational contract support planning and execution process as described below:

4. Contract Planning

The sustainment brigade must be prepared to develop "acquisition ready" requirement packets for submission to the supporting contracting activity. The packets must include a detailed performance work statement (PWS) (previously referred to as a statement of work or SOW) for service requirements or detailed item description(s)/capability for a commodity requirement. In addition to the PWS, packets must include a Letter of Justification (LOJ) or Letter of Technical Direction (LOTD) for service requirements. Depending upon command policies, certain items or specific dollar amount requests may require formal acquisition review board packet review.

5. Contract Management

The sustainment brigade plays a key role in theater support contract and LOGCAP task order management. One of the most important sustainment brigade tasks in this process is to nominate and track contract officer representatives (CORs) (sometimes referred to as contract officer technical representatives or COTRs) for every service contract and LOGCAP task order as directed. It will also nominate a receiving official for all supply contracts. Quality COR and receiving official support is key to ensuring contractors provide the service or item in accordance with the contract. The sustainment brigade must also manage funding for each contract and request funds in advance of depletion of current funds or all contract work will stop until adequate funds are available. Finally, in some operations, the sustainment brigade will be required to provide formal input to LOGCAP award fee and performance evaluation boards.

6. Contract Close Out

The sustainment brigade is responsible for completing receiving reports: certifying that the contracted goods or services were received by the Army. The contracting officer shall receive a copy of the receiving report from the sustainment brigade so the contract can be closed out and the contractor can be paid.

In some major operations, the operational contract support tasks discussed above can be a major challenge for a sustainment brigade. When faced with major operational contract support management tasks, it is imperative the sustainment brigade commander organize some type of contract management cell within the S4 and/or SPO shop to ensure these tasks are properly accomplished. In long-term operations, as seen in OIF and OEF, the sustainment brigade will need to ensure direct coordination and transfer of operational contract support related information prior to relief in place/transfer of authority (RIP/TOA). Additionally, when the advance party arrives in the AO, it is essential specifically designated unit personnel actively seek out current information on local contract support capabilities, policies, and procedures. This individual must be prepared to coordinate the formal hand over of existing contract management responsibilities from the redeploying unit. It is critical to know when recurring service contracts will be ending, because it generally takes 30 to 60 days to obtain funding approval. If the unit waits until the contract is about to expire before additional funds are requested, the sustainment brigade could lose the contracted service until funds are available.

The GCC controls and is accountable for military operations within a specified area of responsibility. The commander defines the parameters, requests the right capabilities, tasks supporting DOD components, coordinates with the appropriate Federal agencies, and develops a plan to achieve the common goal. Sustainment brigades may be responsible for providing sustainment to other government agencies within their assigned AO's. During the early stages of military operations in austere environments or in small operations, the sustainment brigade may be the only organization capable of providing supplies, services, and life support to other Federal elements.

Nongovernmental organizations (NGOs) do not operate within either the military or the governmental hierarchy. Their relationship with the Armed Forces is neither supported nor supporting. An associate or partnership relationship exists between military forces and engaged NGOs. If formed, the focal point where US military forces provide coordinated support to NGOs would be the civil-military operations center of a JTF HQ.

The sustainment brigade might be required to support civil operations. The commander and staff must understand roles and responsibilities in such operations. The Army defines the Army's role during civil support operations. Civil support operations address the consequences of man-made or natural accidents and incidents beyond the capabilities of civilian authorities. Under US law, the federal and state governments are responsible for those tasks normally associated with stability and reconstruction operations. Army forces conduct civil support operations when requested, providing expertise and capabilities to lead agency authorities. During civil support operations, the Army performs a supporting role and is called upon regularly to provide assistance to civil authorities to deal with natural disasters (such as, hurricanes, floods, and fires), as well as man-made incidents (such as, riots and drug trafficking).

B. Host Nation Support (HNS)

The sustainment brigade will coordinate for HNS (negotiated by the US Department of State) or for the contracting of resources and materiel as required in support of its mission. HNS and local procurement may provide a full range of sustainment, operational, and tactical support. HNS agreements fulfilling the command requirements for support need to be pre-negotiated. HNS may include functional or area support and use of host nation facilities, government agencies, civilians, or military units. Pre-established arrangements for HNS can reduce the requirement for early deployment of US assets and can offset requirements for early strategic lift by reducing requirements for moving resources to the theater of operations.

C. Multinational Support

Multinational support may consist of CUL support provided from one multinational partner to another. One or more of the following organizational and/or management options facilitates multinational support:

- National support elements provide national support
- Individual acquisition and cross-servicing agreements provide limited support
- A lead nation provides specific support to other contributing nation military forces
- A role-specialist nation provides a specific common supply item or service
- A multinational integrated logistics unit provides limited common supply and service support
- A multinational joint logistics center manages CUL support

In all cases, the multinational force commander directs specific multinational CUL support within the applicable laws and regulations of the HN. When operating within a formal alliance, the sustainment brigade executes CUL support in accordance with applicable standardization agreements or quadripartite standardization agreements.

II. Sustainment Brigade Mission & Tasks

Ref: FMI 4-93.2, *Sustainment Brigade* (Feb '09), chap. 2.

The sustainment brigades are subordinate commands of the TSC, designed to provide C2 of theater opening, distribution, and sustainment within an assigned area of operation. The level of assignment and mission assigned to the sustainment brigade determine the mix of functional and multifunctional subordinate battalions under the control of the brigade. The brigades provide C2 and staff supervision of replenishment, life support activities, human resources and financial management support, and distribution management.

Missions and Tasks

The major missions performed by the sustainment brigades are theater opening (TO), theater distribution (TD), and sustainment. These missions are interrelated and, throughout the course of an operation, a sustainment brigade will likely perform more than one of these functions simultaneously.

The Sustainment Brigade Mission

Plans, synchronizes, monitors, and executes logistics operations. Conducts Theater Opening and/or Theater Distribution operations when directed. Provide support to joint, interagency, and multifunctional forces as directed.



Sustainment



Theater Opening (TO)



Theater Distribution (TD)

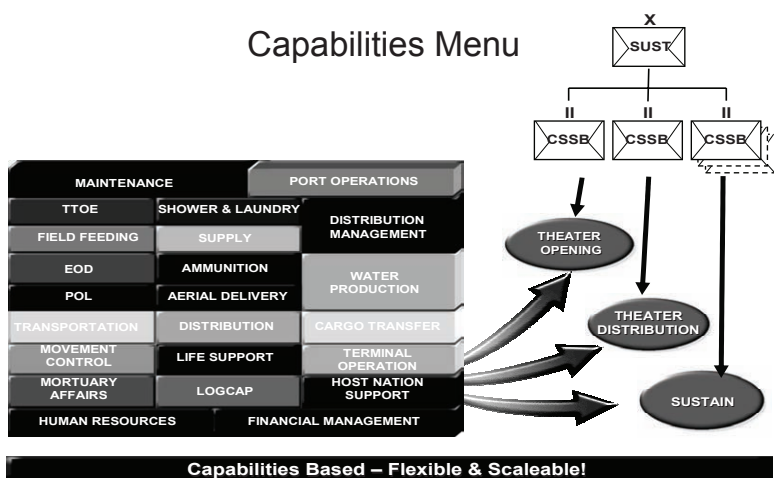
The sustainment brigade is a flexible, tailorable organization. All sustainment brigade HQ are identical in organizational structure and capabilities. Organic to the sustainment brigade are the brigade HQ and a special troops battalion (STB). The core competency of the sustainment brigade is C2 of sustainment operations, providing C2 and staff supervision of life support activities and distribution management to include movement control as an integral component of the theater distribution system. During the ARFORGEN process, functional and multifunctional subordinate battalions are task organized to the sustainment brigade to enable it to accomplish its role and missions.

Sustainment Brigade Operational Capabilities

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 2-1 to 2-3.

The sustainment brigade, attached to an ESC/TSC, provides command and control for all subordinate units, and provides sustainment in an area of operations as defined by the ESC/TSC. The sustainment brigade plans and executes sustainment, distribution, theater opening and reception, staging, and onward movement of Army forces in full spectrum operations as directed by the ESC/TSC.

Capabilities Augmentation Possibilities



Ref: FMI 4-93.2, The Sustainment Brigade, fig. 2-2, p. 2-3.

All sustainment brigades have the same general capability to manage theater opening, theater distribution, and sustainment operations. Each sustainment brigade is a multifunctional organization, tailored and task organized to provide support for multiple brigade-sized or smaller units using its' subordinate battalions, companies, platoons, and teams to perform specific sustainment functions. In the sustainment role, the brigade is primarily concerned with the continuous management and distribution of stocks, human resources support, execution of financial management support, and allocation of maintenance in the AO to provide operational reach to maneuver commanders.

The sustainment brigade management tasks are coordinating and integrating personnel, equipment, supplies, facilities, communications, and procedures to support the maneuver commander's intent. The sustainment brigade may require augmentation in those areas where it lacks staff expertise and/or functional support capabilities. For example, the TSC commander may augment the sustainment brigade with transportation units to enable it to oversee and execute port clearance and terminal operations if the sustainment brigade is given the theater-opening mission. Likewise a sustainment brigade may serve as the senior joint logistics HQ in an AO when provided augmentation commensurate to the mission. Under the modular construct, organizational designs incorporate multifunctional, self-reliant sustainment capabilities within the BCT and BSB, providing much greater self-reliance at this echelon. Each BCT, for example, carries three combat loads on organic transportation assets minimizing the need for external support, which is most likely provided by a sustainment brigade during replenishment operations. Therefore, if the sustainment brigade is supporting units which do not have this robust capability whether they are US Army units which have not transformed or are multi-national forces, the sustainment brigade and subordinates will need to be tailored to provide greater support.

During periods where only Special Operations Forces are operating in a theater, support operations may be executed under the C2 of the Sustainment Brigade (Special Operations) (Airborne)(SB [SO][A]), which has a modification table of organization and equipment-deployable organization and is assigned to USASOC. When deployed, the SB (SO)(A) acts as the logistics HQ for a joint special operations task force (JSOTF).

Sustainment Brigade Operational Capabilities

- Provides supplies, field services, field and selected sustainment level maintenance, recovery, and field feeding for itself and its assigned subordinates
- Plans and conducts base and base cluster self-defense. Defends against level I threats, assists in destruction of level II threats and escapes or evades against level III threats.
- Capable of operating as part of an Army or joint force
- Coordinates host nation support (HNS) established by the Department of State
- Capable of deploying an advance party to support early entry operations
- Provides theater opening, theater distribution, and sustainment management information and advice to commanders and staff within its AO and the TSC.
- Exercises technical supervision over operations for all assigned units
- Combat service support automation management office (CSSAMO) provides logistics STAMIS management, plans, policies, and procedures for logistics automations functions/systems to the sustainment brigade, area support and backup support to the BSB CSSAMO's in the support footprint
- Provides limited material management for internal stocks, Class I, II (including unclassified map stocks), Class III and water, Classes IV, V, VII, and IX and maintenance management of internal assets
- Provides a liaison team to augment other HQs as necessary
- Manages and maintains the sustainment brigade property records
- Maintains data in support of the Army equipment status reporting database and the Army equipment status reporting system
- Provides human resources, financial management, legal services, and religious support to assigned units and authorized personnel within the SB's AOR
- Appoints contracting officer representatives (COR) to monitor contractor performance, certify receipt of services, and act as liaisons

I. Sustainment Mission

Sustainment is the provision of the logistics, personnel services, and health service support necessary to maintain operations until mission accomplishment. The endurance of Army forces is primarily a function of their sustainment. Sustainment determines the depth to which Army forces can conduct decisive operations, allowing the commander to seize, retain, and exploit the initiative. Endurance is the ability to employ combat power anywhere for protracted periods. Endurance stems from the ability to generate, protect, and sustain a force. It involves anticipating requirements and making the most effective, efficient use of available resources. Sustainment also enables strategic and operational reach. Army forces require strategic and operational reach to deploy and immediately conduct operations anywhere with little or no advanced notice.

The sustainment warfighting function consists of three elements: logistics, personnel services, and health service support. See pp. 1-1 to 1-4.

Elements of Sustainment



Logistics (pp. 1-37 to 1-56)



Personnel Services (pp. 1-57 to 1-66)



Health Service Support (pp. 1-67 to 1-74)

See pp. 2-31 to 2-62 for discussion of sustainment brigade logistics support.

See pp. 2-63 to 2-66 for discussion of sustainment brigade personnel service support.

See pp. 2-67 to 2-70 for discussion of sustainment brigade health service support.

Critical Tasks

The sustainment brigade performs sustainment operations from the operational to tactical levels. Operational sustainment focuses on theater operations that involve force deployment/reception, movement distribution, sustainment, and reconstitution. The initial focus is on generating a force ready to conduct operations. Support begins during force generation but becomes the primary focus once operations begin. Key Army functions associated with operational level sustainment include the following:

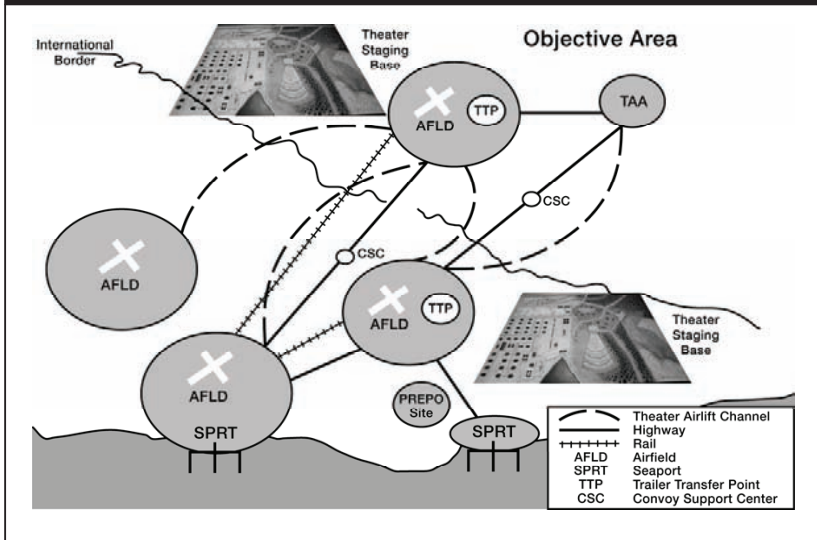
- Coordinating supply of arms, munitions, and equipment
- Synchronizing supply and distribution of fuel and water
- Ensuring effective cross-leveling of supplies and efficient retrograde and redeployment of equipment, personnel, and supplies
- Maintaining equipment and stocks that support the supply system
- Coordinating support of forces, to include: personnel, human resources, supply, equipment, field services, health, religious support, financial management, and legal services

Replenishment Operations (RO)

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 2-10 to 2-11.

Replenishment operations (RO's) are preplanned operations that allow combat forces to replenish routinely. An RO is a deliberate, time sensitive operation to replace used stocks within a BCT or support brigade. These operations, which may be, but are not normally, augmented with assets from the sustainment brigade, are quick and in-stride with the supported commander's battle rhythm.

Replenishment Operations



Ref: FMI 4-93.2, The Sustainment Brigade, fig. 2-4, p. 2-11.

The purpose of the RO is to replace stocks used by a brigade. It may be either deliberate or hasty if circumstances allow. Typical activities that take place during the RO include rearming, refueling, maintaining, medical support, and essential personnel replacement to meet immediate needs. The BSB conducts RO to its FSC's and the FSC's also conduct RO to the combat loads of individual Soldiers and weapons platforms. The BSB will need to coordinate the timing of the RO with the sustainment brigade to ensure that the delivery from the sustainment brigade supports both the required stockade levels and the timing of its RO.

- Managing materiel, controlling movement, and managing distribution
- Providing lead service CUL to other services, multinational partners, and civilian agencies on order
- Establishing, managing, and maintaining facilities, including storage areas and maintenance areas
- Providing direct support field maintenance to units in its assigned AO
- Planning, coordinating, managing, and supervising the positioning and security of sustainment activities
- Coordinate through CSB for contingency contracting
- Maintaining visibility of customer locations
- Maintaining information regarding support relationships

The sustainment brigades are assigned multifunctional battalions and functional battalions and companies tailored and task organized to the specific mission. The sustainment brigade will normally have multiple CSSB's assigned to provide distribution and supplies to BCTs and supporting brigades operating within its assigned AO and other forces operating in or transiting its AO.

These supported brigades may be in one division or multiple divisions. The sustainment brigade (or logistics task force in a joint environment) establishes a base(s) within the AO to conduct operations. The MEB may be responsible for the terrain assignment and establishing secure movement corridors. The sustainment brigade base will be integrated into area terrain management and protection plans based on established C2 relationships and the physical space occupied.

Sustainment at the Operational Level

Key elements of the Army support structure at the operational level include APS, dedicated transportation, general support supply, sustainment maintenance, and human resources elements. Many of the stocks to support the AO are stored by Army logistics units, allowing tactical-level logistics units to remain mobile. Support at the operational level includes CUL support to joint and multinational forces, as required. Many different sources contribute to these support functions, including contractors, DA and DOD civilians, US Army and joint services, and multinational military organizations, and host nation resources.

Sustainment at the Tactical Level

Sustainment at the tactical level encompasses those activities that maintain and supply forces. The two ways that sustainment brigades provide support for a deployed Army force at this level are:

- The organic support battalions and Forward Support Companies (FSC's) of the BCT's and other brigades
- Replenishment furnished to EAB organizations on an area basis

See previous page (p. 2-17) for discussion of replenishment operations.

II. Theater Opening (TO) Mission

Theater opening (TO) is the ability to rapidly establish and initially operate ports of debarkation (air, sea, and rail) to establish sustainment bases and to facilitate port throughput for the reception, staging, and onward movement of forces within a theater of operations. Although port operations are a critical component of the theater opening function, theater opening is comprised of much more: communications, intelligence, civil-military operations, services, human resources, financial management, force health protection, engineering, movement (air/land/water transport, inland terminal operations), materiel management, maintenance, and contracting. A sustainment brigade will be one of the first organizations into a theater of operations.

When given the mission to conduct theater opening, the sustainment brigade is designated a Sustainment Brigade (TO) and a mix of functional battalions and multi-functional CSSB's are assigned based on mission requirements. The sustainment brigade HQ staff may be augmented with a Transportation Theater Opening Element (TTOE) to assist in managing the theater-opening mission. The augmentation element provides the sustainment brigade with additional manpower and expertise to C2 TO functions, to conduct transportation planning and provides additional staff management capability for oversight of reception, staging, onward movement, and integration (RSOI) operations, port operations, node and mode management, inter-modal operations, and movement control.

Unity of Effort

Conducting efficient and effective theater opening operations requires unity of effort among the various commands and a seamless strategic-to-tactical interface. Theater opening is a complex joint process involving the GCC; strategic and joint partners such as USTRANSCOM, USAMC, and DLA. Also critical to the theater opening effort is the JDDOC which has the mission to improve in-transit visibility and to support the geographic combatant commander's operational objectives by synchronizing and optimizing the interface of inter-theater and intratheater distribution to integrate the proper flow of forces, equipment, and supplies. In coordination with the supporting AFSB and CSB CDR or principal assistant responsible for contracting (PARC), the sustainment brigade will participate in assessing and acquiring available host nation (HN) infrastructure capabilities and contracted support.

Critical Tasks

The critical tasks for theater opening include: C2, reach and in-transit visibility; transportation management; theater RSOI; distribution and distribution management; movement control and movement Missions and Organizations management; life support; contracting support; and initial theater sustainment. Given the mission of theater opening, a sustainment brigade, together with the TTOE, should have capabilities to conduct the following:

- Establishing the theater base and infrastructure necessary for the joint force to expand to fully developed theater distribution and support operations
- Establishing and managing initial theater distribution operations. This includes distribution management, movement control and materiel management, and both surface and aerial re-supply operations.
- Soldier support, to include all life support services needed to support theater-opening operations
- Establish the Military Mail Terminal (MMT), Theater Gateway Reception, Replacement, Return To Duty, Rest And Recuperation, and Redeployment (TG R5) Personnel Processing Center (PPC), and initial Casualty Assistance Center during theater opening operations prior to the beginning of personnel flow, if tactically feasible
- Financial management

- Establishing the required elements of the Army distribution system
- Establishing and operating staging areas and/or bases
- Establishing and operating supply support areas for staging sustainment stocks
- Clearing incoming personnel and cargo at APOD's and seaports of debarkation (SPOD's), working with USTRANSCOM elements, SDDC and AMC
- Designating and preparing routes for onward movement (in conjunction with the respective engineer coordinator)
- Coordinating movement within the theater of operations with the Movement Control Battalion (MCB)
- Identifying and occupying the real estate needed for marshaling areas and the theater staging bases
- Establish initial financial management support operations in order to provide commercial vendor services support, banking and currency support, paying agent support, and limited pay support
- Establishing C2 links to provide in-theater connectivity among tactical, joint, and strategic support systems for integrating initial Army force deployments
- Planning operational support area RSOI nodes with the ARFOR staff
- Assist in developing and executing the Army portions of the joint movement program developed by the Joint Movement Center
- Establishing connectivity with Global Transportation Network that receives data from the Worldwide Port System (WPS) and Consolidated Aerial Port System to monitor the movement of forces and cargo, as well as the movement of military and commercial airlift, sealift, and surface assets
- Establishing and conducting rail operations and Army terminal operations at SPOD's and APOD's, to include forming arrival/departure airfield control groups
- Establish and manage Joint Logistics Over-the-Shore (JLOTS) operations
- Air terminal operations include movement control, cargo transfer, unit and cargo marshaling, cargo documentation, and port clearance
- Establishing and operating initial Army force provider facilities and arranging for required commercial or HNS-operated theater-staging bases
- Providing equipment de-processing and property transfers for pre-positioned unit equipment
- Establishing areas for staging of Army Pre-positioned Stocks (APS) materiel, transitioning personnel, and supplies
- Establishing and operating in-theater force and materiel tracking systems
- Validating air, sea, rail, and highway deployment rates for the force
- Establishing movement management activities and conducting movement control operations
- Coordinating port clearance and inland theater mvmt of forces and materiel

When circumstances warrant, the SB (SO)(A) may be tasked to oversee early entry theater opening in an operation expanding from SOF to conventional forces. When assigned, the SB (SO)(A) is usually OPCON to the TSC. When assigned tailored CSSB's and functional sustainment companies, the SB (SO)(A) can—

- Receive forces and provide C2 of theater opening, theater distribution, signal, financial management, personnel, ammunition, transportation, maintenance, supply and services, human resources, and religious and other logistics elements
- Support Army special operations task force early entry operations under C2 of the TSC until relieved by a conventional sustainment brigade HQ
- Establish and manage initial theater-opening operations, to include RSO functions and the establishment of the theater base
- Establish and manage initial theater distribution operations

2-20 (Sustainment Bde) II. Mission & Tasks

Transportation Theater Opening Element (TTOE)

Ref: FMI 4-93.2, *Sustainment Brigade (Feb '09)*, pp. 2-10 to 2-11.

The TTOE is assigned to a TSC and attached to a sustainment brigade (TO). The element provides command, control, administration, logistics, and supervision of the operating elements of the unit in the performance of mission tasks. The TTOE provides staff augmentation to the sustainment brigade (TO). It augments a sustainment brigade support operations section by giving it the capabilities required to provide staff oversight of select TO operations. This includes establishing the initial distribution network and providing support to assigned customers; conducting minimum essential early entry operations prior to employment of full theater opening capabilities; and C2 of employed units. Once expansion of the theater is largely complete or as conditions warrant, the TTOE will likely move to augment the ESC/TSC to manage the theater-wide movements and transportation mission. When the TTOE is resident with the sustainment brigade and the ESC/TSC has not yet arrived, the TTOE will have the mission to coordinate with all organizations conducting distribution functions impacting the JOA theater-opening operations, regardless of whether the function occurs at the strategic, operational, or tactical levels. The TTOE will remain with the sustainment brigade, providing theater-level transportation staff augmentation, when the sustainment brigade is the senior sustainment HQ in the JOA.

The TTOE, which by design integrates into the brigade SPO section, includes the following:

1. Terminal Operations Branch

Advises on the use and implementation of assigned, attached, contracted, and HN terminal and water craft operations; provides terminal infrastructure assessment; monitors and coordinates operation and positioning of terminal operations, including motor, rail, inter-modal, air, and sea; monitors and maintains status of terminal assets to ensure proper employment and appropriate tasking; and provides advice and expertise to the plans division in matters concerning terminal operations

2. Transportation Branch

Advises on the use and implementation of assigned, attached, contracted, and HN motor transport assets; provides guidance on positioning of motor transport, air, and rail assets; monitors and maintains the status of all modal transportation assets in the AO Missions and Organizations and ensures proper tasking; and provides advice and expertise to the plans division in matters concerning mode transportation operations

3. Movements Branch

Implements and monitors movements programs and commits transportation assets in support of RSOI operations; maintains operational status; provides information and guidance on transportation operations to subordinate groups and battalions; maintains ITV; conducts transportation planning; plans support for contingency operations; and conducts exceptional movement requirements; coordinates the evacuation of civilian refugees and US civilians with proper authority; provides the senior sustainment HQ the required personnel to conduct theater-level (Executive Agent) movement control/management.

III. Theater Distribution (TD) Mission

Theater distribution (TD) is a decisive element of multifunctional support operations that include the following:

- Air, land, and sea operations
- Management of materiel
- Management of assets
- Developing requirements and priorities
- Synchronization with the capability to perform retrograde functions critical to the repair of vehicles, equipment, weapons and components

Critical Tasks

Critical tasks include the following:

- Synchronizing multi-nodal, multi-modal distribution operations across an asymmetric operational environment in support of JFC requirements
- Maintaining visibility of the distribution system
- Performing distribution management

The sustainment brigade performing TD operations will coordinate with the JDDOC, the ESC/TSC DMC, MCB/movement control teams (MCT), the J-4 of the Joint Force Land Component Commander, and the logistics staffs or SPO's of supported organizations. The theater JDDOC supports theater distribution by ensuring end-to-end visibility, managing strategic transportation assets, and synchronizing priorities.

The sustainment brigade (TD) is assigned and operates the ground transportation assets and manages selected aerial re-supply assets, as well as the theater ground distribution network (nodes, rest halts, and distribution hubs) from the theater base distribution hub to other sustainment brigades, the BSB's, or to Centralized Receiving and Shipping Points (CRSPs). It is designed to provide C2 to assigned and attached units for the purpose of conducting distribution operations in the AO. Distribution operations include: receive, store, issue, distribute, trans-load, configure, reconfigure, classify, and collect stocks and unit equipment. It also includes the reception and transportation of units and replacement personnel.

When task organized to provide theater distribution the sustainment brigade may have capabilities, which include:

- Configuring/reconfiguring loads as required. Distributing to and retrograding from BCTs, other brigades, and other forces operating in the AO (if directed)
- Storing bulk supplies and authorized stockage list (ASL) items for distribution and internal consumption
- Managing and integrating surface distribution, ILAR assets (for example Air Land, Airdrop, Helicopter Sling Load), and rail operations
- As directed by the TSC, providing the distribution of all supplies and services for which the sustainment brigade is responsible
- Planning and controlling the use of surface transport for missions within assigned AO
- Organizing the movements of subordinate units within its AO, which requires coordination with the supported maneuver elements concerning current and proposed locations and movement of units
- Providing guidance and assistance to units in the AO on matters relating to airdrop
- Providing staff supervision of technical training for personnel regarding the rigging and loading of supplies and equipment for airdrop and aerial re-supply

- In coordination with the TSC, integrating joint and commercial distribution capabilities
- Delivering supplies, materiel, equipment, and personnel over the theater ground distribution network from theater base to BCT's and forward distribution points as required
- Maintaining surveillance over the theater ground distribution network
- Operating forward distribution points to receive, store, issue, configure, and reconfigure materiel
- Conducting retrograde, redirection, frustrated cargo, and redistribution operations
- Establishing/maintaining total asset visibility/in-transit visibility TAV/ITV over commodities, equipment, personnel, units, and ground assets flowing in the distribution network to include what is inbound from the strategic base
- Integrating the battlefield distribution information network
- Executing the TSC's theater distribution plan
- Operating regional distribution hubs, to include CRSPs
- Synchronizing movements with the MEB through secured mobility corridors
- Leveraging the available distribution infrastructure and optimizing pipeline flow to meet requirements and priorities
- Projecting distribution pipeline volume, flow rates, contents, and associated node and port requirements Adjusting pipeline flow and responding to changing operational requirements
- Monitoring RSOI in order to integrate and prioritize unit moves and sustainment moves
- Monitoring distribution terminal operations and the flow of multi-consignee shipments
- Synchronizing reception of Army resources with theater movement control operations
- Providing advice and recommended changes to the distribution system to the TSC commander, JFC distribution managers, or HN/contracted providers
- Maintaining visibility of the physical, resource, communications, and automation networks within the assigned AO
- Identifying capacity problem areas and actions to take within the distribution system
- Managing and controlling the distribution pipeline flow through anticipatory support and the synchronization of materiel management and movement control
- Distribution planning
- Establish Convoy Support Centers (CSC) at the direction of the TSC Missions and Organizations

See following pages (pp. 2-24 to 2-25) for discussion of distribution and materiel management.

Distribution and Materiel Management

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 2-30 to 2-36. See also 1-42.

Distribution management is the process of planning and synchronizing the time definite delivery of materiel, equipment, units, personnel, and services to, within, and from the AO. Distribution management involves the fusion of information derived from a number of processes: commander's oversight, Army Battle Command Systems, physical distribution, and materiel management. The premise of the distribution operations in the current force is to reduce the time it takes the right supplies (both demand supported and bulk) to travel from the source of supply to the point of need. The transformed distribution management system will eliminate reliance on stockpiles and static inventories located forward at each echelon, which was a characteristic of the old Army of Excellence supply-based system. Distribution substitutes speed for mass, makes use of a COP providing situational understanding, and ensures efficiency of delivery systems, while ensuring visibility of assets in the pipeline. In essence, the distribution system becomes the "warehouse," representing "inventory in motion" reducing both the organizational and materiel footprint within the AO. Logisticians control the destination, speed, and volume of the distribution system. The key elements of distribution management (C2, physical distribution, and materiel management) are further amplified below. The commander (in concert with guidance from superior HQ) provides the priorities and mission plan for units. The commander's guidance, in conjunction with the readiness shortfalls for that unit, determines the priorities for materiel delivery and fulfillment. Included in physical distribution are not only the vehicles themselves, but also the management of movement, routing, ITV assets, facilities, and material handling equipment.

Command and Control of Distribution

The Army conducts distribution management at all levels from strategic to tactical. One of the key components of the modular force concept is to have centralized C2 of units at EAB. As such, the TSC is the central distribution manager for the theater of operations. The sustainment brigade is responsible for managing distribution within its assigned AO by balancing the existing capabilities of the distribution infrastructure with the day-to-day and projected operational requirements. The Sustainment brigade issues distribution directives to CSSB's, which in turn issues directives to transportation companies for execution. The Sustainment brigade and CSSB's command all sustainment forces inside their assigned areas. The BSB is not under the command of the TSC, or Sustainment brigade, but rather is their supported unit. The BSB SPO issues distribution directives to the Distribution Company to replenish the FSC's.

Effective distribution management applies the principles of managing distribution centrally, optimizing infrastructure, minimizing stockpiles, maximizing throughput, and maintaining a seamless pipeline. The TSC's role in distribution management is in the development of the theater's distribution. The TSC's DMC coordinates and monitors the strategic distribution flow with USTRANSCOM. The DMC collects, analyzes, and monitors ITV distribution flow and executes changes in the distribution priorities established by ASCC G-4. The ESC performs the same function except it is confined to its theater of operation.

The sustainment brigade collects and analyzes ITV distribution information to monitor routes and locations of its convoys. This assists in movement control for convoy protection through a unit's AO. The Sustainment brigade also uses the ITV to establish delivery schedules to its CSSB's in support of the TSC and/or its supported command's priority of supply and effort. The BSB focuses on delivering timely, dependable, accurate, and consistent support to the BCT through the FSC's. It monitors and tracks any inbound Sustainment brigade convoys to synchronize protection issues. The SPO synchronizes and establishes delivery schedules to the FSC's through the BSB's Distribution Company.

Physical Distribution

Physical distribution is defined as the facilities, installations, platforms, and packaging needed to physically store, maintain, move, and control the flow of military materiel, personnel, and equipment between the point of receipt into the military system and the point of issue to using activities and units; including retrograde activities. The Sustainment brigade manages distribution nodes in its assigned AO. The Sustainment brigade and CSSB track and maintain visibility of assets (ground and aerial platforms) that are available for distribution. The CSSB maintains visibility of its capacity to store commodities as another aspect of physical distribution. The level of physical distribution increases from the TSC to the BSB while the level of distribution management decreases. The TSC and ESC's roles in physical distribution are minimal. However, visibility is still maintained over theater distribution assets within the distribution network. The ESC maintains visibility of theater of operations distribution assets. The TSC and ESC can direct cross leveling of distribution resources to meet tactical requirements to optimize the distribution flow.

Materiel Management

Materiel management is the supervision and management of supplies and equipment throughout the strategic, operational, and tactical level areas of operation that includes cataloging, requirements determination, procurement, overhaul, and disposal of materiel. Materiel management is the monitoring and control of on-hand stocks, ensuring quality control, requirements determination, local purchase, retrograde, and distribution of materiel. It also provides visibility to the distribution management effort of assets in stationary stocks at all echelons. A portion of materiel management is maintenance management, which provides oversight of parts requirements and also projections of parts availability (return of re-parables, for instance).

Organizational Roles in material management include:

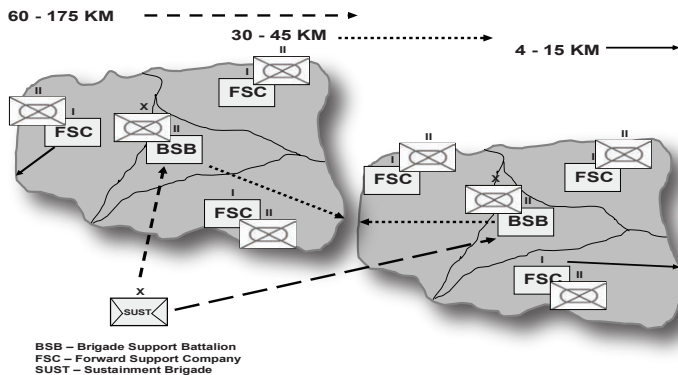
- **Army Sustainment Command (ASC).** This is the single Army national materiel manager for units stationed in the CONUS. ASC is a subordinate unit of the Army Materiel Command. It provides continuous equipment and materiel readiness to CONUS forces through effective planning, resourcing, and materiel and distribution management in accordance with the Army Force Generation (ARFORGEN) process. It achieves this by synchronizing strategic with operational and tactical logistics and by integrating acquisition, logistics, and technology.
- **Theater Sustainment Command (TSC).** The TSC manages materiel for all Army forces assigned or deployed within the assigned region and, as appropriate, for joint, multinational, and international forces. TSC managers are linked with the G-4s in their areas of operations for resource prioritization. The TSC also coordinates with the AMC Field Support Brigade Commander to support national-level system and materiel requirements.
- **Expeditionary Sustainment Command (ESC).** The ESC synchronizes the AO distribution systems and provides distribution oversight. The ESC can assist in tracking where requests are in the supply system and coordinates distribution assets when appropriate to redirect essential items based on the priority of support and the division or corps commander's priorities.
- **Sustainment Brigades.** Sustainment brigades execute the materiel management and distribution guidance from the TSC or ESC (from ASC for those sustainment brigades stationed in CONUS when not deployed). When the ESC is deployed, the command relationship with the ESC enables the TSC to issue directives to redistribute and surge logistics capabilities across the theater of operations to fulfill requirements as needed. The sustainment brigade SPO interfaces with the TSC or ESC (or ASC) materiel managers for asset management, visibility, and distribution to support the division or any other assigned customer units.

Operational Distances

Ref: FMI 4-93.2, *Sustainment Brigade* (Feb '09), pp. 2-11 to 2-12.

As a general guideline, in order to prevent overreach of units in tactical environments, the recommended distance between a Sustainment Brigade and the BSB's it supports should be from 60 to no more than 175 KM. The 175 KM limit reflects one line haul trip a day (max 222 KM-20% = 177 KM), and is constrained by fuel consumption of the distribution platform(s). The lower distance of 60 KM reflects line haul in rough terrain (6 hr x 10 KM/hr). For both, the assumption is that the longest time a driver can continuously and safely drive in a shift is 6 hours (one way trip). There is also an assumption of two drivers per vehicle. Ideally, the BSB's should be from 30 KM to 45 KM from combat operations and the FSC's should be from 4 KM to 15 KM from combat.

Operational Distances



Ref: FMI 4-93.2, *The Sustainment Brigade*, fig. 2-5, p. 2-12.

The following considerations should be used in determining operational distances:

- Sustainment Brigade's will locate near major transportation nodes (airfields, rail heads, inland, water ports)
- There are no CSC's inside a division's assigned area of operation
- Line haul convoys will not normally be refueled by BSB's
- Distances are constrained by the vehicle with the heaviest fuel consumption
- Distribution platforms should return with a 20 percent capacity fuel safety margin
- The longest time a driver can continuously and safely drive in a shift is 6 hours
- Critical items are distributed via throughput (normally by air)
- Sustainment Brigade's schedule of line haul replenishments to BSB's
- Poor roads reduce travel time by half from that of good roads
- Night driving reduces travel time by half from day driving

III. Organization and Support to the Warfighter

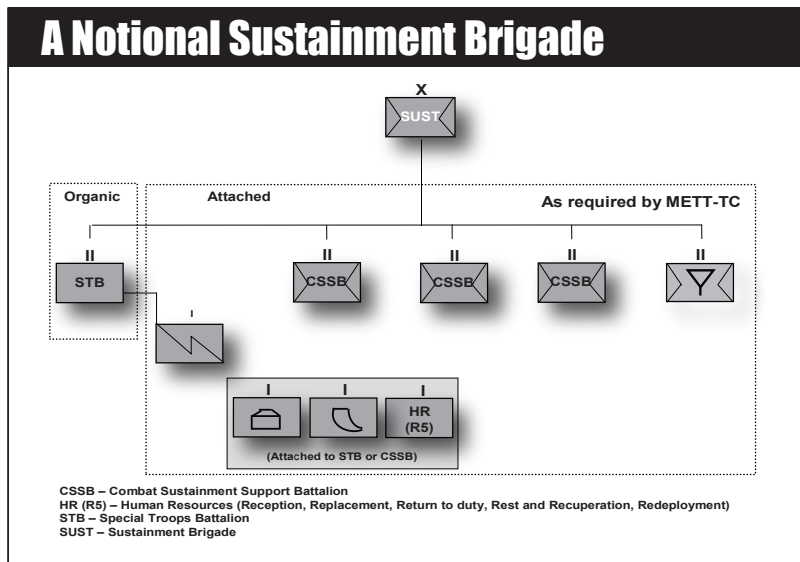
Ref: FMI 4-93.2, *Sustainment Brigade* (Feb '09), chap. 4.

In full spectrum operations, every unit—regardless of type—either generates or maintains combat power. Generating and maintaining combat power throughout an operation is essential to success. Commanders must have a thorough understanding of the sustainment warfighting function and the sustainment assets available in order to properly stage those assets in a way that preserves momentum.

This section discusses the sustainment warfighting function and sub-functions and describes the elements within the sustainment brigade that perform the functions. The intent is to provide an understanding of what must be done and what assets are available to provide support to the operating forces.

I. Sustainment Brigade Organizational Options

The sustainment brigade is designed to be a flexible organization that is task organized to meet mission requirements. The sustainment brigade has a command and staff structure capable of providing the full range of sustainment to the operational or the tactical level. It does not have the organic capacity to execute its assigned mission without the assignment of subordinate support units. The sustainment brigade is augmented by a number of different types of tailored organizations. The types and numbers of these organizations depend on the mission and the number, size, and type of organizations the sustainment brigade must support.



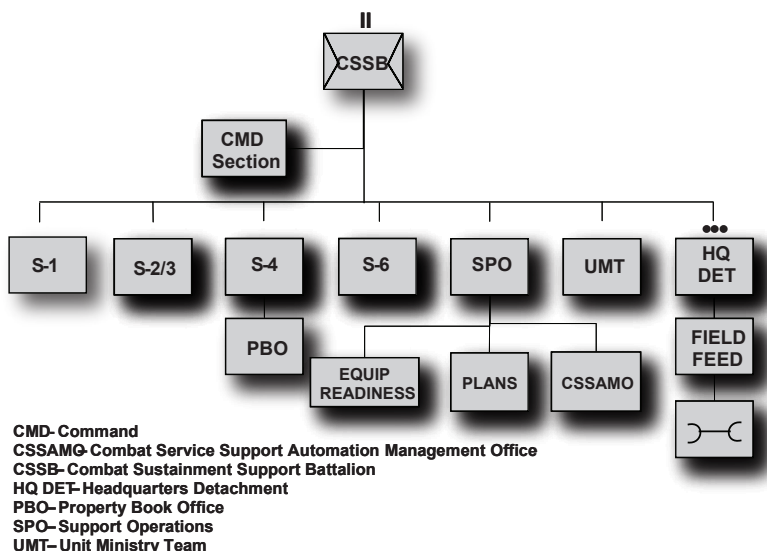
Ref: FMI 4-93.2, *The Sustainment Brigade*, fig. 2-1, p. 2-2.

II. The Combat Sustainment Support Battalion (CSSB)

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 4-3 to 4-5.

The CSSB is a tailored, multifunctional logistics organization. It is a flexible and responsive team that executes logistics throughout the depth of their assigned AO. The CSSB subordinate elements may consist of functional companies providing supplies, ammunition, fuel, water, transportation, cargo transfer, MA, maintenance, field services, and HR management. This framework enables the employment of a tailored logistics unit capable of adapting quickly to changing tactical conditions. The CSSB works through the sustainment brigade in concert with the TSC for logistics operations to effectively support the maneuver commander.

Three to seven total subordinate battalions may be attached to a single sustainment brigade depending on the brigade's mission. The CSSB is under the C2 of the sustainment brigade commander. It is the base organization from which force packages are tailored for each operation. Through task organization, the CSSB is capable of providing support during all phases of operations. The CSSB is structured to optimize the use of resources through situational understanding and common operational picture (COP). The mission of the CSSB is to C2 organic and attached units; provide training and readiness oversight; and provide technical advice, equipment recovery, and mobilization assistance to supported units. The headquarters detachment provides unit administration and sustainment support to the battalion staff sections.



Supported units are reliant upon CSSB's to meet replenishment requirements beyond their internal capabilities. The CSSB is the entity of the sustainment brigade that provides the distribution link between theater base, APOD(s), SPOD's, and the supported units. The structure includes cargo transfer and movement control assets, fused with supply functions.

The CSSB also performs the function of transporting commodities to and from the BSB of the maneuver BCT and to and from theater repair or storage facilities. Its function is to maintain the flow of replenishment; to retrograde unserviceable components, end items, and supplies; to monitor the distribution of replenishment that is throughput directly from the theater base by assets of the sustainment brigade tasked with providing theater distribution; and to assist with coordination and delivery if necessary. The CSSB augments/supplements supported units during the normal replenishment cycle, delivering supplies that are not being throughput directly to units. A brief discussion of some of the CSSB's functions follows.

1. Ammunition

Ammunition elements assigned to the CSSB provide for the receipt, storage, issue, and reconfiguration of ammunition items. These elements provide flexibility and can be tailored in order to support the full spectrum of operations. Ammunition platoons can be attached as needed to meet surge requirements. Bulk Class V is received at the SPOD where ammunition elements of the TSC configure unit loads of Class V within its ASA. The ammunition is then throughput directly to using units, to CRSPs, or to the ASA, and ammunition transfer and holding points (ATHP) for distribution to supported units as required.

2. Transportation

Transportation assets of the CSSB provide mobility of personnel and all classes of supplies. When the CSSB is assigned to a sustainment brigade tasked to provide theater distribution, it will be heavily weighted with transportation assets. At the operational level, the CSSB's transportation assets will normally operate between the operational and the tactical levels. However, loads can be throughput from the strategic level direct to the tactical level (for example, BSB) based on METT-TC. At the tactical level, the CSSB's transportation assets will provide mobility from the CSSB base to the BSB and the FSC's within the BCT area.

3. Maintenance

Maintenance assets of the CSSB provide maintenance based on the two-level (field and sustainment) maintenance characteristics. The CSSB normally provides field maintenance support to the task force. Field maintenance is provided on an area basis. CSSB maintenance elements are designed with the capability to send slice elements forward to support a maintenance surge or to help clear maintenance backlogs at the BSB's and FSC's. Deployed CRCs and field repair activities remain under the C2 of the AFSB, but may collocate with a CSSB to provide sustainment maintenance support. Medical equipment maintenance, calibrations, and verification/certification in the sustainment brigade will be provided by medical equipment repairers from the supporting Medical Logistics Company (MLC).

4. Supply and Services

Supply and Services (S&S) assets of the CSSB provide all classes of supplies (less Class VIII) and quality of life operations for personnel operating in or transiting the AO. Supply involves acquiring, managing, receiving, storing, and issuing all classes of supply (less Class VIII). The CSSB provides field services such as laundry, shower, light textile repair, MA, and aerial delivery support. The CSSB may also provide billeting; food services, and sanitation when conducting base camp operations.

5. Human Resources and Financial Management

An organizational option is to attach the HR and FM companies to the CSSB instead of the STB of the sustainment brigade.

6. Command Group

The CSSB has a command group and staff that is the same as any other battalion and performs the same functions.

III. Support to the Warfighter - The Sustainment Warfighting Function

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), p. 4-1 to 4-2. See also pp. 1-2 to 1-3.

The sustainment warfighting function is comprised of the related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance. The endurance of Army forces is primarily a function of their sustainment. Sustainment determines the depth to which Army forces can conduct operations. It is essential to retaining and exploiting the initiative. Sustainment is the provision of the logistics, personnel services, and health service support necessary to maintain operations until mission accomplishment.

A. Logistics Sub-function

Logistics is the science of planning, preparing, executing, and assessing the movement and maintenance of forces. In its broadest sense, logistics includes the design, development, acquisition, fielding, and maintenance of equipment and systems. Logistics integrates strategic, operational, and tactical support of deployed forces while scheduling the mobilization and deployment of additional forces and materiel.

See pp. 2-31 to 2-62 for further discussion.

B. Personnel Services Sub-function

Personnel services are those sustainment functions related to Soldiers' welfare, readiness, and quality of life. Personnel services complement logistics by planning for and coordinating efforts that provide and sustain personnel.

See pp. 2-63 to 2-66 for further discussion.

C. Health Service Support Sub-function

Health service support consists of all support and services performed, provided, and arranged by the Army Medical Department. It promotes, improves, conserves, or restores the mental and physical well being of Soldiers and, as directed, other personnel.

See pp. 2-67 to 2-70 for further discussion.

Support Operations Under Centralized LOG C2

The design of the Theater Sustainment Command reduces command layers once present in the AOE logistics organizational hierarchy and integrates the other major sub-functions of the Sustainment Warfighting Function -- Personnel Services and Health Service Support. The realignment of support functions enables centralized control and decentralized execution of sustainment operations in accordance with the commander's priorities and intent. The TSC is the proponent for theater distribution and is responsible for theater RSO, movement, sustainment, and redeployment functions in support of Army forces. It is also responsible for establishing and synchronizing the intratheater segment of the distribution system.

The TSC, ESC, and sustainment brigade SPO translates the commander's operational priorities into priorities of support. The SPO prepares concept of support annexes to the OPLAN/OPORD and balances capabilities with requirements. The SPO coordinates, develops, and monitors the preparation and execution of plans, policies, procedures, and programs for external and area support. The TSC SPO monitors theater stocks, personnel, financial management, and the integration of aviation asset requirements into the overall support plan. The SPO is also responsible for coordinating movements and throughput of personnel, supplies, and equipment. The sustainment brigade SPO's materiel management effort is focused on the management of its supply support activities (SSA) in accordance with TSC plans, programs, policies, and directives.

IV. Logistics Support to the Warfighter

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), chap. 4.

Logistics is the science of planning, preparing, executing, and assessing the movement and maintenance of forces. In its broadest sense, logistics includes the design, development, acquisition, fielding, and maintenance of equipment and systems. Logistics integrates strategic, operational, and tactical support of deployed forces while scheduling the mobilization and deployment of additional forces and materiel.

See pp. 1-37 to 1-56 for discussion of logistics as an element of the sustainment warfighting function.

Logistics Support to the Warfighter



Supply



Field Services



Transportation



Maintenance



Distribution



Operational Contract Support



General Engineering Support

I. Maintenance

See updated discussion of maintenance from ATTP 4-33 (Mar '11) and ADRP 4-0 (Jul '12) on pp. 1-37 to 1-42.

A. Replace Forward/Fix Rear

The overarching principle of replace forward/fix rear remains unchanged. Tailorable organizations execute the two-level maintenance system, composed of field maintenance and sustainment maintenance. Field maintenance involves platform tasks normally done by assets internal to the owning organization that return systems to a mission capable status. Sustainment maintenance involves platform tasks that are done primarily in support of the supply system (repair and return to supply), and will not normally be performed inside the brigade/BCT AO.

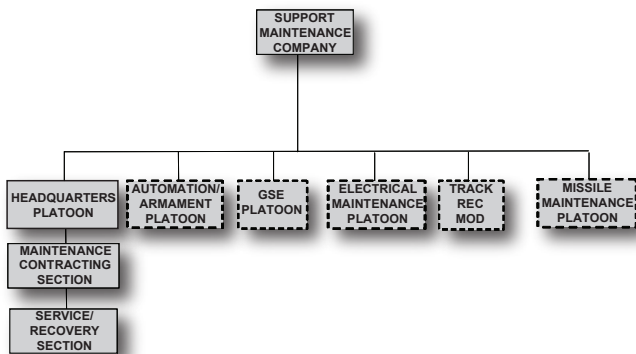
(Sustainment Bde) IV. Logistics Support to the Warfighter 2-31

The Army maintenance system employs tailorable field level maintenance units called support maintenance companies (SMCs). Sustainment level maintenance units called component repair companies (CRCs) are sent forward in the CSSB of the sustainment brigade. Each type of maintenance organization is built from a company HQ that can accept platoon and team level elements. These organizations are also capable of having 10 percent of their structure composed of contractors or DA/DOD civilians.

Support Maintenance Company (SMC)

The SMC provides area support to units in the sustainment brigade AO.

- Provides support field maintenance
- Supports theater opening packages (Army pre-positioned stocks)
- The SMC is capable of accepting modules (platoons/sections/teams) from Cry's and C&C's

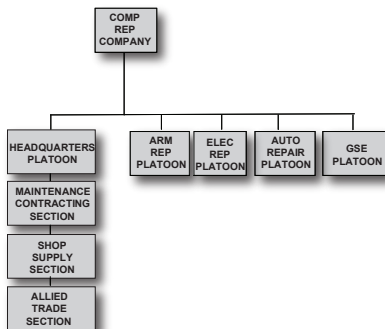


Component Repair Company (CRC)

The CRC provides repair and return to the theater supply system. CRY's are employed in the distribution system beginning at the national source of repair. These units can be pushed forward at the direction of the AFSB into the AO only as needed and will be work loaded by the AFSB.

These units:

- Provide repair and return to the supply system
- Operate in conjunction with a supply support activity (SSA)
- Can attach platoons/sections/teams to SMC or other sustainment units
- Integrated maintenance repair activities with AFSB



B. Aviation Maintenance

Ref: FM 3-04.500, *Army Aviation Maintenance* (Aug '06), chap. 2.

The aviation logistics transformation plan removed the multilayered pass-back maintenance concepts of the past. The new maintenance concept provides maintainers with the capability of replacing forward and repairing in the rear. In the contiguous and non-contiguous battle areas, the rear is generally defined as an area that provides higher security and capability. Aviation maintainers will continue to repair limited items forward within the ASB, returning repaired components to either the customer or the unit's PLL.

Field Maintenance

Field maintenance is performed by combat aviation brigade personnel assigned to flight companies, aviation maintenance companies, and aviation support companies (ASCs). The aviation maneuver battalion's assigned flight companies perform authorized maintenance procedures within their capability. AMCs assigned to aviation maneuver battalions provide maintenance support to all flight companies.

Both the AMC and the ASC are authorized to perform field-level maintenance. The AMC is limited to performing unit maintenance according to the MAC. The ASC, in addition to performing unit maintenance and because of the additional SKOT that it is assigned, is authorized to perform intermediate maintenance.

Combat aviation brigade assets primarily perform field maintenance. Field maintenance includes both unit and intermediate maintenance. The brigade commander has complete operational command and control of all aviation maintenance operations at and below the division level. Field maintenance comprises aviation maintenance platoons (AMPs), AMCs, and ASCs. Aviation field maintenance is characterized by "on system maintenance," generally replacing components or performing component repair and return to the user. Aviation field maintenance capability varies based on SKOT, personnel assigned, and the authority directed by AR 750-1.

- **Field Maintenance Teams (FMTs).** Modularity allows combat aviation brigade units flexibility through the formation of field maintenance teams (FMTs). FMTs vary in composition depending on the support requirements, duration, and availability of personnel.
- **Flight Line/Company Operations.** Company maintenance activities primarily maintain Army aircraft by conducting scheduled maintenance. Unscheduled maintenance is conducted within the unit's capability. Allowing unit maintainers a degree of ownership in their assigned aircraft will generally enhance the quality and standards of maintenance performed, thus improving overall unit readiness.
- **Aviation Maintenance Company (AMC).** The AMC is organic to aviation maneuver battalions; for example, the general support aviation battalion (GSAB), attack reconnaissance battalion (ARB), and assault helicopter battalion (AHB) assigned to combat aviation brigades (CABs).

Sustainment Maintenance

According to FM 4-0, sustainment maintenance is the Army's strategic support. The strategic support base is the backbone of the National Maintenance Program and the sustainment maintenance system. At this level, maintenance supports the supply system by economically repairing or overhauling components. Maintenance management concentrates on identifying the needs of the Army supply system and developing programs to meet the supply system demands.

Sustainment maintenance support is divided and primarily performed by three separate entities:

- Original equipment manufacturers (OEMs) and their CFSRs
- Army depots, located at fixed bases in the continental United States (CONUS)
- National maintenance (NM) sources of repair (SORs)

C. Battle Damage Assessment & Repair (BDAR)

Ref: FM 4-30.31, *Recovery and Battle Damage Assessment and Repair* (Sep '06).

BDAR procedures apply to most operational levels (from the crew through field level maintenance) and depend on the extent of the damage, time allowances, available personnel with required skills, and accessible parts, tools, and materials. Maintenance personnel must act quickly to restore the vehicle to the combat-ready condition required to continue the mission or allow the vehicle to self-recover. See also. p. 3-7.

BDAR Principles

To be effective, BDAR should follow certain basic guiding principles:

- Ensure standard maintenance practice is always the first consideration
- Base decisions of using BDAR versus standard maintenance on the METT-TC
- Provide an accurate assessment
- Ensure economy of maintenance effort (use maintenance personnel only when necessary)
- Train multifunctional skills
- Repair only what is necessary to regain combat capability
- Remain flexible about repair priorities

Commanders should address using BDAR in the logistics section of their operation order (OPORD). This will provide the crews and maintainers with a clear understanding of when and at what risk level they can perform BDAR. In wartime, BDAR may have to be liberally applied at the discretion of the commander. In military operations other than war, local command policy will direct the degree of BDAR to apply and when to use standard maintenance. However, commanders at all levels must ensure that both crews and maintainers perform annual BDAR training.

Think Safety First

Personnel must be aware of live/loaded ammunition, damaged weapons or ammunition, fuel/oil spills, and electrical cables and wiring.

- Look for unexploded ordnance (UXO) in the area before performing the assessment
- Check the area for chemical contamination, to include depleted uranium (DU) when appropriate. Use a radiac meter to determine if DU is present.
- Avoid environmental contamination by spills of fuel and oil. All spills should be reported through the chain of command to the unit's logistical element/S4.

Beware of Booby Traps and IEDs

Booby traps and improvised explosive devices present a unique challenge when recovering abandoned vehicles. If equipment was abandoned or was unsupervised by friendly forces, the possibility of booby traps exists. To ensure the safety of BDAR/recovery operations, inspect equipment for tampering before attempting repairs.

Recognize Battle Damage Indicators (BDI)

Battle damage indicators (BDI) from an operator or crewman perspective include smoke, fire, unusual odor, unusual mechanical noise, leaking fluids, fault warning lights and alarms, and loss of mobility or system function.

Perform an Assessment

The senior man present decides when and if BDAR is performed during combat. This decision is based on METT-TC and the appropriate risk repair level. Do not attempt to operate systems or subsystems until the crew has performed an assessment to prevent further damage to equipment or personnel.

II. Supply

Providing the force with general supplies is the mission of the attached/assigned quartermaster elements of the CSSB and functional battalions. Supply operations must effectively support a brigade-based force. To accomplish this, Quartermaster units, tailored together with other sustainment units to form multi-functional CSSB's within Sustainment Brigades, provide logistics support at the operational level. The current force maneuver and support brigades have organic support capabilities that provide operational endurance. Command and control and management of supply operations begin at the TSC and its supporting multi-functional Sustainment Brigades, and is executed by CSSB's. Supply elements generally provide subsistence, general supplies, bulk fuel, heavy materiel, repair parts, and water. Personal demand items (Class VI) and medical supplies (Class VIII) are not typically provided by units under the C2 of the sustainment brigade, but must be considered during the planning process.

See updated discussion of supply from ADRP 4-0 (Jul '12) on pp. 1-46 to 1-50.

A. Class I, Food and Field Feeding

The current field-feeding standard is expected to remain in effect. This feeding standard dictates that a ration is three quality meals each day, with the capability to distribute, prepare, and serve at least one Unitized Group Ration-A (UGR-A) or UGR-Heat & Serve (UGR-H&S) meal per day (METT-TC dependent). The family of operational rations used to support this standard consists of individual meals (Meal-Ready-to-Eat; Meal, Religious, Kosher/Halal; Meal, Cold Weather/Food packet, Long Range Patrol; along with the emerging First Strike Ration and Compressed Meal) and unitized group meals (UGR-A and UGR-H&S, along with the emerging Unitized Group Ration-Express (UGR-E)), plus enhancements such as bread, cereal, fruit, and salad and the mandatory supplement of milk to ensure the nutritional adequacy of the group rations. The inclusion of a cook-prepared hot meal in the standard of three quality meals per day is based on units having the required personnel and equipment necessary for implementation. During extended deployments of 90 days and beyond, the feeding standard is expanded to include the UGR-A Short Order Supplemental Menus. This option provides easy to prepare breakfast and lunch/dinner short order menus and affords choices in menu selection for Soldiers. The feeding standard applied when troops are deployed beyond 180 days includes the incorporation of the DA 21-Day menu that can be prepared using organic field kitchens or contractor logistics support.

See following page (p. 2-36) for further discussion.

B. Water Production and Distribution

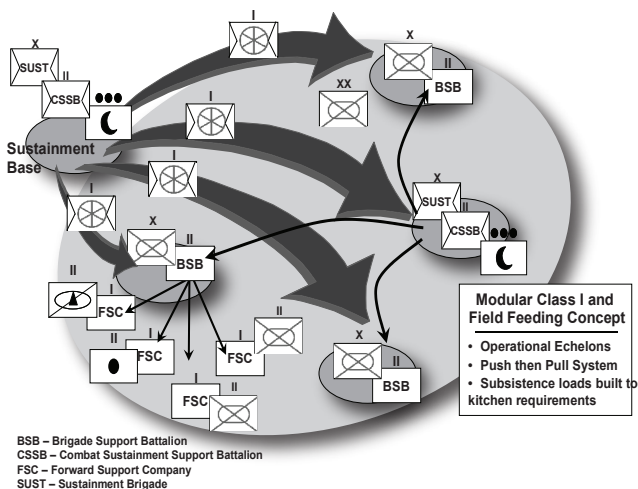
Water production and distribution operations in the current force can be characterized by a greater degree of self-reliance by maneuver units. This is due to a mobile storage capability, organic water purification, and improved distribution system within the brigade. This added water generation capability, along with the reduction in echelons and mobility improvements, will enhance the integration of sustainment into the operational battle rhythm. Modular Quartermaster Water Purification and Distribution Companies provide tailored water production package capabilities, storage, and bulk area distribution at the operational and tactical levels. Arrival of water units into the theater of operations is synchronized in such a way that the Water Distribution System will expand from commercial packaged water distribution early on, to water production and distribution as the theater of operations matures.

See following page (p. 2-37) for further discussion.

Class I Distribution

Ref: FMI 4-93.2, *Sustainment Brigade*, pp. 4-8 to 4-9. See also previous page (p. 2-35).

Class I items are pushed from the strategic level (vendors and/or depots) to the operational area based on supported unit strength reports. When logistic personnel, rations, transportation, and equipment are in place, a "Pull" or "Request" system will be implemented as UGR-H&S and UGR-A are introduced. The mix of perishable and semi-perishable rations depends on the Operational Commander's Feeding Policy and the availability of refrigerated storage and Subsistence Platoons. Class I stocks brought into the theater of operations will be moved to the Subsistence Platoon residing within Quartermaster Support Companies (QSC). The Commander's Stockage Policy will determine the number of days of Class I supplies to be maintained at various levels/locations. As an example, stockage levels set at 10 days of supply (DOS) at theater level are reduced to 3 to 5 DOS in the Subsistence Platoon of the sustainment brigade.



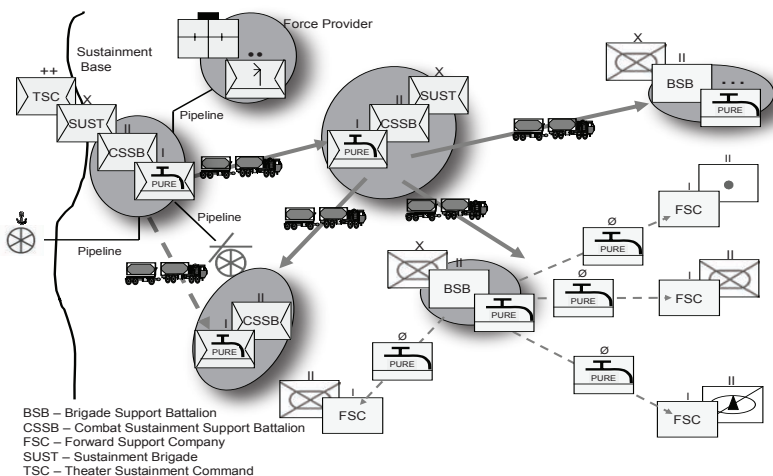
Class I bulk will be transported from the strategic level to the operational level in 20- or 40-foot refrigerated and non-refrigerated containers. The TSC will maintain the pre-dominance of theater Class I stockage, which will be maintained by the Subsistence Platoon(s) of the QSC located in the operational level Sustainment Brigade or an equivalent civilian organization. At this location, the QSC's Subsistence Platoon(s) will also provide Class I area support to units located in the numbered Army level area. Rations are distributed in bulk from the operational level via internal single temperature refrigerated containers or leased refrigerated containers on semi-trailers, and via leased 20- or 40-foot ISO containers on semi-trailers for semi-perishable assets, to the Subsistence Platoon of the Sustainment Brigade CSSB Quartermaster Support Company, which will build support packages for the maneuver brigades. The rationale for the Subsistence Platoon shipping in bulk is: it more efficiently uses the limited transportation assets available; it most effectively supports large base-camp operations (as seen in Iraq); and it allows the QSC Subsistence Platoon to respond within the required 72 hour turnaround from the order placement to the order delivery for its customers. A 72-hour turnaround is required to respond to changes in operational pace and still support the Army's field feeding policy to provide the Soldiers with at least one hot meal a day, METT-TC.

Water Production and Purification

Ref: FMI 4-93.2, Sustainment Brigade, pp. 4-9 to 4-10. See also previous page (p. 2-35).

Water Purification

Quartermaster Water Purification and Distribution Companies and Augmentation Water Support Companies are assigned to CSSB's in Sustainment Brigades. The Water Purification and Distribution Company can provide up to 360,000 gallons of potable water per day from a fresh water source at up to eight water points. When using a salt water or brackish water source, production equals 240,000 gallons. This company can store 160,000 gallons; 80,000 per platoon. The Augmentation Water Support Company for arid environments can purify up to 720,000 gallons from a fresh water source or 480,000 from a brackish water source, and store 1.9 million gallons.



PURE = Purification Capability. At EAB; 3000 and 1500 GPH Reverse Osmosis Water Purification Units
 At the BSB; Tactical Water Purification System (TWPS) and Lightweight Water Purifier (LWP)

Water Support within Brigades

In temperate climates, water purification, packaging, storage, and distribution will take place in the BSB and JSOTF. The BSB has distribution assets to deliver limited package and bulk water forward to FSC's during replenishment operations. FSC's within BCTs do not have water support capability. Water will be issued using supply point distribution from the FSC's. Bulk water purification is able to be conducted forward of the BSB through the employment of high mobility multipurpose wheeled vehicle (HMMWV)-mounted light water purification systems. Water purification within the JSOTF may take place forward of the BSB.

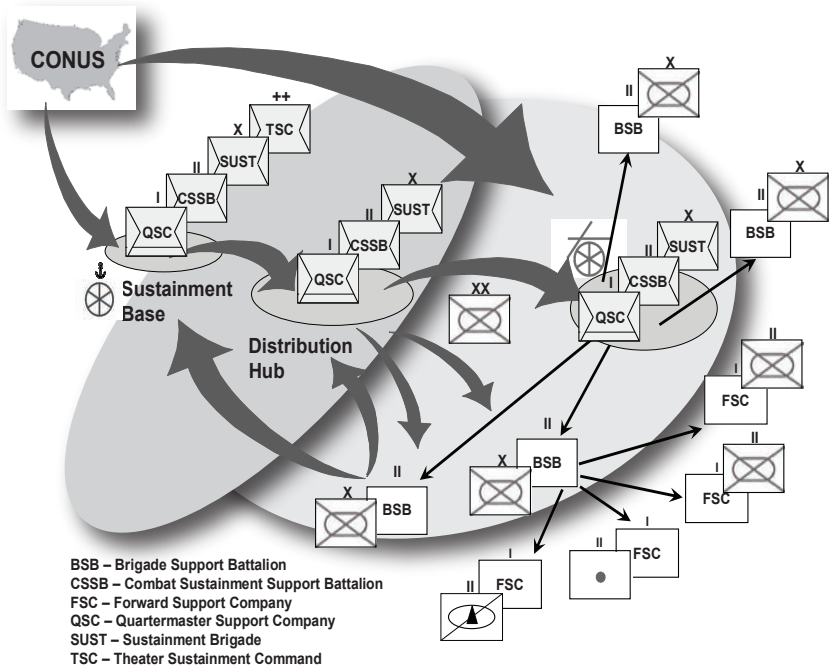
Operations in Arid Environments

In an arid environment water sources are limited and widely dispersed, while requirements for potable water are increased. Therefore, operations in arid or other-than-temperate environments, place greater demand on purification, storage, and distribution capabilities than in other climatic conditions. A greater commitment of water assets at the operational level may be required due to limited raw water sources available and mobility requirements at tactical levels. Augmentation Water Support Companies may be employed to provide the additional capability required to meet the increased demand for water purification and storage. Line haul distribution will be accomplished using semi-trailer mounted fabric tanks transported by Transportation Medium Truck Companies.

C. General Supplies (Class II, III (P), IV)

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 4-11 to 4-12.

Supply distribution for general classes of supply is characterized by throughput of loads as far forward as the BSB and JSOTF (40-foot containers will not go forward of the sustainment brigade). Supply distribution is conducted by the QSC, assigned to the Sustainment Brigade CSSB's at the operational and higher tactical levels.



The QSC, as the Consolidated Supply Support Activity (CSSA), provides for the receipt, storage, and issue of 207.8 ST of Classes II, III (P), IV, VII, and IX (less aviation, missile repair parts, and communications security equipment) stocks per day. It packages/repackages supplies as required, to include retrograde and redistribution. The QSC is the center-post of the Distribution Hub at the sustainment base level, receiving all stocks as they enter the theater of operations that cannot be readily throughput to a unit destination. The QSC Area Support Platoons at the operational level configure pure pallet packages to satisfy unit requests or assemble support packages to re-supply the QSC at higher tactical levels.

The QSC Area Support Platoons will build customized loads, combining pre-packaged loads received from designated distributors. These loads will be further combined with any required bulk supplies. Combined packages received from the strategic level will also be packaged for issue and forward movement to meet unit requests. These loads can be throughput as far forward as feasible.

Once supplies have been identified and configured for forward movement to the customer, the QSC will coordinate through its CSSB SPO for the most expeditious mode of transport. The TSC Support Operations/Distribution Management Center will establish the priority of effort for and coordination of the supply flow, maintenance and component repair activities, transportation, and distribution assets.

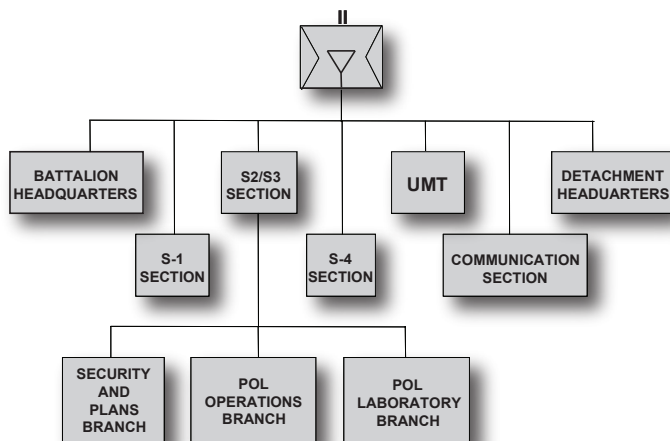
D. Class III (B)

Quartermaster petroleum units will provide fuel support for all US (and potentially coalition) land based forces. Sustainment brigades, specifically Quartermaster petroleum units and POL truck companies, will be involved in the reception and storage of POL from the refinery or terminal and the delivery to the BSB's distribution company. At theater level, POL Support Companies will be assigned to a POL Supply Battalion in a POL Group. At division/corps level, POL Support Companies will be assigned to a CSSB in a Sustainment Brigade. Theater opening or theater distribution sustainment brigades may be task organized with a Quartermaster pipeline and terminal operating company. Bulk petroleum will be distributed to the operational level for forward distribution to supported units. Fuel is throughput directly to Division locations and fuel support assets have been added to the maneuver BCTs and Support Brigades. Operational level fuel distribution operations use pipeline/hose line and large capacity long haul POL transportation. By moving POL capability to the Sustainment Brigades in the Corps/Division area, they can be more responsive to the BCT off-cycle demands and surge requirements. The TSC, sustainment brigades, and divisions can all maintain visibility of bulk fuel quantities on hand in the units and at the supply points via BCS3.

See following page (p. 2-41) for further discussion.

1. POL Supply Battalion

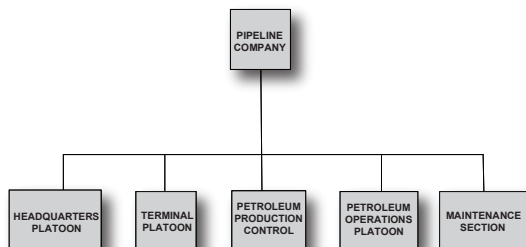
The POL supply battalion's mission is to provide C2, administrative, technical, and operational supervision over assigned or attached petroleum supply companies and petroleum truck companies. Its capabilities include C2 of two to five petroleum supply and truck companies; planning for the storage, distribution, and quality surveillance of bulk petroleum products; maintenance of theater petroleum reserves; and operation of a mobile petroleum products laboratory. POL supply battalions are typically assigned to either the TSC or to a petroleum group. However, these battalions may be attached to the sustainment brigade performing the theater-opening mission.



3. Quartermaster Petroleum and Terminal Operations Company (PPTO)

The Quartermaster petroleum and terminal operations company (PPTO) has as its mission to operate petroleum pipeline and terminal facilities for receipt, storage, issue, and distribution of bulk petroleum products. It is normally assigned to a petroleum pipeline and terminal operating battalion or a petroleum group. Its capabilities are to:

- Operate fixed terminal facilities for storage of up to 2,100,000 gallons of bulk petroleum. This normally consists of two tank farms, each with a capacity of up to 250,000 barrels or a tactical petroleum terminal (TPT) with a storage capability or up to 90,000 barrels.
- Operate up to 90 miles of pipeline for distribution of approximately 720,000 gallons per day
- Operate six pump stations, 24 hours per day, to deliver bulk product through 6- or 8-inch multi-product coupled pipeline
- Operate facilities for shipment of bulk product by coastal tanker, barge, rail, and tank trucks
- Maintain a prescribed reserve of bulk product for the theater of operations
- Operate a fuel system supply point for bulk issue operations

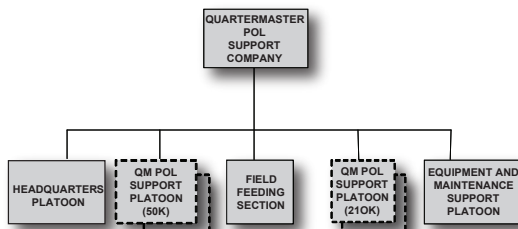


4. Quartermaster POL Support Company

There are two types of POL Support Companies: the POL Support Company (50K) and the POL Support Company (210K). The POL Support Companies receive, store, issue, and provide limited distribution of bulk petroleum products in support of division/corps or theater operations. Line haul distribution of bulk POL is performed by POL truck companies. The POL Support Company (210K) is normally located in the theater area and assigned to a POL supply battalion. The POL Support Company (50K) is normally located in the division area and assigned to a CSSB within a sustainment brigade. When task organized with three POL Support Platoons they have the following capabilities:

- Store up to 1,800,000 gallons when organized with three POL Support Platoons or 5,040,000 when organized with three POL Support Platoons (210K)
- Receive and issue up to 1,200,000 gallons per day when organized with three POL Support Platoons (50K) or 1,935,000 gallons per day when organized with three POL Support Platoons (210K)
- Establish and operate two hot refueling points using two Forward Area Refueling Equipment systems for transitory aircraft operating in their area

The area support section of each POL platoon can store up to 120,000 gallons of bulk petroleum at one location and 60,000 gallons at each of two locations. The distribution section of each POL platoon can distribute 48,750 gallons of fuel daily based on 75 percent availability of fuel dispensing vehicles at two trips per day.

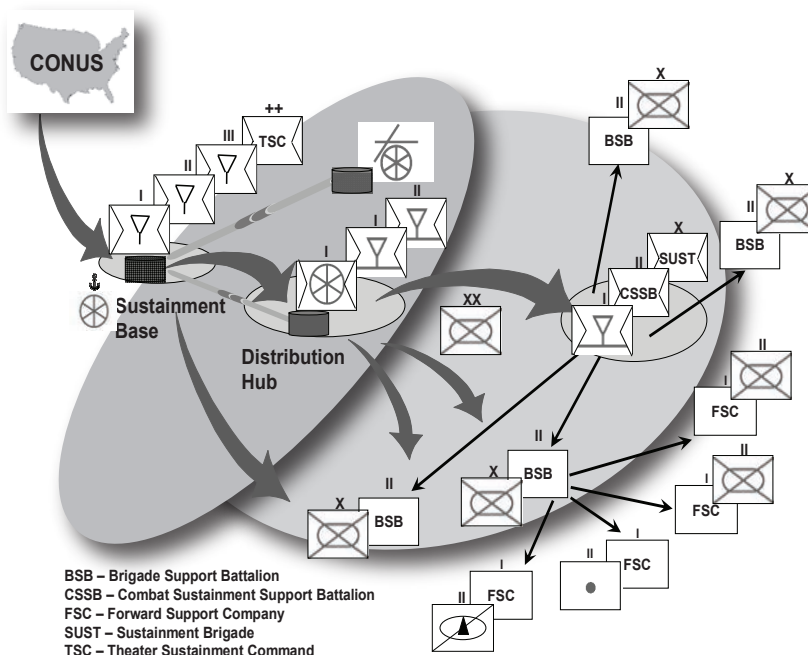


Theater Level Petroleum Operations

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 4-13 to 4-14.

In a developed theater of operations, the Fuel Distribution System includes: the Off-shore Petroleum Discharge System, inland tank farms Tactical Petroleum Terminals (TPT's), and pipeline systems. With a theater structure in place, Operational Petroleum Pipeline and Terminal Operating (PPTO) Companies in a TSC POL Group establish the theater petroleum support base for products received from ocean tankers at marine petroleum terminals. The petroleum support base serves as a hub for receiving, temporarily storing, and moving fuels to Petroleum Support Companies (PSC) at the operational and higher tactical levels. Petroleum Supply Battalions at the operational level provide theater stocks and deliver fuel to the Sustainment Brigade PSC's at the higher tactical level. PSC's support the area distribution mission and POL truck companies deliver fuel to the BSB's in the BCTs.

Pipelines/hose lines (the most efficient mode) will be used to deliver fuel products as much as possible during initial operations (usually to the Sustainment Brigade supporting the division). Large-scale combat operations may justify the construction of coupled pipelines/hose lines using the Inland Petroleum Distribution System or a future more rapidly emplaced pipeline system to move bulk petroleum from theater storage locations forward. Air bases and tactical airfields are serviced by pipeline when feasible. When available, pipeline distribution is supplemented by tank type vehicles, railcars, and barges.



POL supply battalions at the operational level provide theater stocks and deliver fuel forward to the petroleum support companies (PSC) attached to sustainment brigades at the higher tactical level. PSC's in turn support the area distribution mission, while POL truck companies deliver fuel to the BSB's in the BCTs.

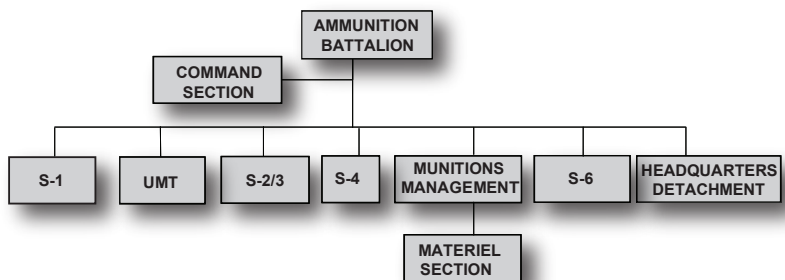
E. Class V, Ammunition Support

The sustainment brigade provides ammunition support with various organizations and from various locations based upon the maturity of the theater of operations and the mission of the supported units. Sustainment brigades operate Theater Storage Areas (TSA) at sustainment bases and ammunition storage points (ASP) at the distribution hub and other forward locations. Sustainment brigades operate Ammunition Support Activities (ASA) that provide the capability to receive, store, & issue Class V. See following pages (p. 2-44 to 2-45) for further discussion.

1. Ammunition Battalion

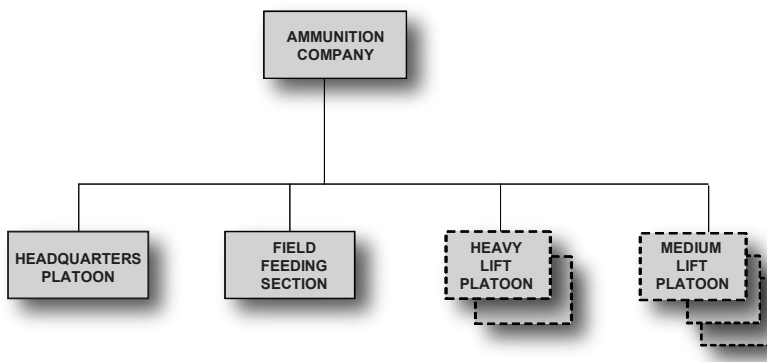
The ammunition battalion's mission is to C2 ammunition companies and other attached units. It also provides supervision of ammunition support operations. The ammunition battalion is usually assigned to an operational-level sustainment brigade. Its core capabilities are:

- C2 and staff planning for two to five subordinate units
- Technical direction over ammunition support missions of subordinate units, except inventory management functions for which the TSC distribution management center (DMC) is responsible
- Maintaining a consolidated property book for assigned units



2. Ammunition Ordnance Company

The mission of the ammunition ordnance company is to provide command, control, and administrative, planning, and logistical support for ammunition platoons. It is normally assigned to an ammunition battalion or a CSSB.



Class V Control Procedures

Ref: FM 4-30.13, *Ammunition Handbook: TTP for Munitions Handlers* (Mar '01).

Ammunition Supply Rates

The procedures used to control ammunition consumption are the required supply rate (RSR) and controlled supply rate (CSR). The Standard Army Ammunition System—Modernization (SAAS-MOD) is the management information system used to support these control procedures.

1. Required Supply Rate (RSR)

The RSR is the amount of ammunition a maneuver commander needs to sustain tactical operations, without restrictions, over a specified time period or for a specific mission. The RSR is expressed as rounds per weapon per day or, for selected items such as mines or demolition materials, as a bulk allotment per day or per mission. As the threat or mission changes, RSRs should change to reflect revised ammunition expenditure estimates. Maneuver commanders develop RSRs and submit them to the next higher HQ through operations channels. Each HQ reviews, adjusts, and consolidates RSRs and forwards them through operations channels. At the HQ that has ammunition management responsibilities, normally at TA/ASCC level, the total ammunition requirements are compared against total ammunition resupply capabilities for that period. If there is a shortfall in capability, a CSR will be established.

2. Controlled Supply Rate (CSR)

The CSR is that amount of ammunition that can be allocated based on the availability of ammunition types or quantities, Class V storage facilities, and transportation assets over a specific time period. The CSR is expressed in the same terms as the RSR. Commanders should use CSRs to allocate or prioritize the ammunition flow to units engaged in combat and to units held in reserve. They could also withhold some ammunition, especially high-lethality, low-density ammunition, to meet unforeseen requirements.

Ammunition Basic Loads (ABLs)

ABLs originate with a tactical force's planned deployment. An ABL is that quantity of ammunition either allocated to or issued to a unit [depending on the MACOM's policy] to sustain its operations in combat until it can be resupplied.

Basic load requirements are based on unit weapon density and mission requirements and are designed to meet a unit's anticipated initial combat needs. Units must be able to transport ABLs in one lift on organic weapon systems, equipment, and unit personnel. An ABL is normally expressed in rounds per weapon but may be expressed IAW MACOM policy as a number of required combat loads (example: battalion loads for artillery systems). The following factors influence ABLs:

- Nature of the enemy threat
- Type of mission
- Intensity of engagement
- Resupply transport availability
- Ammunition availability
- Number and types of weapons in unit

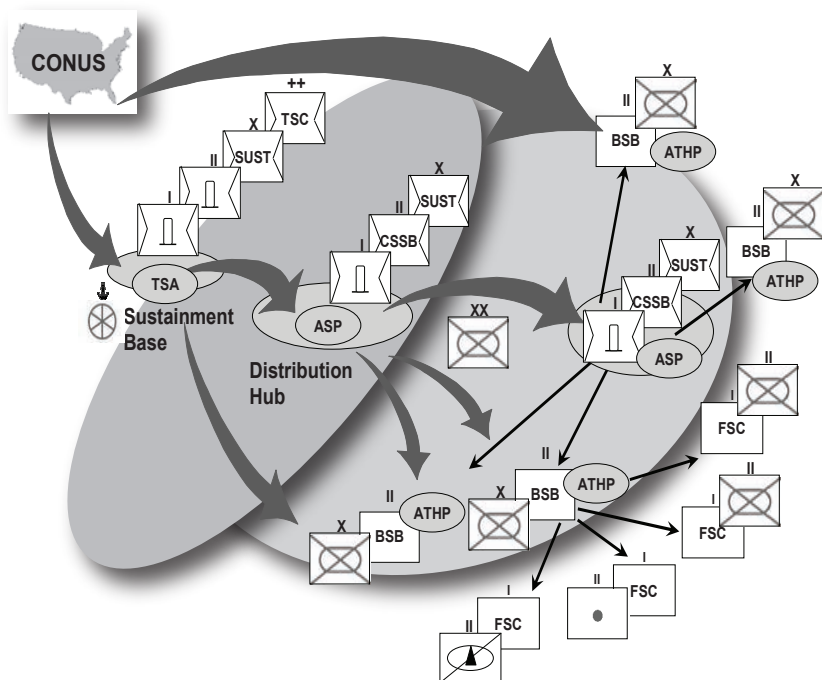
Lift Capability

Ammunition units' capabilities are measured in lift. A lift uses MHE to pick up ammunition and set it down, with each pickup and set down constituting one lift. A lift is measured in short tons (STONs) (2,000 pounds). Ammunition units' expressed lift capabilities are limited by personnel and MHE availability.

Ammunition Support

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 4-17 to 4-18. See also previous pages (p. 2-42 to 2-43).

The ammunition logistics system provides to the force the right type and quantity of ammunition in any contingency. The challenge is to move required amounts of ammunition into a theater of operations from CONUS and other pre-positioned sources in a timely manner to support an operation. The system must be flexible enough to meet changing ammunition requirements in simultaneous operations around the world. The objective of the system is to provide configured Class V support forward to the force as economically and responsively as possible with minimized handling or reconfiguring and quickly adapt to changes in user requirements. The unique characteristics of ammunition complicate the system. These factors include its size, weight, and hazardous nature. It requires special shipping and handling, storage, accountability, surveillance, and security. Munitions are managed using different methods depending on the level of command.



ASP – Ammunition Supply Point
ATHP – Ammunition Transfer and Holding Point
BSB – Brigade Support Battalion
CSSB – Combat Sustainment Support Battalion
FSC – Forward Support Company
SUST – Sustainment Brigade
TSA – Theater Storage Area
TSC – Theater Sustainment Command

Ammunition Flow

Ammunition issued to users is replaced by ammunition moved up from theater storage areas. In turn, ammunition stockage levels at the theater storage areas are maintained by shipments from CONUS or out of other theater locations. The quantity of ammunition shipped forward is determined by the amount on hand, current and projected expenditures, and the controlled supply rate (CSR).

Each battalion S-4 transmits a request for re-supply of ammunition for units through the brigade S-4 to the BAO. The BAO coordinates and controls the use of Class V supplies for the brigade, consolidates the brigade requests, and submits them to the sustainment brigade, ESC/TSC. The TSC, in coordination with the numbered Army G-4, reviews all requests and balances them against the CSR issued by the theater storage activity. The numbered Army issues the CSR to support the units. Some ammunition requirements are prioritized due to scarcity and some may not be issued due to unavailability. The BAO through TSC coordinate for the shipment of ammunition to the ATHP.

Captured enemy ammunition (CEA) must be kept separate from US munitions; however, it must be accounted for, stored, and guarded using the same criteria that applies to US munitions. When an enemy ammunition cache is found or captured, the commander must assess the combat situation. He/She must decide whether to destroy the CEA because of the situation or to secure it and request explosive ordnance disposal support. During retrograde operations, leaders must ensure safety policies and procedures are carefully observed as these operations can be particularly hazardous and serious injury has occurred in the handling of CEA. Close control of CEA is required. Positively identified and serviceable CEA may be compatible for use in US or allied forces weapon systems. These munitions can potentially ease the burden on the ammunition supply system. CEA can also be used as a substitute for bulk explosives during demolition operations.

1. Theater Storage Area (TSA)

The TSA encompasses the storage facilities located at the operational level. This is where the bulk of the theater reserve ammunition stocks are located. Ammunition companies, with a mixture of heavy- and medium-lift platoons, operate and maintain TSA's. The primary mission of the TSA is to receive munitions from the national level, conduct the bulk of operational level reconfiguration, and distribute munitions to forward ASA locations and BCT ATHP's. The TSA will build those configured loads that cannot be shipped into a theater of operations due to explosive compatibility conflicts for international shipment. Ammunition will be managed by either an ammunition battalion or CSSB based upon METT-TC.

The sustainment brigade must keep the TSC DMC informed of storage or handling limitations or shortages in each TSA. When mission analysis indicates more than one TSA or port facility is required, the GCC should plan for early deployment of an ordnance ammunition battalion to provide mission C2 of munitions distribution at the TSC level.

2. Ammunition Supply Points (ASP)

Ammunition supply points (ASPs) provide the capability to receive, store, issue, and perform limited inspections and field level munitions maintenance support. The sustainment brigade gains such capability when it is assigned one or more ammunition ordnance platoons. The CSSB's attached to the sustainment brigade will contain ammunition ordnance companies and ASP. The number of companies and ASPs varies based upon the role of the sustainment brigade to which they are attached and the size and mission of the supported organizations.

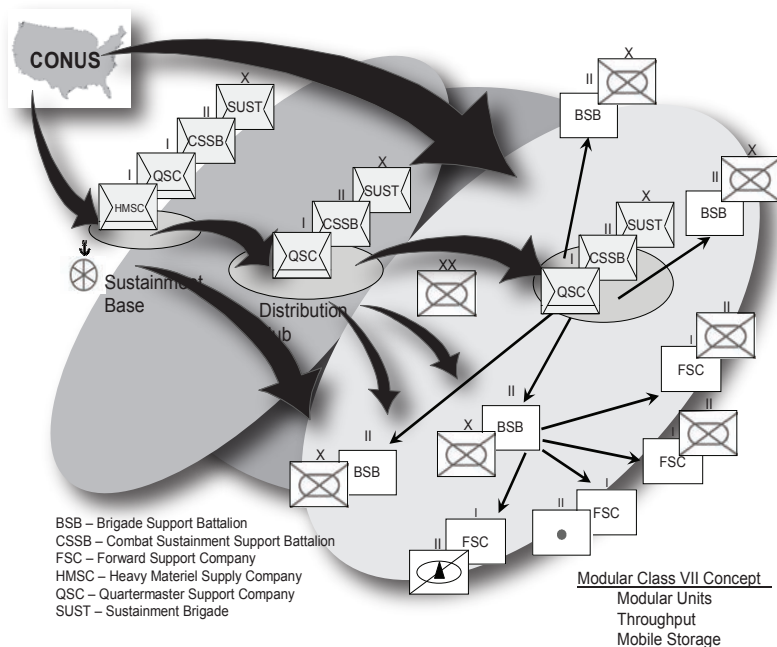
ASPs receive, store, issue, and maintain ammunition based on the capabilities of assigned ammunition platoons. ASP stockage levels are based on tactical plans, availability of ammunition, and the threat to the re-supply operation. Additionally ASPs are the primary source of re-supply of ATHP located in BCTs.

F. Class VI

Soldiers usually deploy with a 60-day supply of health and comfort items. Health and comfort packs (Class VI) can be supplied through supply channels. Tactical field exchanges provide Class VI supply support beyond the health and comfort packs. Class VI support can be limited to basic health and hygiene needs or expanded to include food, beverages, and other items based upon the requirements outlined by the theater commander. The availability of health and comfort packs and Class VI items can greatly enhance morale.

G. Class VII (Major End Items)

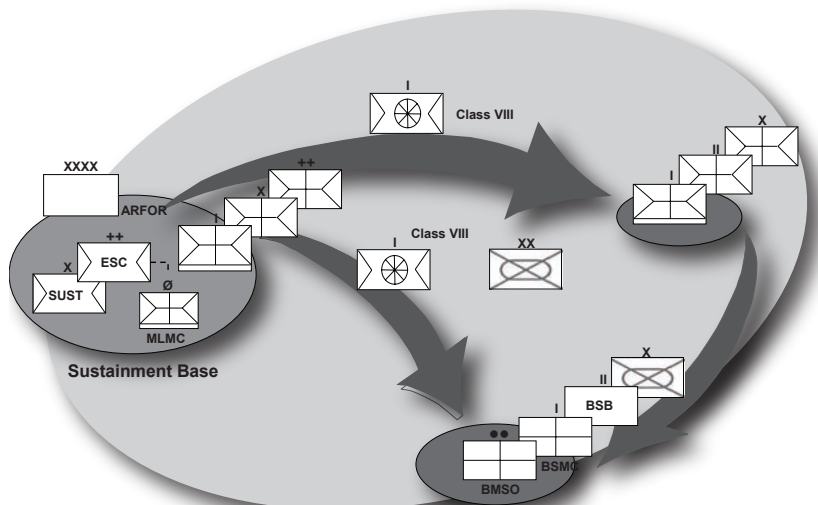
Due to their cost and critical importance to combat readiness, major end items (Class VII), are intensely managed and controlled through command channels. They will be distributed to the brigade support battalion (BSB) distribution company from the quartermaster support company (QSC) in the sustainment brigade or from the strategic level.



H. Class VIII

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 4-20.

Theater-level inventory management of Class VIII will be accomplished by a team from the medical logistics management center (MLMC). The medical community performs all supply functions for Class VIII, but relies on the sustainment brigade and subordinates to transport the supplies unless they are transported by ambulance. The MLMC support team collocates with the DMC of the TSC/ESC providing the medical command with visibility and control of all Class VIII inventory. When an ESC is deployed, an element from the MLMC will also collocate in their DMC. The medical logistics company (MLC) in the MMB will serve as the consolidated forward distribution point for Class VIII.



ARFOR – Army Forces
BMSO -
BSB – Brigade Support Battalion
BSMC – Brigade Support Medical Company
ESC – Expeditionary Sustainment Command
MLMC – Medical Logistics Management Center
SUST – Sustainment Brigade

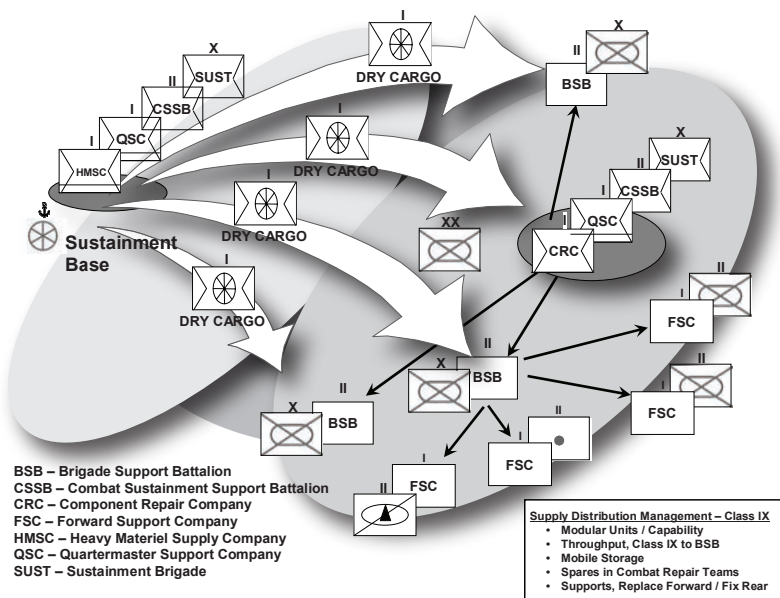
Once supplies are identified and configured for forward movement to the customer, the MLC will submit transportation movement requests to the sustainment brigade and the MCB for appropriate transportation assets for forward movement.

H. Class IX - Repair Parts

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 4-21.

Class IX may be throughput from the theater sustainment base to the BSB depending on if the item(s) are critical in the fight. Other Class IX may be throughput to the sustainment brigade.

CSSB's receive, store, and issue Class IX items and configure/reconfigure loads, as required, in support of sustainment operations, to include retrograde and redistribution. The area support platoons assigned to the QSC, can receive, store, and issue Class IX items at either one or two locations, supporting 8,000 Soldiers at one location or 4,000 Soldiers at each of two locations. The area support platoons provides field and sustainment support as part of the QSC mission. These functions may be accomplished separately. The number of QSC's required in the division is METT-TC tailored.



The QSC in the CSSB of the sustainment brigade receives the Class IX repair parts and configures loads as required, to include retrograde and redistribution responsibilities. The QSC establishes the CSSA that will receive, store, and issue the theater stockage levels established by the GCC. The QSC also provides support to units within the theater base. Since the repair of Class IX reparable items will be conducted at the sustainment maintenance facilities at the theater base, repaired items will be re-introduced into the supply system at the QSC CSSA.

Repair Parts Supply Operations

Ref: FM 4-30.3, *Maintenance Operations and Procedures (Jul '04)*, chap. 5.

The supply system includes the wholesale level, retail level, and unit level. Wholesale supplies are managed at the strategic management level, retail supplies are managed at the operational and tactical levels, and unit level supplies are managed at the unit level.

Prescribed Load List (PLL)

The PLL is a list of the authorized quantities of supplies required by a unit to do its daily unit maintenance. Units that are authorized personnel, tools, and equipment to perform maintenance maintain a prescribed load of repair parts. Units that regularly support other units without maintenance capabilities include the supported unit's equipment in their PLL computations. A PLL consists of repair parts and other stocks. The unit PLL consists of unit-level maintenance repair parts that are demand-supported (15 DOS), non-demand-supported, and specified initial stockage for newly introduced equipment.

Authorized Stockage List (ASL)

The ASL consists of those parts stocked in DS repair parts supply units for issue to user units and to support DS-level maintenance operations. The MMC, based on priorities established by the commander, will establish the guidelines for issue, ASL design, or distribution. The MMC is the common exit point for requisitions and other supply documents for the division.

Mandatory Parts Lists (MPLs)

MPLs, which are published as DA pamphlets, are used to standardize the combat PLLs. The MPL is the mandatory portion of the standardized combat PLL. Parts on the MPL must be on-hand or on order at all times.

Weapon System Replacement (WSRO)

Weapon System Replacement Operations (WSRO) is a management tool used to supply the Combat Commander with fully operational major weapon systems, including both the required equipment and trained crews. Procedures for issue of weapon systems differ from those for other Class VII items. Weapon systems replacement is managed at each level of command. Two terms often used to describe WSRO are ready-for-issue and ready-to-fight.

Operational Readiness Float (ORF)

ORF is a quantity of selected end items or major components of equipment authorized for stockage at CONUS installations and overseas support maintenance activities, which extends their capability to respond to materiel readiness requirements of supported activities. It is accomplished by providing supported units with serviceable replacements from ORF assets when their like items of equipment cannot be repaired or modified in time to meet operational requirements.

Controlled Exchange

Controlled exchange is the removal of serviceable parts, components, or assemblies from unserviceable, but economically repairable equipment and their immediate reuse in restoring a like item of equipment to combat operable or serviceable condition. *See a/so p. 3-7.*

Cannibalization

Cannibalization is the authorized removal of parts, components, or assemblies from economically non-repairable or disposable end items. Cannibalization supplements and supports the supply operation by providing assets not readily available through the normal supply system. *See a/so p. 3-7.*

III. Field Services

A. Mortuary Affairs (MA)

The MA program is designed to support war and stability operations including mass-fatality situations. For non-contingency situations each Service provides or arranges support for its deceased personnel. Roles and responsibilities for MA are outlined in the Department of Defense Directive 1300-22, which designates the Secretary of the Army as the executive agent for MA.

The Theater Sustainment Command (TSC) is the Army organization responsible for providing CUL within the theater of operations, to include MA support. The TSC commander, or a designated representative, determines the responsibility and placement of theater MA assets within the JOA. Normally, this is accomplished through coordination with the JMAO. The sustainment brigades exercise tactical/operational control over MA assets while the TSC exerts technical control over the theater-wide MA mission and executes any required adjustments in mission support in coordination with the sustainment brigades. If neither the TSC nor the ESC deploys to an AO and the sustainment brigade is the senior sustainment HQ in the AO, then the sustainment brigade will exert technical control over the MA mission and would perform all functions/actions listed in the following discussion as being performed by the TSC.

The Army MA Program is divided into three distinct programs: Current Death Program, Concurrent Return Program, and Graves Registration Program. Theater MA support during major operations is provided through the Concurrent Return and Graves Registration Programs. This support includes the initial search and recovery, tentative identification, coordinated evacuation, and decontamination (if necessary) of remains and personal effects (PE). Each MA program addresses the federal responsibility for recovery and evacuation of US military personnel, government employees, and US citizens not subject to military law. Per the Geneva and Hague conventions, commands also have to address the recovery and evacuation of Multinational, Enemy Prisoners of War, Enemy, and host nation dead. Mortuary affairs operations for Army forces rests within the GCC's theater organization. The Joint Mortuary Affairs Office (JMAO) has responsibility for the Joint Mortuary Affairs Points (JMAP) within a JOA.

During multinational operations, MA staff planners must ensure that joint doctrine takes precedence. Specifically, it is imperative that MA planners and MA personnel process all remains in the same manner in accordance with JP 4-06 and all applicable international and cooperative agreements in the specific theater of operations.

See following page (p. 2-51) for further discussion.

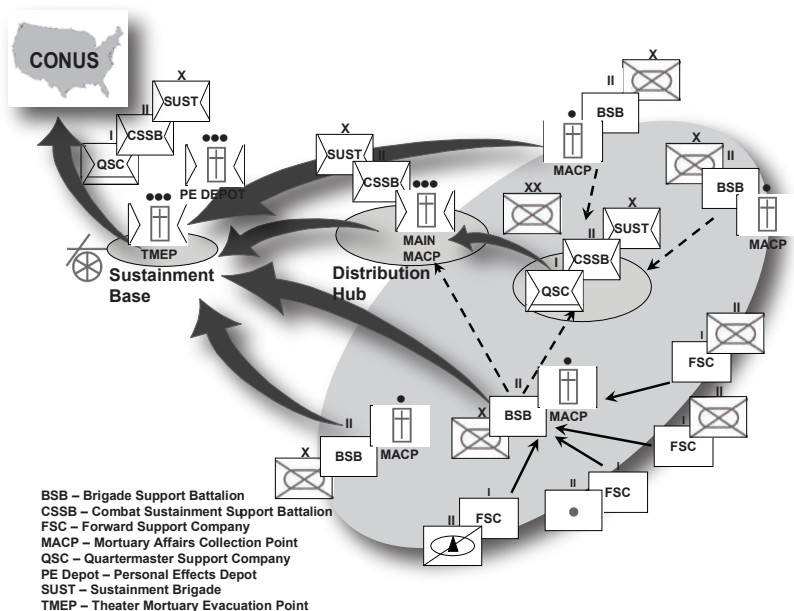
B. Shower and Laundry Services

The current force conducts field hygiene operations through the utilization of field sanitation teams located at the company level. The Sustainment Brigade, Combat Sustainment Support Battalion's Quartermaster Field Service Company supports the field sanitation teams through shower, laundry, and clothing repair (SLCR) sections dispatched from echelons above brigade. Shower, laundry, and clothing renovation (SLCR) capabilities resident within the Quartermaster field services company are provided from the sustainment brigades with projection as far forward as possible. The mission is to provide Soldiers a minimum of a weekly shower and up to 15 pounds of laundered clothing each week (comprising two uniform sets, undergarments, socks, and two towels). The Quartermaster Field Service Company will provide SLCR for supported units. The Quartermaster Field Service Company can be moved forward to provide field services for the BCT. Each SLCR Platoon has 3 SLCR Teams which can each support 500 Soldiers per day/3,500 Soldiers per week.

Mortuary Affairs (MA) Concept of Operations

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 4-23 to 4-24.

The MA program starts at the unit level with limited search and recovery operations and continues until remains are returned to the person authorized to direct disposition and all personal effects (PE) are returned to the person eligible to receive effects. Unit commanders are responsible for the initial search and recovery operations within their AO. Every unit is responsible for designating a search and recovery team to conduct search and recovery operations during the combat phase of operations. Instilled with the MA motto that all remains are to be treated with the utmost "dignity, reverence, and respect," these unit teams must be briefed on local customs and courtesies on dealing with remains. Upon recovering remains, a unit search and recovery team will evacuate those remains to the closest MA collection point (MACP). MA personnel set up MACP's, theater mortuary evacuation points (TMEP's), and PE depots throughout the theater of operations. Remains recovered by unit initial search and recovery operations are evacuated to the nearest MACP. From the receiving MACP, MA personnel evacuate the remains to the TMEP. The preferred method of evacuation is directly from the initial MACP to the TMEP; however, the tactical situation may dictate that remains be evacuated through several MAP's before reaching the TMEP.



MA assets are managed as theater assets. MA units are deployed as augmentation elements and do not have the personnel, equipment, or supplies required for self-support. MA augmentation elements are sustained by the units, which they support. A MA Company Support Operations Section is deployed as an Early Entry Module (EEM) to support operational planning. Upon arrival, it will report to the Theater Mortuary Affairs Officer (TMAO) or a Sustainment Brigade Mortuary Officer, to plan and coordinate RSOI of follow-on MA elements.

IV. Transportation

The mobility branch of the TSC SPO provides staff supervision of all transportation and coordinates directly with the MCB. The MCB is attached to the TSC/ESC and manages movement control across the entire theater of operations. The MCB would be attached to a sustainment brigade when the MCB is deployed to an AO in which the sustainment brigade is the highest sustainment C2 HQ. The MCB and its MCT's coordinate all movement in the JAO/AO to include all divisional areas.

Transportation expertise in the sustainment brigade is provided by the transportation branch of the distribution operations division. This section works with the other elements of the brigade SPO integrating movements with materiel management. The theater-opening element, when assigned, augments the staff of a sustainment brigade and provides the technical expertise to open a theater of operations and establish the initial theater distribution network. The motor transportation battalion SPO receives technical supervision and guidance from the brigade SPO to support the theater distribution mission. Transportation assets of the CSSB and functional transportation battalions provide distribution from the sustainment brigades forward and retrograde of damaged or surplus items.

A. Movement Control

Movement control is the planning, routing, scheduling, controlling, coordination, and ITV of personnel, units, equipment, and supplies moving over multiple lines of communication. It involves synchronizing and integrating logistics efforts with other elements that span the spectrum of military operations.

See following pages (pp. 2-54 to 2-55) for further discussion.

B. Motor Transport Planning

Motor transport planning, particularly in its early stages, must be based upon a set of broad planning factors and assumptions. These factors should be used only in the absence of specific data relating to the current situation. Because of the different services performed, loads carried, and terrain crossed, caution should be exercised when analyzing the following factors:

- Task vehicle and driver availability rate
- Vehicle payload capacity
- Operational hours per shift
- Operational day
- Daily round trips
- Operational distance per shift
- Rate of march in the hour
- Delay times
- Threats and protection requirements

C. Container Management

Recent history has shown that inter-modal operations are critically affected by the manner in which container management policies are enforced and container management is subsequently executed. Container management is a command function, not just a sustainment function. Due to the nature of container use, commanders at all echelons must be involved in container proper control. Therefore, a container management program must be established at a theater-level echelon that permits centralized management. For Army forces, the ASCC will provide further direction and control measures in order to maintain greatest discipline at the least cost. Sus-

tainment brigade commanders must implement the theater management program for subordinate units.

Our industry partners will continue to use this method of packaging and distribution within the global environment for the foreseeable future; therefore, it is vital to maintain the control and flow of containers. Operations must fully integrate container management into the distribution system. Full spectrum inter-modal distribution management capabilities include systems to maintain visibility, manage disposition at destination, and enable a rapid return to the distribution system to ensure adequate numbers are available to maintain deployment, employment, sustainment, and retrograde operational pace.

Successful container management ensures the following:

- Expeditious movement of throughput and high-priority container shipments
- Minimal time for holding and/or consolidating cargo
- 100 percent in-transit visibility of containers and contents
- Economical movements via container use
- Movement of containers as fast as mode operators and consignees can handle them
- Integration of military and commercial container management systems
- Consolidation of single consignee shipments
- Detention and demurrage reduction
- Management of container availability to support retrograde movements

1. Flatrack Management Operations

Flatracks and containers offer tactical efficiencies that serve to increase the pace of sustainment operations. The key to these efficiencies and maintaining this pace is congruent flat rack/container management procedures at each stage or level of support (FSC, BSB, sustainment brigade, ESC, and TSC). An increased operational depth and the reduction of redundant logistics force structure challenge flatrack/container management and, ultimately, the sustainment of combat power. Flatrack/container employment, management, and retrograde operations are the responsibility of distribution managers. In the sustainment brigade, the support operations officer must track flat racks and containers dispersed throughout the distribution system within its operational span of control.

2. Logistics Support Area Flatrack Management

Sustainment brigades operating a logistics support area (LSA) face increased flat rack management challenges especially when transportation assets to move supplies and retrograde flat racks are limited. Management responsibilities within the LSA rest with the support operations officer and the distribution division. Their responsibilities include:

- Identifying a flatrack collection point upon occupation of the LSA
- Managing all common user flatracks on an area basis
- Ensuring flatrack exchange (providing a back hauled flat rack for every one received) procedures are adhered to as a matter of priority
- Maximizing the use of PLS/HEMMT-LHS platforms for retrograding flat racks from the flat rack collection point back into the distribution system
- Reporting flatrack on-hand quantity by location, status, and condition to the flat-rack control office established by the senior manager in theater of operations (in accordance with AR 710-2, Inventory Management Supply Policy Below the National Level)
- Coordinating with the servicing MCB for supplemental transportation support when retrograding flat racks from the LSA flatrack collection point (FRCP)

Movement Control

Ref: FMI 4-93.2, *Sustainment Brigade (Feb '09)*, pp. 4-27 to 4-29.

Movement control is the planning, routing, scheduling, controlling, coordination, and ITV of personnel, units, equipment, and supplies moving over multiple lines of communication. It involves synchronizing and integrating logistics efforts with other elements that span the spectrum of military operations.

See chap. 6, *Deployment & Redeployment Operations*, for further discussion.

1. Movement Control Battalion (MCB)

The MCB will also coordinate with host nation authorities for cargo transfer locations, road clearances, border clearances, escort support, and transportation support. The MCB will have as many subordinate MCT's as needed to operate in its area of operations, based on the number of customers, air terminals, rail terminals, seaports, and MSR's it must support. The MCB will provide logistics support to the MCT's under its C2. However, MCT's operating away from their HQ will require logistics support from other units. See also p. 2-58.

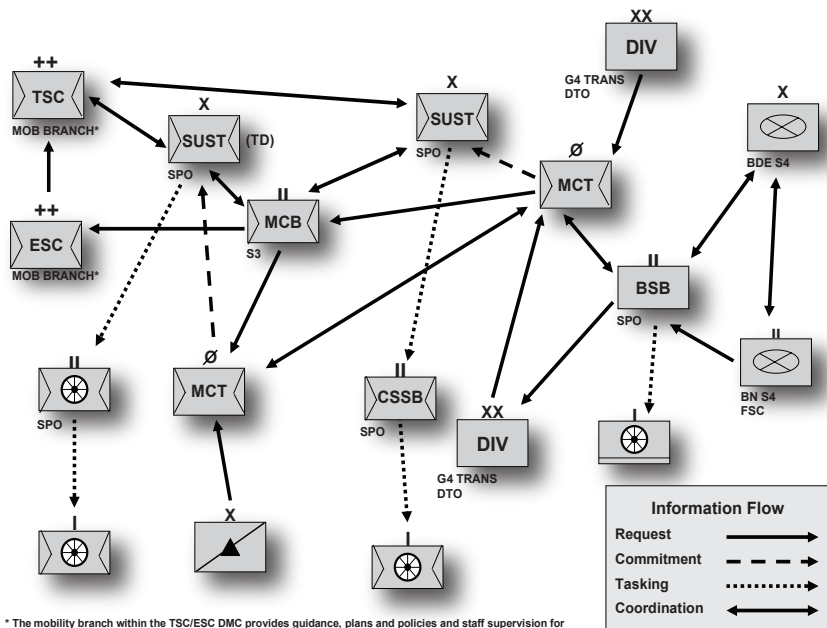
The MCB will—

- Continue to provide command, control, and technical guidance to 4 to 10 MCT's
- Provide asset visibility and maintain ITV of tactical and non-tactical moves within its assigned geographical area (including unit moves and convoys)
- Assist in planning and executing plans and operations
- Apply and meet movement priorities provided by the TSC and sustainment brigade
- Support the entire spectrum of distribution

2. Movement Control Team (MCT)

The MCT is the basic and most critical level in the movement control process. MCT's are the common point of contact for mode operators and users of transportation. The MCT is a 21-Soldier team created with the capability to perform every type of movement control mission. It is designed to provide maximum flexibility in its employment. Each team has a headquarters section and four identical subunits (or sections). The MCT can operate as a single team or separately at up to four different locations. For example, a single MCT can be deployed initially to provide movement control functions at an airfield while simultaneously providing cargo documentation. As the mission expands, the team can deploy a section onto the MSR's to conduct movement control operations. As the operation matures, that same MCT can operate at a second airfield or seaport. The operational use of the MCT can be specifically tailored to the mission and operational environment. The standardization of MCT's increases the number of teams available for deployment, since each unit is tailorable in the truest sense of that term. If METT-TC factors dictate that the MCT needs to be split into four sections in different locations, each section can be properly equipped with the vehicles, communications equipment, STAMIS, and generators it needs to operate independently.

MCT's process movement requests and arrange transport for moving personnel, equipment, and sustainment supplies. They process convoy clearance requests and special hauling permits. MCT's coordinate with the MCB for the optimal mode (air, rail, inland waterway, or highway) for unprogrammed moves and commit the mode operators from the sustainment brigade, LOGCAP, multinational elements, and the host nation. They also assist in carrying out the movement program.



MCT's are arrayed on the battlefield at various nodes to best support the TSC concept of support. In general, a MCT collocates with a Sustainment Brigade to provide movement control support on an area basis to EAB units or units not assigned/attached to a Division. An additional MCT can work directly for the Division G-4 Transportation Officer (DTO) to assist in the planning and execution of movement control in the division area of operations. MCT's can operate at an APOD to facilitate the movement of ground cargo (primarily palletized), assist in passenger manifesting, and provide air load planning capability. MCT's operating at SPOD's facilitate the ground movement of containerized cargo and assist in the marshalling/staging of equipment for onward movement. Elements of a MCT can locate at other critical nodes (for example Central Receiving and Shipping Point (CRSP), Convoy Support Center (CSC), TDC, and container yards, as needed) to provide cargo documentation capability or for the added visibility and management of distribution operations. MCT's are also used to enforce the highway regulation plan established by the TSC and will deploy its sections along Main Supply Routes (MSR) to augment convoy tracking operations and provide on the ground traffic de-confliction.

The sustainment brigade SPO distribution integration branch coordinates with the MCT, MCB, HN transportation agencies, transportation mode operators, and customers. This office assists in planning and executing plans for the reception, staging, onward movement, and retrograde of personnel, equipment, and sustainment supplies. This includes actions associated with marshaling and staging areas. When serving in a sustainment brigade that has the port mission, the distribution integration branch will have the responsibility to monitor, manage, and execute the movement and port clearance plans and programs. The branch also monitors the use of trailers, containers, and flat racks located in sustainment brigade AO and coordinates with users to expedite return of these assets to the transportation system.

Flatrack exchange is the preferred method for retrograding flat racks. FRCP's outside of the LSA are designated for flat rack consolidation purposes when required and these proposed locations are reported to the distribution division.

3. Flatrack Reporting Procedures

Accurate daily reporting of flatracks in a unit's area of operations by location, status, and condition is critical to efficient management of these assets within the distribution system. Separate reports may not be required for reporting flatrack status, since distribution managers may roll flat rack status into existing reports. Requests for supplemental transportation to retrograde flat racks in the operational area are submitted as routine transportation requests through support operations channels. Flatrack procedures should be reinforced and clarified with unit tactical standing operating procedures (TACSOPs).

D. Aerial Delivery

Aerial delivery consists of Service fixed-wing, rotary-wing and, in some cases Unmanned Aircraft Systems (UAS's), conducting air-land, airdrop, and sling-load cargo operations. It supports the sustainment requirements of combat units on a noncontiguous AO with extended LOCs, reducing the amount of traffic on major ground supply routes.

1. Air-Land Operations

Air-land operations provide for greatest cargo tonnage movement and are conducted routinely on an inter-theater basis. Using this method, air carriers normally terminate at a relatively secure APOD, physically descending, landing, and spending time on the ground to off-load. In doing so, supplies and equipment are normally introduced to the ground for onward movement and distribution. Continued, intratheater, air-land movement to forward austere airfields commonly restricts the use of fixed-wing aircraft due to threat capabilities, necessary airfield preparation, and off-load capabilities. When continued intratheater, air-land operations are conducted, rotary-wing assets conducting internal cargo carrying operations are normally employed. However, use of rotary-wing aerial delivery platforms can present range limitations.

2. Airdrop Operations

Airdrop permits throughput of supplies from as far rearward as the National level, directly to the using unit, and reduces the need for forward airfields, landing zones, and materiel handling equipment, effectively reducing the forward battlefield footprint, as well as mitigating the enemy threat to traditional surface methods of distribution. Airdrop provides the capability to supply the force, even when landlines of communication have been disrupted, adding flexibility to the distribution system. New aerial delivery platforms increase the flexibility and responsiveness to move supplies quickly and precisely to a BSB or throughput to a maneuver unit from a sustainment base. Certain contingencies may require airdrop re-supply support from the beginning of hostilities. However, the requisite airdrop support structure may not be in a theater of operations due to deployment priorities. In such cases, the strategic-level commander should consider having a portion of the supporting airdrop supply company deploy to designated APOE's responding to the deployment and where supply support to the contingency area is more abundant. This might include airdrop capability at Intermediate Staging Bases, Depots, and DLA locations. When in theater, airdrop supply companies, functioning as part of the Sustainment Brigade, should be located at major transportation, supply and distribution hubs with capable airfields. Such hubs should also include depot and DLA sites, where supplies may be rigged or pre-rigged and readily available for tasked aircraft. Using the range and speed of air carriers, forces then fly intra-theater airdrop missions, supplying directly to the airdrop location and then returning to a transportation hub.

E. Transportation Units

Ref: FMI 4-93.2, *Sustainment Brigade* (Feb '09), pp. 4-44 to 4-46.

Motor Transportation Battalion

The mission of the motor transportation battalion is to command, control, and supervise units conducting motor transport operations and terminal operations (less seaport). Motor transportation battalions are typically assigned to the TSC upon arrival into a theater of operations, and are further attached to a Sustainment Brigade. Its core capabilities are providing C2 and technical supervision for three to seven motor transport or cargo transfer companies. The battalion plans and schedules requirements to conform to the overall movement program. The staff—

- Translates transportation requirements from higher HQs into specific vehicle or unit requirements
- Evaluates highway traffic plans affecting road movement, to include terrain, road conditions, and security
- Supervises the operation of truck terminals, trailer transfer points, and/or a trailer relay system
- Coordinates for host nation support as available

Transportation Terminal Battalion

The mission of the Transportation Terminal Battalion is to command, control, and supervise units conducting terminal operations. Transportation Terminal Battalions are typically assigned to the TSC upon arrival into a theater of operations and are further attached to a Sustainment Brigade. Terminal operations include truck, rail, air, as well as marine terminals and ports. Its core capabilities are providing C2 and technical supervision for three to seven terminal operations and/or watercraft companies. The battalion plans and schedules requirements to coincide with the strategic and operational distribution and movement programs. The objective is to balance the flow of materiel and personnel from strategic transportation modes with the ability of the operational providers to clear the terminal or port. Achieving this is paramount to keeping the ports of debarkation un-congested and units, personnel, and supplies flowing smoothing into and out of a theater of operations. The staff—

- Translates transportation requirements from higher HQs into specific vessel discharge and terminal/port clearance schedules
- Evaluates terminal and port facilities for usability
- Evaluates ingress and egress routes and highway traffic plans affecting road movement, to include terrain, road conditions, and security
- Supervises the operation of truck, rail, air and marine terminals
- Coordinates for host nation support as available

Transportation Companies

Transportation companies provide lift capability for both the operational and tactical sustainment mission of the sustainment brigade. Truck companies move personnel and materiel throughout the distribution system, while cargo transfer and terminal companies provide capabilities essential to the theater opening, port operations, and hub operations. Transportation companies are typically assigned to the CSSB or functional transportation battalions that are attached to sustainment brigades. This section of the chapter identifies various transportation companies that might be attached to a sustainment brigade and provides information on general capabilities of each company.

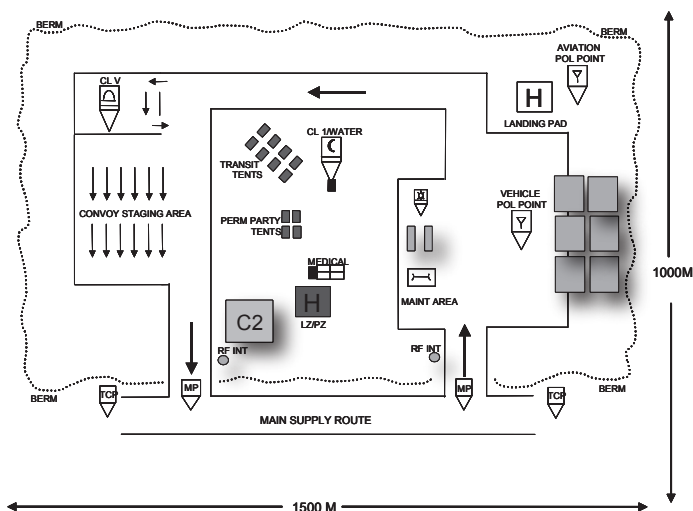
Convoy Support Centers (CSC)

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 4-46 to 4-49.

CSC provide mess, maintenance, crew rest facilities, and other personnel and equipment in support of convoys moving along Main Supply Routes/Alternate Supply Routes (MSR/ASR). CSC's can also serve as Life Support Areas and, in some instances, a site for supply point distribution. They are a cross between a trailer/cargo transfer point and an intermediate truck terminal with the mission to support, enhance, and otherwise facilitate direct haul convoy operations. CSC's are located along the MSR/ASR, generally every 200 miles or as required by METT-TC. When practical, they will be collocated with existing organizations such as the TDC/hub, an inter-modal terminal, or a Central Receiving and Shipping Point (CRSP). When operating as a stand-alone facility, they may require additional capability for protection above Level 1. Services provided by all CSC's are refueling, quick-fix maintenance, and asset recovery. They are established at the discretion of the Combatant Commander, and are normally operated by a CSSB. Three levels of CSC support are described below.

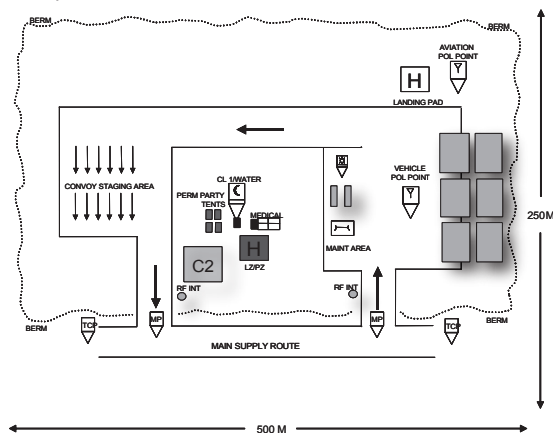
1. Truck Stop

A truck stop CSC is a full service CSC that operates as part of a larger support area, supporting convoys moving through the area en route to another hub or final destination. The sustainment brigade designates a CSSB to provide C2 of a CSC providing full support. Support units required to man the truck stop type of CSC are: POL support platoon (50K) with bag farm, MCT, maintenance contact team, medical treatment team, and an infantry platoon for security (METT-TC). The truck stop CSC is capable of providing bulk and retail Class III, bulk and bottled water, Class I (MKTUGR/MRE), Class IX (ASL and prescribed load list), Class V for protection, and replenishing combat lifesaver (CLS) bags. The truck stop medical treatment team is authorized to carry limited CLS bag re-supply stocks to support contingency re-supply operations for convoys. Limited stocks consist of common high use CLS restock items minus controlled substances (narcotics). A truck stop CSC provides life support for all convoy personnel and might include one or more 150-person modules of the Force Provider set (tents and cots), a shower, laundry, and clothing repair (SLCR) team from a field services company and Army and Air Force Exchange Service support.



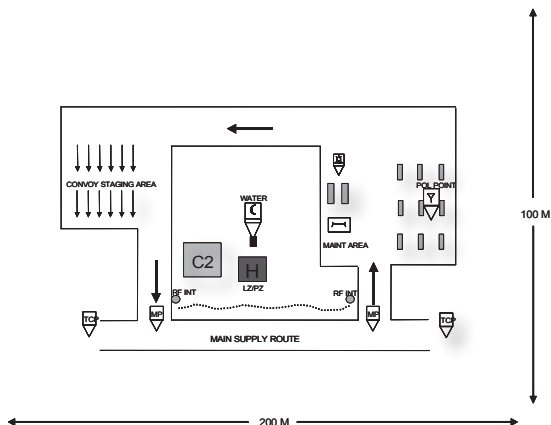
Mini-Mart CSC is a medium service CSC that operates as part of a smaller support area supporting convoys moving through the area en route to another hub or final destination. The CSSB provides C2 for the Mini-Mart CSC. Support units required to man the truck stop type of CSC are:

- POL support platoon (50K) with bag farm, MCT, maintenance contact team, medical treatment team, and an infantry platoon for security (METT-TC). The Mini-Mart CSC is capable of providing bulk and retail
- Class III, bulk and bottled water, Class I (MKT-UGR/MRE), and replenishing combat lifesaver (CLS) bags using procedures. There is no life support capability except for CSC personnel.



3. Pit Stop

Pit stop CSC provides minimal service. It is normally limited to Class III and Class I (MRE/water) and possibly minimal maintenance support. The CSSB provides C2 for the Pit Stop CSC. Support units required to man the truck stop type of CSC are: POL support platoon (truck to truck), MCT, maintenance contact team, CLS capability, and an infantry squad for security (METT-TC). The truck stop CSC is capable of providing bulk and retail Class III, bulk and bottled water, and Class I (MKTUGR/MRE). There is no LOG automation. There is no life support capability except for CSC personnel.



Airdrop operations provide for the ability to supply and distribute cargo, using parachutes and platforms to release supplies and equipment from an aircraft while in flight. When conducted in range, this method of aerial delivery requires no descent or landing deep in a combat area or remote area.

3. Rotorcraft Sling Loading

Rotorcraft sling loading provides for rapid movement of heavy, outsized cargo directly to the user, bypassing surface obstacles. This provides greater responsiveness and flexibility to the ground commander by reducing planning cycle time. It also allows the use of multiple flight routes and landing sites, which enhance survivability of the aircraft and crew. Rotorcraft are highly flexible, forward positioned, aerial delivery platforms. Operationally, they are able to perform missions surrounding all three methods of aerial delivery in support of Full Spectrum Operations.

F. Movement Control Battalion (MCB)

The MCB commands and controls between four and ten movement control teams (MCTs), provides technical supervision, and coordinates the use of common user transportation assets theater-wide. The MCB also provides visibility of unit moves, convoy movements, and operational moves. The MCB is assigned to the TSC and accountable for the execution of the movement program and performance of the theater transportation system. In the current force, an MCB will be under the TACON or administrative control (ADCON) of a sustainment brigade when the sustainment brigade is the senior sustainment HQ in an AO.

Movement Control Teams (MCT)

The MCT is the lynch pin of the Movement Control System. At least one will normally be collocated with the sustainment brigade to support brigade operations. Elements of an MCT may also collocate with operational area under the command of a sustainment brigade such as ports or convoy support centers. An MCT is a 21-person team with the capability to perform every type of movement control mission on a 24-hour basis. It is designed to provide maximum flexibility in its employment. Each team has a headquarters section and four identical sub-units (or sections). The MCT is capable of operating as a single team or separately at up to four different locations. The MCT is capable of conducting the following missions:

- Coordinate transportation support, highway clearance, and inbound clearance for moving units, personnel, and cargo
- Coordinate transportation movements, diversions, re-consignments, and transfers of units, cargo, and personnel
- Provide technical expertise to transportation users within its assigned area of responsibility
- Provide ITV of unit equipment and sustainment cargo movements in an assigned area of responsibility
- Observe, assess, and report on the progress of tactical and nontactical transportation movements along MSRs or alternate supply routes and through critical nodes
- Adjust movement schedules as necessary to coordinate the movement of authorized traffic
- Provide first destination reporting points
- Provide as many as four sub-units to four separate locations, each performing a different aspect of movement control
- Commit transportation assets

V. Distribution

Distribution is defined as the operational process of synchronizing all elements of the logistics system to deliver the right things to the right place and right time to support the CCDR. It is a diverse process incorporating distribution management and asset visibility.

See updated discussion of distribution from ADRP 4-0 (Jul '12) and ATP 4-0.1 (May'11) see pp. 1-51 to 1-53. See also pp. 2-22 to 2-25 for further discussion of distribution.

Theater Distribution Center (TDC)

Unlike the CRSP, the theater distribution center (TDC) holds and stores supplies in addition to performing the functions of a hub. As well as tracking en route cargo, the TDC will perform many of the same receiving and issuing functions of an SSA and would cross-level excess materiel to cover shortages among the units it supports. A TDC must perform the following:

- Supply management functions found in a quartermaster support company
- Cargo tracking and convoy movement control functions found in movement control teams
- Cargo handling functions found in cargo transfer companies

C2 would be provided by a sustainment brigade (TD). The TDC would require a large area for operations to include covered climate-controlled storage for cargo, open storage for containers and MILVAN's, secure storage for high value cargo, and possible capability for refrigerated storage if contractor support is unavailable for food acquisition and storage. To prevent pilferage, the entire area should remain secured with controlled access. Unless the center establishes operations in a prepared location, engineering assets may be necessary to prepare the site. The distribution center (DC) should be able to handle all classes of supply except ammunition. POL storage and issuance is also a possibility.

The DC must be located near major road networks, airfields, and railheads to receive and distribute supplies through a variety of means. The platoon would require a variety of equipment to perform its mission, especially materials handling equipment (MHE) to include all terrain capable, organic bulk transport equipment, long haul transportation assets, light sets, generators, computers, RF interrogators, and radios. A TDC must have the equipment and personnel capable of organizing convoys, handling materiel inside the warehouse, and handling containers and 463L pallets. Personnel should have the skill to stuff and un-stuff containers and to properly build 463L pallets. TDC's would provide for receipt, storage, issue, and distribution of supplies. It would configure LOGPAC loads for forward distribution and supports line haul and local haul motor transport operations. A TDC serves as a functional base for subsistence distribution. The maintenance activity provides emergency refueling and repair of vehicles transiting the DC as well as complete support of owned equipment.

VI. Operational Contract Support

Operational contract support is the process of planning for and obtaining supplies, services, and construction from commercial sources in support of operations along with the associated contractor management functions.

See updated discussion of operational contract support ADRP 4-0 (Jul '12) on pp. 1-54 to 1-55.

VIII. General Engineering

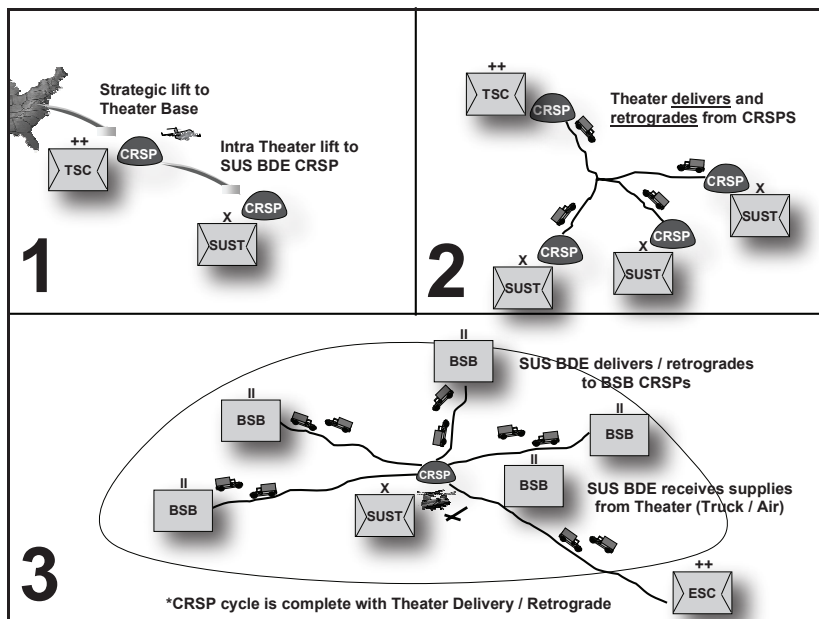
General engineering activities modify, maintain, or protect the physical environment (see FM 3-34.400).

See pp. 1-54 to 1-56 for further discussion.

Centralized Receiving and Shipping Point

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. 4-44 to 4-46.

A Centralized Receiving and Shipping Point (CRSP) is a dock-to-dock distribution center using the hub and spoke method of efficiently delivering cargo. Generally, cargo is not warehoused at a CRSP, with the common holding period being 24 hours or less. The objective is to move cargo as quickly and efficiently as possible, the exception being frustrated cargo, cargo destined to low volume consignees, or battle damaged equipment, which might require inspection and processing. Although traditional use of CRSPs was for container handling only, the mission was expanded to great advantage during Operation Iraqi Freedom. Use of CRSP operations reduced transit times and provided greater security, as the convoy operators were more familiar with assigned terrain and threats than in-theater personnel who had previously been performing the convoy operations all the way to the tactical level. Under the CRSP concept, theater convoys deliver to a CRSP(s) with CSSB's operating convoys delivering to the consignee, forward operating base (FOB), or other CRSP. Each CRSP would arrange for backhaul both from the FOB's to the CRSP and from the CRSP to the theater-level supply units. Convoys should pick up all retrograde cargo from a FOB, regardless of whether or not the consignee is part of the CRSP's network as it is easier for the CRSP to use the CRSP network to trans-ship the retrograde to the appropriate CRSP. AMC could, as arranged, come to the CRSP to pick up equipment for turn-in and remove the equipment from the units' property books.



CRSPs should be used for all classes of supply except ammunition. Any mode of distribution should be accessible. Personnel should be capable of properly packing containers, loading helicopters, or building 463L pallets for fixed wing aircraft. A CRSP may be collocated with an MCT, A/DACG, or USAF Aerial Port.

V. Personnel Services Support to the Warfighter

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), chap. 4.

Personnel services are those sustainment functions related to Soldiers' welfare, readiness, and quality of life. Personnel services complement logistics by planning for and coordinating efforts that provide and sustain personnel.

See pp. 1-57 to 1-66 for discussion of personnel services as an element of the sustainment warfighting function.

Personnel Services



Human Resources (HR) Support



Financial Management (FM) Operations



Legal Support



Religious Services



Band Support

I. Human Resources (HR) Support

The objective of HR support is to maximize operational effectiveness and to facilitate enhanced support to the total force (Soldiers, DOD civilians, Joint service personnel, and others that deploy with the force). Reliable, responsive, and timely HR support in the operational area is critical to supporting the operational commander and the force. It relies on secure, non-secure, robust, and survivable communications and digital information systems. These provide a common operational picture, asset visibility, predictive modeling, and exception reporting—important to making accurate and timely manning decisions.

See updated discussion of HR support from ADRP 4-0 (Jul '12) and FM 1-0 (Apr '10) on pp. 1-57 to 1-62.

HR support as described in FM 1-0, Human Resources Support, consists of 10 core functions and capabilities. These include:

- Personnel readiness management (PRM)
- Personnel accountability and strength reporting (PASR)
- Personnel information management (PIM)

- Reception, replacement, redeployment, rest and recuperation, and return-to-duty (R5)
- Casualty operations
- Essential personnel services (EPS)
- Postal operations
- MWR
- Band operations
- HR planning and operations

At the unit level, the focus of HR support encompasses all core functions and are conducted by brigade and battalion S-1 sections for assigned or attached personnel. HR units attached to the sustainment brigade provide HR support on an area basis.

The commander of sustainment organizations is responsible for the training, readiness oversight, and mission execution of assigned/attached HR organization. FMI 1-0.02, Theater Level HR Operations, provide additional detail on these area support functions. The commander has an overall responsibility for:

- **Postal.** The commander has the overarching mission to ensure adequate postal forces and activities are in place to ensure the timely delivery of mail to/from Soldiers in the brigade footprint and for ensuring compliance with USPS directives. The commander must also ensure postal force is trained and mission capable and that adequate facilities are established and sustained.
- **Casualty.** The commander has a critical role to ensure casualty elements (platoons and teams) are resourced and distributed in compliance with theater policy that ensures timely and accurate reporting. The commander must be prepared to provide or coordinate augmentation in the event of mass casualty. Through the assigned HR Company, the commander ensures casualty personnel are trained and capable to execute this mission.
- **R5.** The commander has the responsibility to ensure R5 operations are resourced and adequate to account for all personnel entering or exiting at all APOD/E and SPOD/E when an R5 Team is assigned. The critical HR task accomplished in R5 operations is personnel accountability, which updates the theater database (DTAS). The commander ensures all life support, transportation, and coordination requirements are provided in a timely manner to minimize any delays, particularly for personnel joining their units.

The HR Branch within the SPO is the commander's hub for HR integration, synchronization, planning, coordination, sustainment, and operations. This is a valuable asset that provides the commander a well-trained and capable staff to plan and coordinate sufficient HR organizations needed to provide HR support based on the commander's intent. It is critical that the HR Branch is included in the planning process of the staff (SPO). The HR Branch provides technical guidance and resources to the SRC12 organizations (supporting units) ensuring they have the capability to provide the required postal, R5, and casualty support directed in the HR concept of support. Guided by supported/supporting relationships, the G-1/S-1s request support and resources for postal and R5 operations through the HR Branch. The HR Branch processes the request, prioritizes the request based on the available HR resources and scope of requested support to determine supportability. If the HR Branch is unable to support the request with HR assets internal to its sustainment brigade, the HR Branch forwards the request to the ESC/TSC's SPO for resolution.

Human Resources Company

The HR company provides theater-directed HR support for the postal, R5, and casualty core competencies. The company is tailorable and scalable, allowing Sustainment commanders to tailor the support to meet the requirements of the supported population. The HR Company has specific capabilities and associated tasks and is not intended to augment S-1 sections for the delivery of HR support outside the postal, R5, and casualty core competencies.

2-64 (Sustainment Bde) V. Personnel Services Support to the Warfighter

The MMT team provides tailorable HR support to the theater of operations by establishing, coordinating, and executing military mail terminal operations under the control of the sustainment brigade with the augmentation of an HR company. The MMT mission is a specific task required to ensure the overall effectiveness of the theater postal system.

The TG R5 team provides tailorable HR support to establish the TG R5 center at the inter-theater APOD to establish and maintain the personnel accountability of entering, departing, and transiting personnel and to coordinate the execution of sustainment tasks within the Sustainment brigade and joint elements operating in and around the APOD. The TG R5 center mission is a critical element of the early theater opening sustainment mission and has an enduring requirement during theater distribution operations, as it ensures the establishment and maintenance of an accurate theater deployed accountability system required by Congress.

II. Financial Management (FM) Operations

The finance operations mission is to sustain Army, joint, and multinational operations by providing timely commercial vendor and contractual payments, providing various pay and disbursing services, maintaining battle flexibility for combat units to engage enemy forces and following policies and guidelines established by the National FM providers. Financial management units provide support during all operational phases.

See updated discussion of FM operations from ADRP 4-0 (Jul '12) and FM 1-06 (Apr '11) on pp. 1-62 to 1-64.

Financial Management SPO (FM SPO)

The Sustainment Brigade FM Support Operations Team (FM SPO) monitors and tracks financial management operations throughout the area of operations (AO). The team integrates all FM operations; plans the employment of FM units; coordinates FM requirements; synchronizes the FM network; and manages the FM systems. It also coordinates for additional operational and strategic FM support when needed. All functions of the FM SPO are closely coordinated with the FM CO commander and either the Division or ARFOR G-8. Some of these functions include:

- **Integrate all FM operations within the AO.** The FM SPO evaluates the adequacy of support throughout the AO by analyzing workload data, supporting population size, scheduling support at forward operating bases, and making recommendations to maximize the efficiency of limited FM resources.
- **Plan employment of FM units.** The FM SPO works with the Financial Management Center (FMC), G-8, and FM COs to adapt financial management support to changes in the operational area.
- **Synchronize division FM network.** The FM SPO coordinates financial management efforts for the sustainment brigade across all supporting FM COs, contracting offices, and civil affairs units.
- **Manage all FM systems.** In coordination with the FMC, G-8, and FM CO, monitors the employment and update of financial management systems used for disbursing, military pay, travel pay, vendor pay, and resource management. Planning would include coordinating communications support for expanding electronic banking initiatives.
- **Coordinate FM requirements.** In coordination with the FMC, G-8, and FM CO, coordinates cash requirements for special funding sources such as Commander's Emergency Response Program, Soldier support
- **Coordinate operational FM support.** The FM SPO establishes mutually supporting flow of information among the FMC, G-8, and the FM CO, enabling responsive FM support in the operational area.

FM Company (FM CO)

The FM CO is assigned to either the sustainment brigade STB or a CSSB. The FM CO analyzes the supported commander's tasks and priorities to identify the financial resource requirements that will enable mission accomplishment. The FM CO performs the following functions:

- Ensures regulatory guidelines, directives, and procedures are adhered to by all operational elements of the FM CO and subordinate FM detachments
- Establishes Disbursing Station Symbol Numbers and Limited Depository accounts
- Provides limited US and non-US pay support
- Funds subordinate FM detachments and determines the need for currency (US and foreign) and its replenishment
- Maintains regulatory accountable records
- Provides EPW, civilian internee, and Local National pay support
- Establishes banking relationships and procedures
- Makes payments on prepared and certified vouchers
- Receives collections
- Receives and controls all currencies and precious metals
- Cashes negotiable instruments
- Converts foreign currency
- Protects funds from fraud, waste, and abuse
- Establishes a management internal control process providing reasonable assurance that government assets are protected and safeguarded
- Ensures funds and other assets are protected and revenues and expenditures are properly accounted for in accordance with congressionally mandated accounting and reporting requirements

III. Legal Support

Members of The Judge Advocate General's Corps (JAGC) provide proactive legal support on all issues affecting the Army and the Joint Force and deliver quality legal services to Soldiers, retirees, and their families. Legal support centers on six core disciplines across full-spectrum operations. The six core disciplines are: military justice, international and operational law, contracts and fiscal law, administrative and civil law, claims, and legal assistance. *See pp. 1-64 and 1-65 for further discussion.*

IV. Religious Support

Religious support facilitates the free exercise of religion, provides religious activities, and advises commands on matters of morals and morale. The First Amendment of the U.S. Constitution and Army Regulation (AR) 165-1 guarantees every American the right to the free exercise of religion. Commanders are responsible for fostering religious freedoms. Chaplains and chaplain assistants functioning as Unit Ministry Teams (UMT) perform and provide RS in the Army to ensure the free exercise of religion (see FM 1-05). *See pp. 1-64 and 1-66 for further discussion.*

V. Band Support

Army bands provide critical support to the force by tailoring music support throughout military operations. Music instills in Soldiers the will to fight and win, foster the support of our citizens, and promote America's interests at home and abroad. (Refer to FM 1-0 and FM 1-19). *See p. 1-64 for further discussion.*

VI. (HSS) Health Service Support to the Warfighter

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), chap. 4.

Health service support consists of all support and services performed, provided, and arranged by the Army Medical Department. It promotes, improves, conserves, or restores the mental and physical well being of Soldiers and, as directed, other personnel.

See pp. 1-67 to 1-74 for discussion of health service support as an element of the sustainment warfighting function. See also pp. 4-31 to 4-34 for discussion of Army Health System (AHS) planning.

Health Services Support (HSS)

HSS includes casualty care, which involves all Army Medical Department functions, to include:

- Organic and area medical support
- Hospitalization
- Dental care
- Behavioral health
- Clinical laboratory services
- Medical evaluation
- Medical logistics

Army Health System (AHS) Support

AHS supports a subcomponent of the military health system capabilities to deliver HSS and FHP in support of full spectrum operation. AHS support involves the delineation of support responsibilities by capabilities (roles of care) and geographical area (area support). The AHS that executes the HSS/FHP initiatives is a single, seamless, and integrated system. It is a continuum from the point of injury or wounding through successive roles of care to the CONUS-support base. The AHS encompasses the promotion of wellness and preventive, curative, and rehabilitative medical services. It is designed to maintain a healthy and fit force and to conserve the fighting strength of deployed forces.

See pp. 4-31 to 4-34 for discussion of Army Health System (AHS) planning.

A. The Sustainment Brigade Surgeon

Ref: FMI 4-93.2, *Sustainment Brigade* (Feb '09), pp. 2-20 to 2-23.

The sustainment brigade surgeon ensures that all AHS support functions are considered and included in operation plans and operation orders. He/She coordinates for AHS support for both Health Service Support (HSS) and force health protection (FHP). The sustainment brigade command surgeon coordinates AHS support operation with both the division surgeon and the medical brigade (MEDBDE) commander and helps establish medical guidelines for the division and the sustainment brigade.

Health Service Support (HSS)

The sustainment brigade surgeon's duties and responsibilities for AHS may include:

- Advising the commander on the health of the sustainment brigade units
- Plans and coordinating for HSS for sustainment brigade units (including but not limited to, medical treatment, medical logistics, medical evacuation, hospitalization, dental support, preventive medicine [PVNTMED], behavioral health, and clinical medical laboratory support)
- Developing and coordinating the HSS portion of AHS operation plans to support the sustainment commander's decisions, planning guidance, and intent in support of full spectrum operations
- Determining the medical workload requirements (patient estimates)
- Advises the sustainment brigade commander on policy regarding the eligibility of care for non-US military personnel
- Maintaining situational understanding by coordinating for current HSS information with surgeons of the next higher, adjacent, and subordinate HQ
- Recommending task organization of medical units/elements in support to sustainment brigade units to satisfy all HSS mission requirements
- Recommending policies concerning medical support of stability operations (that include civil military operations)
- Monitoring troop strength of medical personnel and their utilization
- Coordinating and synchronizing health consultation services
- Evaluating and interpreting medical statistical data
- Monitoring medical logistics and blood management operations in the theater.
- Monitoring medical regulating and patient tracking operations for sustainment brigade personnel
- Determining sustainment brigade training requirements for first aid and for maintaining wellness of the command
- Ensuring field medical records are maintained on each Soldier assigned to the TSC at their primary care medical treatment facility
- Establishing, in coordination with the chain of command, and promulgating a plan to ensure individual informed consent is established before administering investigational new drugs as described in Executive Order 13139
- Recommending disposition instructions for captured enemy medical supplies and equipment
- Submitting to higher HQ those recommendations on medical problems/conditions that require research and development

Coordinates and synchronizes:

- Health education and combat lifesaver training for the brigade
- Mass casualty plan developed by the S-3
- Medical care of enemy prisoners of war (EPW), detainees, and civilians within the brigade AO
- Treatment of sick, injured, or wounded Soldiers
- Medical evacuation, including use of both the Army's dedicated medical evacuation (MEDEVAC) platforms (air and ground)
- Medical logistics including Class VIII re-supply, blood management, and medical maintenance
- Health-related reports and battlefield statistics
- Collection and analyses of operational data for on-the-spot adjustments in the medical support structure and for use in post operations combat and materiel development studies
- Army Health System support for stability and civil support operations

Force Health Protection (FHP)

The sustainment brigade surgeon's duties and responsibilities for FHP may include:

- Identifying potential medical-related commander's critical information requirements (priority intelligence requirements and friendly force information requirements) as they pertain to the health threat, ensuring they are incorporated into the command's intelligence requirements
- Coordinating for veterinary support for food safety, animal care, and veterinary preventive medicine to include zoonotic diseases transmissible to man
- Planning for and implementing FHP operations to counter health threats

Force health protection operations may include:

- Planning for and accomplishing redeployment and post deployment health assessments
- Establishing and executing a medical surveillance program
- Establishing and executing an occupational and environmental health surveillance program
- Recommending combat and operational stress control, behavioral health, and substance abuse control programs
- Ensuring the general threat, health threat, and medical intelligence considerations are integrated into AHS support operation plans and orders
- Advising commanders on FHP chemical, biological, radiological, and nuclear (CBRN) defensive actions, such as immunizations, use of chemoprophylaxis, pretreatments, and barrier creams
- Identifying health threats and medical-related commander's critical information requirements
- Maintaining situational understanding by coordinating for current FHP information with surgeon staffs of the next higher, adjacent, and subordinate HQs

Coordinates and synchronizes:

- Combat and operational stress control program with the division surgeon section (DSS) and supporting medical brigade
- Veterinary food inspection, military working dogs and other animal care, and veterinary preventive medicine activities of the command, as required
- Preventive medicine services to include identification of health threats
- Preventive dentistry support program for the prevention of cavities and gum disease
- Area medical laboratory support to include the identification of biological and chemical warfare agents, as required

Brigade Surgeon Section (BSS)

The BSS monitors and tracks operations with medical communications for Medical Communications for Combat Casualty Care (MC4) System and provides updated information to the surgeon and the SPO chief for building capabilities to meet the sustainment brigade's medical requirements identified by the surgeon. The BSS consist of two cells (a plans and operations cell and a medical logistics (MEDLOG) and sustainment cell). Also, under the technical control of the surgeon is the medical treatment team and evacuation squad.

- **Medical Plans and Operations Cell.** The medical plans and operations cell is normally staffed with medical operations officers, a medical operations NCO. The primary function of this cell is medical planning to ensure that adequate AHS support is available and to provide, in a timely and efficient manner, for the sustainment brigade and its attached units. This cell coordinates with the DSS and, as authorized, with medical brigade for the placement and support requirements of medical units and elements located in the sustainment brigade AO.
- **Medical Logistics and Sustainment Cell.** The medical logistics and sustainment cell is normally staffed with a MEDLOG officer (Major, 04, AOC 70K00). This cell receives daily updates on the status of Class VIII within the brigade and from attached medical units/elements. This cell may update priorities with the supporting MEDLOG activity to correct deficiencies in the delivery system. The supporting MEDLOG company or SSA will forward information to the MEDLOG and sustainment cell on items filled and shipped and on those requisitions that were not filled. This cell provides daily updates to the sustainment brigade surgeon and SPO chief.

B. Medical Brigade (MED BDE)

The MED BDE may be OPCON to a sustainment brigade when the sustainment brigade is in a command relationship with the senior tactical headquarters. The MED BDE provides a scalable expeditionary medical C2 capability for assigned and attached medical functional plugs task-organized for support of deployed forces. The MED BDE brings all requisite medical C2 and planning capabilities to provide responsive and effective AHS throughout the AO. Some MED BDE subordinate elements will collocate with sustainment units in LSA's and FOB's, because MTF's require essential non-medical supplies and services and the LSA's and FOB's will require AHS support since most sustainment units do not contain organic medical assets.

C. Medical Reporting

The MC4 and Theater Medical Information Program support the information management requirements for the brigade surgeon section and BCT medical units. The brigade surgeon section uses BCS3, FBCB2, and MC4-TMIP to support mission planning, coordination of orders and subordinate tasks, and to monitor/ensure execution throughout the mission.

The MC4-TMIP is an automated system, which links health care providers and medical support providers, at all levels of care, with integrated medical information. The MC4-TMIP receives, stores, processes, transmits, and reports medical C2, medical surveillance, casualty movement/ tracking, medical treatment, medical situational awareness, and medical logistics data across all levels of care.

See updated discussion of HSS from ADRP 4-0 (Jul '12) and ATTP 4-02 (Oct '11) on pp. 1-67 to 1-72.

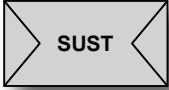
VII. Theater Sustainment Command (TSC/ESC)

Ref: FM 4-94, Theater Sustainment Command (Feb '10), chap. 2.

I. Theater Sustainment Command (TSC)

The mission of the TSC is to plan, prepare, rapidly deploy, and execute operational-level logistics operations within an assigned theater. The TSC is capable of planning, controlling, and synchronizing operational-level Army deployment and sustainment for the ASCC or joint force commander (JFC). It provides a centralized logistics command and control (C2) structure for the theater Army; simultaneously supporting deployment, movement, sustainment, redeployment, reconstitution, and retrograde.

TSC-ESC-Sustainment Brigade

++ 	- Assigned to the ASCC - AOR focused - C2 logistics across a GCC AOR - Performs theater-wide materiel and distribution management
+ 	- Forward presence of the TSC - focuses on a particular area of operations or JOA - Performs specific materiel and distribution management in assigned area of operations or JOA
X 	- TSC's face to Brigades / Divisions / Corps - Multifunctional capability supporting on an area basis - Executes multi-nodal and multi-modal transportation - Standard HQs design: theater opening, theater distribution and theater sustainment mission sets - Theater opening and distribution missions enabled with TTOE and TDAE - Performs some materiel management at the local level

The TSC executes its mission through the use of modular forces, to include expeditionary sustainment commands (ESC), sustainment brigades, combat sustainment support battalions, and other modular sustainment formations. Sustainment brigades, functional groups, combat sustainment support battalions, and functional sustainment units serve as the building blocks of the force structure designed to execute TSC missions within the theater.

As the senior logistics headquarters for the Army, the combatant commander may designate the TSC as a joint command for logistics. When exercising this option the combatant commander must specify the control and tasking authorities bestowed on the TSC as well as the command relationships it will have with the Service components.

As required by mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC), the TSC may extend its operational reach by deploying multiple ESCs or sustainment brigades into specified areas of operations (AO)/ joint operational areas (JOA) in order to more effectively provide

responsive support to Army forces. ESCs can serve as forward headquarters of the TSC and provide C2 for theater opening, theater distribution, and theater sustainment on an area basis within and between specified AOs/JOAs.

Depending on the command structure within the theater, ESCs and sustainment brigades may be employed to support specific Army forces within a specific AO/JOA; or to support other ESCs or sustainment brigades with theater opening, theater distribution, and/or theater sustainment capabilities.

The TSC may be required to provide interim tactical-level support to early deploying Army elements. The TSC also executes those lead Service common-user logistics (CUL) support requirements assigned to the ASCC by the GCC.

This section deals with the TSC & ESC as they relate to Sustainment Brigade operations. For discussion of additional operational-level sustainment organizations and activities, see pp. 1-12 to 1-15.

Command Posts

Doctrinally, the TSC headquarters operates from fixed facilities in sanctuary and is collocated with the ASCC in order to most effectively perform its C2 functions. In many situations, the TSC headquarters will remain static. When required, the TSC employs ESCs as forward deployed command posts. The TSC may employ an ESC in this capacity to provide a forward C2 presence; improve span of control; or C2 a specified function. However, given the realities on the ground today, stationing and ESC deployment timelines may not meet TSC C2 requirements and the TSC headquarters may be required to relocate.

A primary consideration for this relocation is continuity of C2. A TSC commander will typically maintain C2 continuity by echeloning elements of the headquarters. Echeloning provides the commander with the capability to place minimum C2 capabilities forward while continuing to support the force. This lead element is commonly referred to as an early entry command post (EECP). Once the EECP is in place and communications with all nodes are established, the balance of the TSC headquarters moves forward by echelon.

In addition to continuity of C2 considerations, the TSC commander is concerned with the organizational design of the echeloning elements; specifically establishing functional groupings and establishing functional responsibilities. Identification of responsibilities and authority for each echeloning element provides clarity and direction with respect to the exercise of authority and continuity in the conduct of on-going operations.

TSC contingency planning should also consider the requirement to deploy an ad hoc TSC headquarters C2 element on a long-term basis for split-based operations. The EECP would be the basis for such an element and the overall structure and manning would be based on existing missions, tasks, and resources available. Commanders must consider mission requirements, organize the force, and allocate resources appropriately while maintaining a balance to support both locations effectively. This ad hoc element would remain in place for the time needed to mobilize and station an ESC in the area.

Planning Horizons

In general, planning horizons are points in time the TSC commander uses to focus the organization's planning efforts to shape future events. TSC planning horizons are measured from weeks or months for operational-level requirements to hours and days for supporting tactical-level requirements. The TSC often plans within several different horizons simultaneously. To guide their planning efforts, TSC commanders use three planning horizons—commitment planning (short-range), contingency planning (mid-range), and orientation planning (long-range).

A. TSC/ESC Command & Control Relationships

Ref: FM 4-94, *Theater Sustainment Command* (Feb '10), chap. 3.

Lessons learned during Operation Desert Shield/Desert Storm (ODS) and relearned during Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) clearly document the need for centralized C2 of support operations in order to provide the right support, at the right place, at the right time, and in the right quantities. The combination of centralized C2 and a supporting to supported relationship with maneuver forces provides this capability.

Inherent in these command and support relationships is a clear understanding of the roles of each commander. The **establishing commander**, typically the geographic combatant commander (GCC), will define the supporting to supported relationship, the degree of authority the supported commander has, and the overall priorities.

In general, the **supported commander** identifies his support requirements in terms of priority, location, timing, and duration. The **supporting commander** determines the forces, methods, and procedures to be employed in providing the support. If the supporting commander, subject to his existing capabilities and other assigned tasks, cannot fulfill the supported commander's requirements, then the establishing commander is responsible for determining a solution – i.e. a change in overall priorities or allocation of resources.

The supporting to supported relationship provides the TSC with the control it requires to effectively and efficiently conduct theater opening, sustainment operations, and operate the intratheater segment of the distribution system while simultaneously providing responsive support to Army and joint forces. From a supported commander's perspective, this relationship provides the means to gain increased access to required capabilities.

Forces allocated to the TSC, i.e. expeditionary sustainment commands (ESC), sustainment brigades, battalions, and companies, are normally **attached**. The TSC is responsible for task organizing forces, establishing command relationships and priorities of support, and allocating resources, as necessary, to support mission requirements. In almost all instances, companies and battalions will be further attached to subordinate sustainment C2 headquarters during employment. The command relationship between the Army Service component command (ASCC) and TSC is **assigned**.

The typical relationship between TSC organizations and supported forces is **support**. However, under certain mission, enemy, terrain and weather, troops and support available, time available, and civil consideration (METT-TC) conditions, TACON or OPCON may be appropriate. [For example, in a smaller-scale contingency or during support operations where a division is the senior Army headquarters and a sustainment brigade is the senior sustainment command in the AO/JOA.] Regardless of the formal command and control relationship, the TSC executes its C2 function and maintains situational awareness through command reporting enabled by logistics STAMIS, the Army Battle Command System (ABCS), and other mechanisms as established by the GCC/ASCC.

Command Relationship between the TSC and ESC

Of special interest is the command relationship between the TSC and ESC. In order to fully understand the relationship between the TSC and ESC, and the ESC role, one must view the relationship from two perspectives: table of organization and equipment (TO&E) and doctrine.

Doctrinally, the ESC functions as an extension of the TSC rather than exclusively as a separate echelon of command. This approach is consistent with transformation efforts that led to the elimination of redundant capabilities at corps and division levels; and centralized control of sustainment operations (less health service support) at echelons above brigade.

B. TSC Support Operations

Ref: FM 4-94, *Theater Sustainment Command (Feb '10)*, chap. 4.

Chapter 4 of FM 4-94 describes how the TSC sustains operations across the spectrum of conflict; leveraging joint and sustaining base capabilities to provide efficient, effective support throughout the theater. Primary TSC operational-level focus areas include: distribution management, materiel management, movement control, financial management, and human resources. Section II discusses reception, staging, onward movement, and integration (RSOI). Section III describes TSC distribution management capabilities, functions and retrograde. Section IV describes materiel management responsibilities, functions and retrograde. Section V describes movement control. Section VI describes the provision of sustainment. Section VII discusses Army special operations forces (ARSOF) support. Section VIII discusses the TSC role in providing common-user logistics support to the joint force. Section IX discusses redeployment. Other TSC operational-level focus areas – not discussed—include positioning of facilities and reconstitution.

See following pages (pp. 2-76 to 2-77) for an overview of these TSC focus areas.

TSC Support Structure

Army forces within a unified theater are supported by the ASCC's theater sustainment command. The ASCC normally retains command and control (C2) of TSC assets in order to effectively and efficiently integrate and synchronize operations across the entire theater. There are situations, however, in which TSC assets may be under the tactical control (TACON) or operational control (OPCON) of a supported Army forces.

Military operations within a theater may range from stable peace to general war. When armed conflict does occur, it may involve only a portion of the theater. In situations such as this, the geographic combatant commander (GCC) may designate the region in conflict as a theater of war and/or theater of operations. When a theater of operations, or subsequent area of operations (AO), is established within a theater, the ASCC commander establishes support priorities in accordance with ARFOR requirements to achieve GCC objectives.

A support to supported relationship is established between the ARFOR and the TSC which permits the TSC to employ theater-wide resources to provide timely, responsive support to the ARFOR.

With the exception of joint special operations task force (JSOTF) and ARSOF support elements and United States Transportation Command (USTRANSCOM) single port manager units, the TSC C2s all echelons-above-brigade sustainment operations (less health service support) in a theater; achieving unity of command and operational flexibility to ensure the uninterrupted flow of personnel, equipment, and supplies.

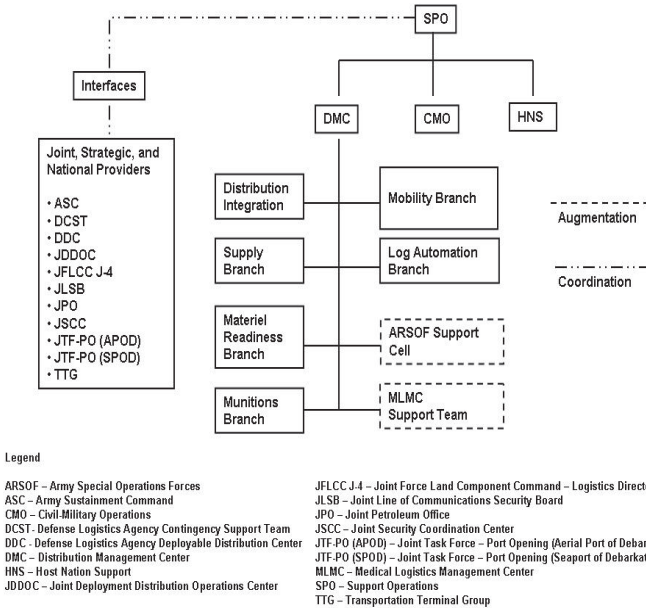
The TSC support structure is based upon detailed mission analysis and other METT-TC considerations. Required capabilities may vary from theater to theater or by phase of the operation. Modular unit designs provide the means to effectively build required capabilities as operational requirements change. Additionally, TSC planners consider the use of host nation support (HNS), contracted support, and support from other Services as alternatives to adding force structure to the TSC.

A TSC may very well be required to simultaneously synchronize and integrate deployment and sustainment operations across a theater that contains multiple theaters of operations. In situations such as this, the TSC may employ multiple expeditionary sustainment commands (ESC) to provide a forward C2 presence in order to provide responsive support to multiple Army forces. In this case, the ESC commanders are dual-hatted as deputy TSC commanders and exercise OPCON of TSC attached forces.

The TSC staff's primary role in the mission command process is the development of plans and mission orders.

TSC Support Operations (SPO) Section

Although all TSC staff sections play an important role in supporting mission requirements, it is the support operations (SPO) section that is the TSC center of gravity. It is within the support operations section that materiel and distribution management occurs; enabling synchronized and integrated operational-level sustainment support throughout the theater.



The support operations section, and in particular the distribution management center (DMC), is augmented as required by METT-TC or in accordance with supporting to supported agreements in order to synchronize requirements and employ constrained resources more effectively and efficiently. For example, theater-level inventory management of Class VIII is accomplished by a medical logistics management center (MLMC) support team that collocates with the TSC DMC; providing the medical deployment support command (MDSC) with visibility and control of all Class VIII theater inventory and the capability to integrate Class VIII distribution requirements with those of the TSC controlled intratheater distribution system.

The TSC SPO serves as the focal point for coordination on all matters pertaining to sustainment for:

- Supported units and major commands
- Other Services or multinational partner forces
- Other Army major commands (to include specialized commands)
- Strategic-level organizations providing support in the theater.
- Joint boards, centers, and bureaus.

The SPO is the link between planning and execution of strategic-to-operational level deployment and sustainment operations. The SPO, by exercising staff supervision over the **Distribution Management Center (DMC)**, maintains visibility, capacity, and control of the distribution system. Through the coordinated efforts of its internal branches, the DMC, exercises control using current and emerging information technologies that enable the DMC to accurately monitor support from the strategic to tactical level in near real-time.

C. TSC/ESC Operational-Level Focus Areas

Ref: FM 4-94, Theater Sustainment Command (Feb '10), chap. 4.

Primary TSC operational-level focus areas include: distribution management, materiel management, movement control, financial management, and human resources.

Reception, Staging, Onward Movement and Integration (RSOI)

The TSC, as the senior Army command responsible for deployment and sustainment in the theater, enables efficient and effective RSOI by building a theater infrastructure—from a combination of existing and deployable assets, capable of supporting the deployment process and rapid force generation. It relies upon subordinate sustainment brigades, augmented by theater opening elements, to conduct port of debarkation support operations; provide life support; and execute theater distribution operations. Army health support is provided by the MDSC. Under certain METT-TC conditions, the TSC may also employ one or more ESCs to provide a forward-based C2 presence that provides oversight of RSOI/or theater distribution operations.

Distribution Management

The TSC is the distribution manager of the intratheater segment of the global distribution system. It executes distribution operations in accordance with priorities promulgated by the ASCC G-4. If an ESC is deployed, it performs the role of distribution manager for its specified theater of operations or JOA. The ESC and sustainment brigades monitor, track, and execute distribution operations in accordance with TSC guidance. As the theater distribution manager, the TSC maintains a theater-wide focus; participating in and coordinating with applicable joint logistics boards, centers, bureaus responsible for resolving issues concerning competing priorities and the allocation of constrained resources. The TSC's primary role in distribution management is a seamless flow of supplies, personnel, and equipment throughout the intratheater segment of the distribution system; delivering the right quantity, at the right time, and in the right location. In part, the TSC accomplishes this through close coordination with the JDDOC and supported J-4/G-4s. It is also accomplished, in part, through the effective use of ITV to monitor distribution flow.

Material Management

The TSC provides the ASCC with a centralized materiel management capability that provides increased efficiencies and effectiveness by reducing redundant materiel management layers, centralizing materiel management functions, and employing a theater-wide view of resources. The result of which is responsive support to Army requirements and reduced CWT. The TSC performs materiel management for all classes of supplies (less medical—CL VIII materiel management is provided by the MDSC) and maintenance management for those activities for which the TSC has control and responsibility. TSC personnel perform the day-to-day planning for operations; providing the theater interface between strategic and operational-level support. TSC materiel management responsibilities include managing, cataloging, requirements determination, requirements validation and prioritization for procurement, distribution, redistribution of excess, and retrograde of materiel.

Movement Control

The TSC C2s operational-level movement control and multimodal operations in the theater. It is responsible for developing plans, policies, and programs that support the efficient use of Army transportation assets and the efficient flow of supplies, personnel, equipment, and units throughout the intratheater distribution system. The TSC accomplishes this, in part, through effective coordination with the JDDOC to maintain situational awareness of the global distribution system and joint requirements for CULT assets. The TSC manages intratheater movements through its subordinate MCB(s); implementing priorities established by the ASCC in support of the GCC concept of operations.

Sustainment

Supply. Sustainment requirements are influenced by factors such as deployment timelines, troop density, infrastructure, geography, and theater policies. The TSC staff considers these factors as well as others when developing a concept of support to meet ASCC requirements. Inherent in this is an understanding of the supported commander's priorities and status of available resources. **Services.** The TSC is responsible for planning, resourcing, monitoring, and analyzing field services support to deployed Army forces. TSC field services operations include field laundry, showers, light textile repair, force provider, mortuary affairs, aerial delivery support, and coordination with DLA for hazardous waste removal.

Maintenance

The TSC is the fleet maintenance manager for Army forces deployed in a theater, theater of operations, AO, or JOA. It is in this capacity that the TSC collects, analyzes, and monitors readiness data of subordinate and supported units. This enables the TSC to effectively manage maintenance support to units and systems in accordance with ASCC priorities. Systemic issues, beyond TSC capabilities, are passed to the appropriate national level maintenance manager via the Army field support brigade (AFSB) (OCONUS) for resolution. As the fleet maintenance manager for deployed Army forces, the TSC develops plans, policies, programs, and procedures involving the maintenance of ground missile and aviation equipment in accordance with requirements established by the ASCC.

Operational Contract Support

Operational contract support plays an ever increasing role in operations and is an integral part of the overall process of obtaining support across the spectrum of conflict. Today, and for the foreseeable future, contract support will often be used to augment other support capabilities by providing an additional source for required supplies and services.

Financial Management Support

The integration of financial management capabilities with those of the TSC provides the basis for coordinated and synchronized financial management support to operations throughout the theater; ensuring consistency of financial management support and the most efficient use of all available financial management resources and services.

Human Resources Support

The human resources sustainment center (HRSC) plans, integrates, and coordinates human resources; casualty operations; reception, replacement, return to duty, rest and recuperation, and redeployment (R5) operations; and postal operations support of Army forces within the theater, theater of operations, AO, or JOA; coordinates and synchronizes human resources (HR) capabilities with those of the TSC SPO, and supports the ASCC G-1.

Common-User Logistics (CUL) Support

GCCs are required to coordinate an integrated distribution and support system from origin to destination during joint contingency operations with DOD supporting agencies, other agencies, Service component commanders, subordinate joint force commands or joint task forces (JTF), and supporting combatant commands such as USTRANSCOM. The best option available is the use of the common-user logistics designation. There are two key considerations the GCCs may use to designate common-user responsibilities. These are the dominant user and the most capable force available.

Redeployment Operations

Redeployment operations are complex events that require detailed planning and synchronized execution. Decisions made concerning withdrawal timetables, residual forces, and materiel to remain in the host country will influence the pace and nature of the redeployment. Redeployment operations are conducted in accordance with the GCC redeployment operations plan (OPLAN) or GCC redeployment policy. The TSC supports effective and efficient redeployment operations through its C2 of the intratheater distribution system by maintaining situational awareness of system capacity and leveraging joint capabilities.

II. Expeditionary Sustainment Command (ESC)

The ESC, attached to a TSC, provides C2 for attached units in an area of operation as defined by the TSC. As a deployable command post for the TSC, the ESC provides operational reach and span of control. The ESC plans and executes sustainment, distribution, theater opening, and reception, staging, and onward movement for Army forces within the spectrum of conflict. The ESC may serve as the basis for an expeditionary joint sustainment command when directed by the combatant commander or his designated coalition/ joint task force (JTF) commander.

ESC Role

The role of the ESC is to provide forward-based C2 of assigned units. It normally deploys to the AO/JOA and provides command and control when multiple sustainment brigades are employed or when the TSC determines that a forward command presence is required. This capability provides the TSC commander with the regional focus necessary to provide effective operational-level support to Army or JTF missions. The TSC may employ multiple ESCs within the theater.

Depending on the command structure within the theater, ESCs may be employed to support specific Army forces within a specific AO/JOA; or to support other ESCs or sustainment brigades with theater opening or theater distribution capabilities.

As described in the modular force logistics concept, the ESC role in supporting a JTF is less about supply and more about physical distribution and readiness. Its purpose is to build and sustain JTF combat power through agile and responsive JOA-wide support. It achieves its purpose through the effective synchronization and execution of TSC plans and directives in support of JTF operational requirements; executing distribution management responsibilities for its specified AO/JOA; establishing a command climate where close coordination and collaboration with the JTF enables decisive action when unanticipated events rapidly occur in a specific operational environment.

The ESC provides essentially the same range of support staff capabilities but not to the scale and scope of the TSC. It lacks orientation planning and full scale materiel management capabilities.

The ESC is focused on synchronizing operational-level sustainment operations to meet the day-to-day and projected operational requirements of the JTF or supported force. It accomplishes this, in part, by establishing commitment and contingency planning horizons that are derived from the JTF OPLAN, commander's intent, CCIR, operational tempo, and distribution system capacity.

ESC Organization

The ESC organizational structure is a near-mirror image of the TSC structure. The ESC is organized with a personal, special, and a coordinating staff comprised of a G-1-G-4, SPO, G-6, and G-8. In addition to their common staff functions, the ESC staff develops policies and plans for their respective areas of responsibility and provides guidance, priorities, and allocations to subordinate commands/units. They also review the plans of counterpart staff elements and those of subordinate units.

For the most part, the significant difference between TSC and ESC capabilities is scale and scope. Although they are structured following the same organizational design, the ESC is organized at a troop level approximately 55 percent of that of the TSC. The ESC scope is also different. The TSC is concerned with supporting ASCC/ joint requirements from a theater-wide perspective, whereas the ESC is concerned with supporting ASCC/joint requirements from a regionally focused theater of war, theater of operations, AO or JOA perspective. There are other differences in capabilities such as orientation planning and materiel management. METT-TC considerations determine the number of ESCs required to C2 TSC deployment and sustainment operations theater-wide.

VIII. Protection Considerations

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), app. B.

Protection consists of those actions taken to prevent or mitigate hostile actions against DOD personnel (to include family members), resources, facilities, and critical information. Additionally, counter proliferation and consequence management actions associated with chemical, biological, radiological, nuclear, and high yield explosive weapons, which includes toxic industrial material and improvised explosive devices (IED) should be addressed.

I. Responsibilities of the Sustainment Brigade

The sustainment brigade is designed to plan and conduct base and base cluster self-defense. It has the capability to defend against level I threats, assist in destruction of level II threats, and escape or evade against level III threats. When faced with a threat beyond its capabilities, the sustainment brigade relies on resources within supported maneuver units to assist in defeating the threat. Conducting an active defense against any level of threat will degrade the sustainment brigade's capability to conduct its primary mission to a greater or lesser degree dependent upon the level of the threat. All duties and functions, which are required of a sustainment brigade, might also be required of a CSSB, especially base commander and base defenses functions.

Threat Levels

Defense planning includes these levels of threat:

Level I

Threats that base or base cluster self-defense measures can defeat.

Level II

Threats that initial response forces, but not base or base cluster self-defense measures, can defeat. Bases and base clusters can delay level II threats until response forces arrive.

Level III

Threats targeting several friendly elements as part of a larger, coordinated effort, rather than individual, separate entities. They require a tactical combat force (TCF) to defeat them.



The protection warfighting function is the related tasks and systems that preserve the force so that commanders can apply maximum combat power to accomplish the mission (ADRP 3-0). Protection is integrated throughout the operations process to provide a synchronization of efforts and an integration of capabilities. Refer to The Army Operations & Doctrine SMARTbook (Guide to Unified Land Operations and the Six Warfighting Functions) for further discussion of protection.

A. The Threat

Hostile action against US forces may occur at any time, any place, and under any conditions. Recognizable, armed combatants or persons who are or appear to be civilians may commit hostile actions. Sustainment personnel must exercise vigilance against such attacks because the enemy seeks soft targets and assumes that these can be found in the areas and facilities that sustain US forces. Therefore, sustainment personnel should approach their tasks with the same warrior spirit that their combined arms counterparts exercise in their duties. This is especially true on the evolving battlefield with increased lethality, larger AO's, and more noncontiguous operations. Either the commander has to use more assets to secure sustainment activities or accept greater risk and reduced levels of sustainment activities when sustainment personnel substitute protection measures for sustainment operations. In any case, sustainment personnel understand, train for, and plan security operations within the context of their support activities.

Sustainment elements are prime targets for the asymmetrical threat forces on the noncontiguous operational area. Terrorists, saboteurs, opposition special operations forces, and others all pose a threat to sustainment personnel, installations, and convoys. By effectively cutting LOCs between sustainment and maneuver elements or by damaging and disrupting C2, C2 information systems, sustainment automation, and/or facilities these opposing forces hope to have significant negative impact on US maneuver forces with minimum risk to their own.

B. Combat Action

The combat threat in the sustainment brigade AO may include individual acts of sabotage; inserting large, organized forces; snipers, and artillery, mortar, air, and missile attacks. Large-scale enemy attacks may require committing US reserve forces, combat units from forward areas, HN resources, or multinational resources.

An understanding of the threat to the sustainment brigade and detailed IPB and LPB products help to protect the support structure. Threat forces conduct operations in the sustainment brigade areas and bases to seize and maintain the initiative, facilitate strategic and operational level penetrations, and degrade or destroy forces' ability to conduct support operations. To achieve these aims, enemy activities target:

- Command and control nodes
- Air defense artillery sites
- Critical support facilities and units such as: ammunition and weapon storage sites and delivery systems, SPOD's, APOD's, POL terminals and facilities, maintenance, supply, and services activities
- Regeneration sites
- Key choke points along LOC's

II. Fire Support Considerations

The sustainment brigade, and all subordinate commanders and staffs, must have a thorough understanding of fire support procedures, organizations, and assets that are available within their AO. Normally, the ESC will have a dedicated fires battalion assigned for fire support that a sustainment brigade may call upon. However, this unit might not be available until the theater of operations is mature.

The sustainment brigade S-3 must include fire support considerations into their planning and the fire support information must be disseminated to all subordinate elements. All fire support assets need to be assessed (artillery, mortar, UAS, CAS, and naval) to determine availability and coordination requirements. Planning should focus on close coordination with the fires units and detailed procedures to request fires support. It should be routine for all personnel to receive training on call for fire procedures and to rehearse the procedures.

III. Protective Measures

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. B-8 to B-10.

Sustainment brigade units take several measures to reduce their vulnerability to enemy operations. These measures include dispersion, cover, concealment, camouflage, intelligence gathering, obstacles, and air and missile defense.

A. Dispersion

Sustainment brigade organizations disperse as much as possible throughout the assigned AO. Dispersion as a protective measure is balanced against the potential deficits to support operations and the base cluster defense system. Dispersion helps avoid catastrophic damage from air and mass destruction weapons. Even if a sustainment brigade unit is not the primary target, it may be attacked as a target of opportunity. The dispersion required depends on the following:

- Type of threat
- Terrain
- Defensibility

B. Engineer Support

Engineer survivability support will be important for the elements of the sustainment brigade. When available, it may be used for a variety of protection hardening measures in support of the sustainment brigade to include survivability (see FM 5-103, Survivability Operations) support and support to camouflage, concealment, and decoys. Engineers may also provide geospatial support to the sustainment brigade's protection efforts.

C. Cover, Concealment, and Camouflage

The enemy cannot target sustainment brigade resources that it cannot detect. Cover, concealment, and camouflage remain critical to protecting sustainment units, facilities, and supplies from enemy detection and attack. Cover includes natural and artificial protection from enemy observation and fire. When selecting sites, advance parties consider the type of cover available. Concealment includes natural or artificial protection from enemy detection. Sustainment brigade units use concealed ingress and egress points and halt locations within support locations. Camouflage consists of using natural or artificial objects or tactical positions to confuse, mislead, or evade the enemy.

D. Obstacles

Obstacles slow, impede, or channel enemy movement and incursion. They buy time until reaction forces can deploy or a response force can arrive. Effective use of obstacles involves sound counter-mobility planning and early warning. Obstacles in urban environments are as important as in the field. Strategically placed obstacles provide protection against terrorist access to buildings.

E. Air and Missile Defense

Air defense artillery (ADA) forces cannot provide dedicated air and missile defense (AMD) for all sustainment brigade assets in the AO. The commander positions brigade organizations to take advantage of coverage that available AMD forces provide. Using base clusters makes it possible for AMD units to cover more Brigade assets than if units disperse throughout the AO, but reduces the benefits of dispersion. Brigade assets identified AMD priorities that do not receive dedicated support are positioned to take advantage of the coverage provided by AMD units protecting higher-priority assets.

Passive air defense operations include the means a unit uses to avoid enemy detection, along with measures to minimize damage when attacked. Sustainment brigade units use OPSEC to conceal their location from enemy visual and electronic surveillance. Elements within base clusters disperse as much as possible. Dispersal along with field fortifications and obstacles significantly reduce casualties and damage from air and missile attack.

IV. Bases and Base Clusters

Ref: FMI 4-93.2, *Sustainment Brigade* (Feb '09), pp. B-14 to B-16.

The sustainment brigade must integrate its HQ and subordinate elements FP plans into the base and base cluster defense plans. These plans are integrated with the defense plans of the MEB or BCT having the overall responsibility for the AO, and are copied to the higher sustainment commander. This defense method protects elements from level I threats in their assigned areas. Commanders ensure all bases and base clusters in their AO's train and prepare for their roles. Cooperation and coordination elements are critical.

Bases and base clusters form the basic building block for planning, coordinating, and executing base defense operations. The sustainment brigade S-3, with input from the sustainment brigade SPO, organizes units occupying the support HQ AO into base clusters. The sustainment brigade SPO recommends appointments of base or base cluster commanders from units in the cluster to the sustainment brigade S-3. The base cluster commander is usually the senior commander in the base cluster. The base cluster commander forms a base cluster defense operations center (BCOC) from the staff and available base assets.

A base may be a single-service or a joint-service base. The base cluster commander appoints the base commanders. Base commanders form base defense operating centers (BDOCs).

Within the base cluster, three commanders have distinct responsibilities. These three — the individual unit commander, the base commander, and the base cluster commander — are discussed below. Non-sustainment units residing within a base which a sustainment brigade commands will have a command relationship and responsibilities established by order to the sustainment brigade for protection.

Individual Unit Commanders

The commanders of units in a base are responsible for the following:

- Participating in base defense planning
- Providing, staffing, and operating base defense facilities in accordance with base defense plans
- Conducting individual and unit training to ensure their forces' readiness to perform their assigned tasks in defense of the base
- Providing appropriate facilities and essential personnel for the BDOC and the base commander
- Providing liaison personnel to advise the base commander on matters peculiar to their units
- Providing internal security of the base
- Providing communications systems, including common-user communications, within the command

Sustainment brigade units use observation posts, listening posts, or unattended sensors on likely avenues of approach to collect intelligence on threat activity. In areas where the populace is friendly, local law enforcement or government agencies can provide information on threats in the area. BDOCs implement an integrated warning plan within their cluster and with adjacent bases or base clusters.

Base Commander

The base commander is responsible for base security and defense. All forces assigned to the base are under OPCON for base defense purposes. The base commander's responsibilities for base defense include:

- Establishing a BDOC from available base assets to serve as the base's tactical

operations center (TOC) and focal point for security and defense. The BDOC assists with planning, directing, coordinating, integrating, and controlling base defense efforts.

- Establishing an alternate BDOC from base resources or, if base assets are not available, designating a HQ element from units dedicated to the base for its local defense
- Planning for including transient units by ensuring that base defense plans include provisions for augmenting the regularly assigned base defense forces with units present at the base during periods of threat

Base Cluster Commander

The base cluster commander is responsible for securing the base, coordinating the defense of bases within the base cluster, and integrating base defense plans into a base cluster defense plan. Specific responsibilities include:

- Establishing a BCOC from the staff and available base or base cluster assets to serve as the base cluster's TOC and focal point for planning, directing, coordinating, integrating, and controlling base cluster defense activities
- Providing appropriate facilities, housing, and services for necessary liaison personnel from bases from within the cluster

Base and Base Cluster Defense Plan

Base and base cluster commanders develop and implement comprehensive defense plans to protect their support capability. The defense plan includes measures to detect, minimize, or defeat level I and defend level II threats. To maximize mutual support and prevent fratricide, the base and base cluster commanders coordinate defense plans with adjacent base and base clusters and joint, multinational, and HN forces. The sustainment brigade S-3 ensures that all plans conform to the overall TSC or BCT security plans.

Area Damage Control (ADC)

Commanders of bases and installations within the JSA coordinate requirements for area damage control (ADC) with the JSC through their respective chains of command. Commanders establish priorities for ADC missions as part of their planning process at the base or installation level. All units are responsible for providing ADC within their base or installation to the extent of their capabilities.

The sustainment brigade takes ADC measures before, during, and after hostile action or natural disasters to reduce the probability of damage, to minimize its effects, and to reestablish normal operations. Necessary repair begins after the damage is contained.

Other forces and assets that contribute to the ADC mission include—

- Ordnance
- MP
- Chemical
- CA
- Maintenance
- Medical
- Signal
- Supply
- Transportation
- Transiting units

HNS can be a vital resource for ADC in the AO. Early HNS identification and coordination are essential to supplement ADC efforts. Responsibilities and support from HN assets are negotiated at theater level and are part of the status-of-forces agreements and treaties.

V. Convoy Security

The most serious threat faced by the deployed sustainment brigade elements occurs when moving. The sustainment brigade must coordinate with maneuver, military police, and medical units operating in the AO for additional security capability, medical support, and/or route security assessments.

Movement control always includes convoy defense considerations. Supply routes are assumed not to be secure on a high threat area. Therefore, convoy movements between supported unit areas are combat operations. The TSC and supported unit commanders and staffs work together to integrate defensive capabilities into convoys. Adequate convoy security depends on two critical components. These are thorough staff planning to counter enemy plans and capabilities and individual Soldier training to counteract enemy action. All convoy personnel must be familiar with published rules of engagement and local tactics, techniques, and procedures developed for the current situation on the convoy route.

The convoy commander ensures that troops are trained in convoy defense techniques. The damage a convoy prevents or incurs when attacked often depends on the adequacy of convoy defense training. It also depends on the route and timing of the convoy in relation to the enemy situation and the adequacy of the intelligence and information convoy leaders receive in advance of the operation. The following paragraphs discuss in the broadest of terms the considerations of convoy protection.

There is no such thing as an administrative move on the noncontiguous operational area. Once outside the base perimeter you have a tactical convoy. A tactical convoy is a deliberately planned combat operation. Its mission is to move personnel and/or cargo via a group of ground transportation assets in a secure manner to or from a target destination. Tactical convoys operate under the control of a single commander in a permissive, uncertain, or hostile environment. Tactical convoys should always have access to the COP and be characterized by an aggressive posture, agility, and unpredictability. There should never be less than two personnel in the cab, one to drive and one for protection.

Each tactical convoy must be prepared to take appropriate action in the face of ambush and once contact is made based on rules of engagement and TTPs. Training, experience, and unit SOPs will accelerate tactical convoy preparation and prepare unit personnel to take appropriate actions on contact.

Standard troop leading procedures (modified to reflect convoy operations) are included in Multi-Service Tactics, Techniques and Procedures for tactical convoy operations and should be used to ensure all planning elements are considered when preparing to conduct convoy operations.

A. Movement Corridors

The Maneuver Enhancement Brigade (MEB) is a multifunctional headquarters, task organized according to METT-TC that provides security and protection within its assigned areas. The sustainment brigade is likely to operate within a MEB AO and it will rely on the protection MEB elements provide throughout designated movement corridors.

A movement corridor (MC) is part of a layered and integrated security approach to LOC security. Layered security constitutes concentric rings that increase in survivability and response measures. The first ring (the center ring) being the ability of every convoy to defeat a Level I threat and to delay a Level II threat. The next ring (middle ring) provides the increased security/protection capability in support of the center ring activities, capable of defeating Level I and Level II threats, and supports the defeat of Level III threats. The middle ring is also capable of integrating fires, CAS, MEDEVAC, safe havens, vehicle removal/recovery operations, and so forth in support of the center ring and central effort that is the MC concept. The final ring (the

B. Main Supply Routes (MSRs)/ Alternate Supply Routes (ASRs)

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), pp. B-12 to B-13.

MSRs are routes designated within the MEBs or higher headquarters AO upon which the bulk of sustainment traffic flows in support of operations. An MSR is selected based on the terrain, friendly disposition, enemy situation, and scheme of maneuver. Supply routes are selected by the MEB S-4 in coordination with the BSB support operations officer and MEB S-3. They also plan ASRs for use if a MSR is interdicted by the enemy or becomes too congested. In the event of CBRN contamination, either the primary or alternate MSR may be designated as the dirty MSR to handle contaminated traffic. All ASRs must meet the same criteria as the MSR. MPs assist with regulating traffic and engineer units maintain routes. Security of supply routes in a noncontiguous AO may require the MEB commander to commit non-logistics resources.

Some route considerations are:

- Location and planned scheme of maneuver for subordinate forces to include combined arms forces, artillery units, and other forces moving through the MEB's AO
- Route characteristics such as route classification, width, obstructions, steep slopes, sharp curves, and type roadway surface
- Two-way, all-weather trafficability
- Weight classification of bridges and culverts
- Requirements for traffic control such as at choke points, congested areas, confusing intersections, or along built-up areas
- Number and locations of crossover routes from the MSR to ASRs
- Requirements for repair, upgrade, or maintenance of the route, fording sites, and bridges
- Route vulnerabilities that must be protected. This may include bridges, fords, built-up areas, and choke points.
- Enemy threats such as air attack, conventional and unconventional tactics, explosive hazards, ambushes, and chemical strikes
- Known or likely locations of enemy penetrations, attacks, chemical strikes, or obstacles
- Known or potential civilian/refugee movements that must be controlled or monitored

See also p. 3-17 for discussion of supply route considerations.

outer most ring) is the final ring of protection and brings with it the ability to defeat all level of threats through the integration of all joint capabilities.

An MC is a protected LOC that connects two support areas. Within the MC are main and alternate roads, railways, and/or inland waterway supply routes used to support operations. Within an AO, there is an MC network that consists of multiple MCs that connect inter-theater APOD and SPOD; intra-theater Aerial Port of Embarkation and APOD's; operational level support, distribution, and storage areas; and brigade support areas. The MEB is responsible for tactical LOC operations and security within its AO and, as assigned, within its higher headquarters AO. The width and depth of an MC will be dependent on METT-TC factors and the commanders' guidance.

The establishment of an MC network is the result of applying multiple functions and establishing required command, control, and support relationships. The collective integration and synchronization of units, capabilities, and facilities will provide a comprehensive three-dimensional protection capability for the designated LOC's, the unit and convoy movements on the LOC's, and the units supporting LOC and movement operations. A fully developed MC will consist of military police units providing route regulation and enforcement, straggler and dislocated civilian control, area and route security, convoy escort, response force operations, and logistical units conducting and managing movement control. Supporting functions include units and capabilities for vehicle recovery and storage, cargo transfer, refueling, road maintenance and repair, MC safe haven support facility construction and repair, CBRN detection and response, aerial reconnaissance, and medical treatment and evacuation.

The sustainment brigade S-3 coordinates with the MEB when planning tactical convoys through movement corridors. This may be done through movement control elements collocated with the MEB or the division transportation officer.

C. Danger Areas

Intersections, ramps, traffic circles, over and underpasses, rest halts, or halts to recover disabled vehicles can all be danger areas for convoys. See FM 4-01.45 for TTPs in dealing with these areas.

D. Battle Drills

Battle drills are the pre-planned, rehearsed responses to contact. FM 4-01.45 provides a simple decision matrix for reaction to contact and examples of how convoy participants might respond. Battle drills on how to react to convoy ambushes must be developed and rehearsed.

E. Improvised Explosive Devices (IED's) and Vehicle Borne IED's (VBIED's)

IED's are one of the greatest threats to convoys and are often used to initiate an ambush. Convoy personnel should always expect an ambush immediately following an IED detonation. Convoy commanders should brief convoy personnel on the latest IED threat: what types of IED's are being used and where they have previously been emplaced along the route.

IED's and VBIED's represent an attractive attack weapon for asymmetrical threat forces. They can inflict substantial damage to convoys (equipment and personnel) while providing the threat with very limited exposure counter-attack by US forces.

IED's are rigged from any explosive materiel available to threat forces and detonated by timing device, trip wire or pressure trigger, or are command detonated. IED's are most easily emplaced during periods of limited visibility making morning periods exceptionally dangerous for exposure to IED's. IED's are often used as the opening weapon in an ambush. Convoy participants must be prepared to counter an assault by direct fire from hidden roadside positions immediately following an IED encounter.

Convoy Operations

Ref: FMI 4-93.2, *Sustainment Brigade (Feb '09)*, p. B-13.

Layered Convoy Protection

The tactical convoy's physical security elements are composed of three layers:

- Organic security elements
- Convoy escorts
- Corridor security

The organic security element is the responsibility of the convoy commander. These assets (personnel, weapons, and vehicles) are taken from the organic assets of the unit conducting the convoy operation. Vehicles selected for this mission should be fast, maneuverable, and hardened to the extent possible (these vehicles are known as "gun trucks"). Crew served weapons, automatic weapons, and grenade launchers mounted on these gun trucks provide suppressive fire as the convoy initially responds to an ambush.

Convoy escorts may be provided by any organization tasked to provide convoy security. These organizations may include MPs, CAS, and/or security detachments from a maneuver element. The mission of the convoy escort is to provide protection from direct fire and complex ambushes. Convoy escort elements may be used as reconnaissance ahead of the convoy and/or as a trail security element. Either armor or mechanized units provide greater firepower for the escort mission. See FM 4-01.45 for suggested employment of ground and CAS convoy escort assets. Corridor security is the responsibility of the BCT or MEB whose AO includes the convoy route.

Convoy Communication

Radio communication is vital to the support the convoy. A convoy commander needs to consider and plan for the following:

- MEDEVAC operations
- Internal convoy vehicle-to-vehicle communications
- Communications with security vehicles (gun trucks and/or convoy escorts)
- External communications to higher headquarters, quick reaction force, artillery support

Alternate means of communication should be planned for the following:

- Internal to vehicle
- Between vehicles
- When dismounted due to ambush or IED
- Radios capable of secure communications are used in convoys. Three types of communications must be considered and planned for. Alternate means of communications (vehicle signal system, hand and arm signals, pyrotechnics, and so on) should also be planned.

Mounted Tactics

The four principles of mounted tactics for convoys are:

- 360-degree security – situational awareness, interlocking fires, mutual support
- Deterrence – aggressive posture, display a willingness to engage
- Agility – Ability to adapt to environment and conditions
- Unpredictability – No observable routine

Every participant in the convoy must understand the areas in which they are responsible for observing and into which they must fire in the event of enemy contact. Interlocking fires and mutually supporting fires are ensured to the extent that fratricide considerations allow.

VI. CBRN Defense

The ability to sustain combat operations with an appropriate level of support is vital to operational success. Operations in CBRN environments place significant burdens on the sustainment system. Sustainment operations and facilities are at particular risk to CBRN attack to the degree that they rely on fixed sites (ports, airfields, and so on) or must remain in particular locations for extended periods of time. The need to operate in CBRN environments will add to the physical and psychological demands of military operations, with degrading effects on the performance of individuals and units. The sustainment brigade S-3 is responsible for CBRN planning.

A. Protective Equipment

Sufficient equipment must be available to protect not only the uniformed force but also the essential supporting US and civilian work forces. This is of particular concern for sustainment operations where potentially significant numbers of contract and HN personnel support operations. Individual and unit training for proper sizing, use of, and care for this individual and crew-served equipment is required to take full advantage of its capabilities.

B. CBRN Defense Principles

Three principles that specifically address the hazards created by CBRN weapons include: avoidance of CBRN hazards, particularly contamination; protection of individuals and units from unavoidable CBRN hazards; and decontamination in order to restore operational capability.

1. Avoidance

Successful contamination avoidance prevents disruption to operations and organizations by eliminating unnecessary time in cumbersome protective postures and minimizing decontamination requirements. Avoiding contamination requires the ability to recognize the presence or absence of CBRN hazards in the air, on water, land, personnel, equipment, and facilities. Surveillance and detection capabilities enable units to recognize CBRN hazards. The fusion of these capabilities with information from other sources yields an overall surveillance picture supporting decisions for specific avoidance, protection, and decontamination actions. These surveillance and detection results also establish requirements for other avoidance measures such as sounding alarms, marking hazards, and warning forces. Leaders at all levels must implement measures designed to avoid or limit exposure consistent with mission requirements. These measures should include increased use of shelters during CBRN employment windows and providing key information for movement before, during, and after CBRN attacks. In planning for contamination avoidance, leaders must include an assessment of the capabilities of available detection systems. Particular challenges include the unanticipated use of biological agents and the capabilities and limitations of current remote and standoff detection systems.

2. Protection

CBRN protection requires the planning, preparation, training, and execution of physical defenses to negate the effects of CBRN weapons and hazards to personnel and materiel. As staffs analyze their mission requirements and conditions, the planning process will yield specific actions required before, during, and after CBRN attacks. As commanders anticipate and identify CBRN risks, these actions should be clearly communicated and rehearsed from command to individual levels. CBRN protection conserves the force by providing individual and collective protection postures and capabilities.

Commanders adopt a mission oriented protective posture (MOPP) to establish flexible force readiness levels for individual CBRN protection. MOPP analysis (the

process of determining a recommended MOPP) integrates CBRN protection requirements (derived from CBRN threat assessments) with mission requirements in light of the performance degradation caused by wearing protective equipment. MOPP analysis relies on accurate IPB and CBRN hazard prediction as well as a clear understanding of the force's ability to quickly increase its CBRN protection. To facilitate adapting to varying mission demands across a combatant command's AO, MOPP decisions should be delegated to the lowest level possible and retained at higher levels only in exceptional cases. The JFC has overall responsibility for providing guidance for levels of protection and ensuring timely warning of CBRN risks. Force components may require variations of configurations, such as "mask only" for identified situations, but should standardize configurations where possible. Tactics techniques and procedures (TTPs) that address specific techniques and procedures for MOPP analysis and donning protective equipment can be found in the Multi-service Tactics, Techniques and Procedures (MTTP) for chemical, biological, radiological, and nuclear (CBRN) protection.

Sustaining operations in CBRN environments may require collective protection equipment, which provides a toxic free area (TFA) for conducting operations and performing life support functions such as rest, relief, and medical treatment. Contamination transfer into the TFA compromises the health and safety of all occupants and jeopardizes their ability to support the mission. Therefore, training must include procedures for TFA entry and exit. When collective protection is not available and mission requirements permit, plans must be developed, exercised, and evaluated to move personnel to alternative TFAs that are well away from the contaminated areas. If evacuation is not possible, building occupants may be able to gain limited protection by closing all windows and doors, turning off ventilation systems, and moving to closed, inner rooms. If there is some advance warning, occupants may be able to increase protection by sealing windows, doors, and openings, while recognizing that the building or space may quickly become uninhabitable without cooling or ventilation.

3. Decontamination

Decontamination supports the post-attack restoration of forces and operations to a near-normal capability. Decontamination is intended to minimize the time required to return personnel and mission-essential equipment to a mission capable state. Because decontamination may be labor intensive and assets are limited, commanders must prioritize requirements and decontaminate only what is necessary. Commanders may choose to defer decontamination of some items and, depending on agent type and weather conditions, opt to either defer use of equipment or allow natural weathering effects (temperature, wind, and sunlight) to reduce hazards. Decontamination is organized into three categories that reflect operational urgency: immediate, operational, and thorough. Decontamination also entails special considerations for patients, sensitive equipment, aircraft, fixed sites, and the retrograde of equipment. The extent and time required for decontamination depends on the situation, mission, degree of contamination, and decontamination assets available. TTPs provide details for the technical aspects of decontamination and can be found in FM 4-11.5, MTTP for CBRN Decontamination.

Retrograde cargo may require extensive decontamination measures; specialized, highly sensitive monitoring equipment; extended weathering, or destruction. Retrograde of previously contaminated equipment may be delayed until after conflict termination.

Fixed site decontamination techniques focus on fixed facilities and mission support areas such as C2 information systems, supply depots, aerial and seaports, medical facilities, and maintenance sites.

C. Sustainment Operational Considerations - CBRN

Ref: FMI 4-93.2, *Sustainment Brigade* (Feb '09), pp. B-5 to B-8.

Sustainment elements will operate throughout the theater of operations. Sustainment elements directly supporting engaged forces will be small, mobile units. Sustainment elements providing area support may involve larger, more complex transportation, maintenance and supply activities conducted at fixed or semi-fixed sites.

Mobile units seek to avoid CBRN contamination to the maximum extent possible. If contaminated, units identify clean areas, and on order, move along designated routes from contaminated areas. Units decontaminate equipment and conduct MOPP gear exchange during the move to clean sites.

Sustainment units at the operational level, in contrast, may be required in emergency situations to conduct operations from contaminated fixed sites until they can relocate to clean areas.

In most circumstances, the sustainment infrastructure in a theater of operations operates with a substantial complement of nonmilitary personnel. In a typical theater, sustained operations will rely heavily on military personnel, DOD civilians, HNS personnel, other nation support personnel, and contractor provided sustainment support personnel. During the early phases of deployment, the sustainment infrastructure may rely on HNS personnel for port operations and transportation requirements. Protection of all types of personnel in the AO is required and must be included in the CBRN planning and preparation.

1. Warning Systems

In order for individuals and units to take necessary self-protection measures, timely warning of CBRN attacks and subsequent spread of contamination is essential. The JFC has the responsibility, in coordination with the HN, to establish an effective and timely warning system, and to exercise this system on a recurring basis. Sustainment commanders tied to a fixed site should monitor CBRN warning systems continuously and should be capable of passing warnings to workers and units throughout their sites. Because of the variety of delivery methods for CBRN weapons and the limitations of detection capabilities, personnel and units may not receive warning before exposure occurs. Warning systems should be designed to alert workers promptly upon initial detection of an attack. Since workers may be widely dispersed throughout the area, a site-wide alarm system, capable of being activated immediately upon receipt of warning, must be available, maintained, and exercised regularly. At many sites, military throughput will rely on civilian labor. Sustainment planners must consider the vulnerability of HN and other civilian workers to attack and plan accordingly.

2. Materials Handling Equipment (MHE)

Typically, even during high capacity operations, much of the MHE at a facility is not in use. Commanders should protect idle MHE from exposure to chemical or biological agents in the event of attack. Housing and covering MHE with plastic, or otherwise protecting it from exposure, can ensure that it will be readily available to resume operations after the attack.

3. Aerial Ports

Regardless of an aerial port's CBRN preparedness, some aircraft will not be able to land at or depart from contaminated airfields. Of particular importance are limitations in CBRN environments on the employment of the civil reserve air fleet, civilian, and other aircraft under contract to support military operations. Sustainment plans must provide for replacing these aircraft with other airlift assets or conducting trans-load operations from bases outside the immediate threat area. These replacement aircraft would have to operate

from trans-load airbases to shuttle the affected cargo and passengers to the theater of operations. If that is not feasible, alternate means (sea, rail, wheeled transport, and so on) must be made available to accomplish the mission.

4. Sea Ports

In large-scale operations, US equipment and materiel normally enter the theater of operations on strategic sealift ships and off-load at SPOD. The vital importance of these seaports to US power projection capability makes them an attractive target for CBRN attack. However, conducting successful attacks against SPOD's presents significant challenges to the adversary. If port managers and operators are properly prepared to survive the attack and sustain operations, CBRN attacks may not cause significant long-term degradation of throughput capacity. This is especially true at large ports where many piers, storage areas, and much of the MHE may escape contamination. Operations in these cases may be limited more by the effects of the attacks on the local workforce and nearby civilian population. In some cases, it will be possible to continue operations at a contaminated port.

5. Reception Staging and Onward Movement (RSO)

The permanency of sites for RSO of arriving forces can vary widely between theaters of operations. Theaters of operations with large forward-deployed forces rely on fixed sites for a wide variety of activities, such as pre-positioned stock maintenance and control, supply and maintenance, materiel and transportation management, and sustainment network operations. Theaters of operations with limited forward presence normally rely more heavily on temporarily fixed sites (facilities that are transportable or mobile but, due to ongoing operational constraints, may not be rapidly moved).

Staging areas for personnel or equipment near APOD's and SPOD's may be attractive targets for CBRN attack. Sustainment planners must assess the relative value of the convenience provided by establishing large centralized facilities, which are more easily targeted, and the enhanced security that results from having more smaller dispersed facilities that are more difficult to C2 but less vulnerable to CBRN attack. While the anticipated threat will influence the staging area selection process, adequate facility and area space availability may be the determining considerations. Planning must consider equipment-marshalling areas and rail yards (which may not be in close proximity of APOD and SPOD facility complexes); sustainment hubs and bases (which may be fixed facilities with large forward deployed forces); and force integration assembly areas (where deploying units complete deployment recovery, equipment receipt, and processing and preparation for movement to TAA's).

6. Main Supply Routes (MSRs)

The vulnerability of MSRs to CBRN attack may vary widely among theaters of operations. In those that rely on a few major MSRs and have limited alternative routes and off-road capability, CBRN attacks may have a greater impact on operations than in those with more extensive supply routes and where obstacles can more easily be traversed.

7. Contractor and Host Nation Support (HNS) Considerations

The three basic categories of external support for US military operations are wartime HNS, contingency contracts, and current contract agreements. These usually exist in conjunction with one another and collectively provide a full sustainment capability to the theater of operations. Contracts or agreements will clearly specify services to be provided during periods of crisis or war. Sustainment commanders should not expect unprotected or untrained individuals to continue to provide essential services under the threat of CBRN attack or during operations in CBRN environments. CBRN protection includes individual and collective survival skills as well as operational training. Survival skills refer to the capability to take required, immediate action upon CBRN attack, to include masking, proper wear and care of protective clothing and equipment, personal decontamination, and buddy aid.

VII. Risk Management

Ref: FMI 4-93.2, *Sustainment Brigade* (Feb '09), pp. B-1 to B-2.

Risk management is a process that assists decision makers in reducing or offsetting risk by systematically identifying, assessing, and controlling risk arising from operational factors and making decisions that weigh risks against mission benefits. Risk is an expression of a possible loss or negative mission impact stated in terms of probability and severity. The risk management process provides leaders and individuals a method to assist in identifying the optimum course of action. Risk management must be fully integrated into planning, preparation, and execution. Commanders are responsible for the application of risk management in all military operations. Risk management facilitates the mitigation of the risks of threats to the force.

Military operations are inherently complex, dynamic, and dangerous, and by nature, involve the acceptance of risk. Because risk is often related to gain, leaders weigh risk against the benefits to be gained from an operation. The commander's judgment balances the requirement for mission success with the inherent risks of military operations. The fundamental goal of risk management is to enhance operational capabilities and mission accomplishment with minimal acceptable loss. The basic principles that provide a framework for implementing the risk management process include:

- **Accept no unnecessary risk.** An unnecessary risk is any risk that, if taken, will not contribute meaningfully to mission accomplishment or will needlessly endanger lives or resources. No one intentionally accepts unnecessary risks. The most logical choices for accomplishing a mission are those that meet all mission requirements while exposing personnel and resources to the lowest acceptable risk. All military operations and off-duty activities involve some risk. The risk management process identifies threats that might otherwise go unidentified and provides tools to reduce risk. The corollary to this axiom is "accept necessary risk" required to successfully complete the mission.
- **Make risk decisions at the appropriate level.** Anyone can make a risk decision. However, the appropriate level for risk decisions is the one that can make decisions to eliminate or minimize the threat, implement controls to reduce the risk, or accept the risk. Commanders at all levels must ensure that subordinates know how much risk they can accept and when to elevate the decision to a higher level. Ensuring that risk decisions are made at the appropriate level will establish clear accountability. The risk management process must include those accountable for the mission. After the commander, leader, or individual responsible for executing the mission or task determines that controls available to them will not reduce risk to an acceptable level, they must elevate decisions to the next level in the chain of command.
- **Accept risk when benefits outweigh the cost.** The process of weighing risks against benefits helps to maximize mission success. Balancing costs and benefits is a subjective process and must remain a leader's decision.
- **Anticipate and manage risk by planning.** Integrate risk management into planning at all levels. Commanders must dedicate time and resources to apply risk management effectively in the planning process and where risks can be more readily assessed and managed. Integrating risk management into planning, as early as possible, provides leaders the greatest opportunity to make well-informed decisions and implement effective risk controls. During the execution phase of operations, the risk management process must be applied to address previously unidentified risks while continuing to evaluate the effectiveness of existing risk control measures and modify them as required.

I. Logistics Support to Modular Brigades

Ref: FM 4-90, *Brigade Support Battalion* (Aug '10), chap. 1.

I. Brigade Combat Team (BCT) Sustainment

The Brigade Combat Team (BCT) is the primary unit in the modular force. It is a fixed brigade-based, close combat unit that provides the division, land component, or joint task force commander with unique capabilities across the full spectrum of conflict. BCTs are optimized for combat operations but also are capable of conducting stability operations. They fight combined arms battles and engagements..

The Brigade Support Battalion (BSB)

The BSB plans, coordinates, synchronizes, and executes replenishment operations in support of brigade operations. It distributes supply classes I, II, III, IV, V, VII, and IX; provides food service and Roles 1 and 2 Army Health System (AHS), as well as field maintenance and limited recovery. It maintains visibility of the theater distribution system, synchronizing the flow of throughput into the brigade's operational area.

Although BSB capabilities and structure differ somewhat depending upon the type of BCT (e.g. Heavy, Light, Stryker), core capabilities include maintenance, medical, supply, and distribution. BSBs provide responsive support to the brigade by positioning forward support companies (FSCs) with maneuver and fires battalions. The SBCT and support brigades are supported by organic BSBs.

BSBs provide a materiel carrying capability that enables the brigades to conduct sustained operations for a finite period of time. BSBs typically plan and execute replenishment operations in support of maneuver force battles and engagements. They are deliberate, time-sensitive operations conducted to replenish forward support companies with essential supplies. When required, a supporting sustainment brigade may augment BSB capabilities during BSB-planned and executed replenishment operations.

See pp. 3-3 to 3-12 for further discussion.

Echelons above Brigade (EAB) Support

All logistics requirements (less medical) beyond the BSB's ability are either furnished by or coordinated through the supporting sustainment brigade. The sustainment brigade SPO is the POC for BCT logistics requirements above the capacity of the BCT BSB. Like the other BCTs, the sustainment brigade supports the BCT on an area basis. When properly task organized, the sustainment brigade is capable of supporting BCT requirements for all classes of supplies (less Class VIII), maintenance, field services, contracting and other logistics requirements. Through its distribution capability, the sustainment brigade normally provides distribution of supplies to the BCT BSB in support packages. The sustainment brigade operates Ammunition Supply Points (ASPs) for the distribution of Class V to the BCTs.

The BSB is designed to be reinforced by echelons above brigade (EAB) sustainment organizations. The goal is to reduce the amount of supplies and equipment in the AO. Through the Sustainment Brigade, the BSB exploits regionally available resources through joint, multinational, HN, or contract sources for certain bulk supplies and services. A key logistics reach organization responsible for coordinating contracted support and for providing other national strategic logistics capabilities is the AFSB. The AFSBs are part of Army Sustainment Command (ASC), a major subordinate command of the US Army Materiel Command (AMC).

See chap. 2, Sustainment Brigade Operations, for further discussion.

II. Logistics Reporting

Ref: FM 4-90, *Brigade Support Battalion* (Aug '10), pp. 1-5 to 1-6.

The logistics report is the internal status report that identifies logistics requirements, provides visibility on critical shortages, projects mission capability, and provides input to the common operating picture. In order to provide the support, unit commanders must coordinate closely with supporting and supported units using the logistics report. The report is forwarded from a unit to its higher headquarters and its supporting logistics headquarters. Commanders must dedicate the resources (personnel and time) to implement and leverage FBCB2 and BCS3 on log reports.

The logistics report will enable the higher command and support units to make timely decisions, prioritize, cross level and synchronize the distribution of supplies to sustain units at their authorized levels. The logistics report is the primary product used throughout the brigade and at higher levels of command to provide a logistics snapshot of current stock status, on-hand quantities, and future requirements. The logistics report gives the logistician the information and flexibility to manage requirements internally at the lowest level to ensure mission accomplishment.

Company Level

At company level, the 1SG or designated representative is responsible for gathering the information from the platoon sergeants and submitting a consolidated report to the battalion S4. The 1SG can direct cross leveling between platoons and forecast requirements based on current balances and upcoming mission requirements. Some possible details to include in the logistics report are systems with an operational readiness rate below 60%, changes to anticipated expenditure rates, Class V status, and significant incidents. The primary means of gathering this information and submitting it to the battalion S4 is through the logistics report in FBCB2.

Battalion Level

The battalion S4 is responsible for collecting reports from all companies and ensuring reports are complete, timely, and accurate. The battalion S4, with the support operations officer (SPO) and executive officer's (XO's) concurrence, makes the determination on which units receive which supplies. That decision is based on mission priority and the battalion commander's guidance. Upon receiving the logistics report, the company then validates external supplies to fulfill its requirements (where capable) and provides input to the logistics report on the adjusted balance of external supplies.

Brigade Level

The brigade S4 is responsible for collecting reports from all battalions, including the BSB logistics report on internal supplies. The S4 ensures that reports are complete, timely, and accurate. Prior to the forwarding a consolidated report to the BSB SPO, the brigade S4, with brigade executive officer's concurrence, determines which units receive which supplies. Their decision is based upon mission priority and the brigade commander's guidance. Upon receiving the logistics report, the SPO conducts a Brigade Logistics Synchronization meeting. The BSB SPO then disseminates the external supplies to fulfill battalion requirements (where capable), synchronizes distribution, and provides input to the logistics report. The end result should be a refined logistics report containing an accurate forecast of logistics requirements for use by operational level support organizations. The updated logistics report and logistics synchronization matrix complement paragraph 4 and annex I of the operations order (OPORD), or fragmentary order (FRAGO).

Division/Corps Level

The division/corps G4 is responsible for collecting reports from all task organized brigades and ensuring reports are complete, timely, and accurate. The division/corps may add information such as changes to theater opening and changes to anticipated expenditure rates.

II. The Brigade Support Battalion (BSB)

Ref: FM 4-90, *Brigade Support Battalion* (Aug '10), chap. 2.

The BSB, in all of its variations, is a full spectrum-capable organization organic to maneuver brigades and some support brigades operating at the tactical level. As such, its operations are an inherent part of the overall brigade operational planning and execution cycle. The BSB command group synchronizes and integrates requirements of the brigade with the sustainment brigade in conjunction with the division G4.

I. Brigade Support Battalion (BSB) Mission

The mission of the BSB is to plan, prepare, rapidly deploy, and execute the uninterrupted flow of tactical-level logistics and AHS support to the particular type of brigade it supports. The BSB is trained and equipped to support the brigade's requirements for full spectrum operations which include offense, defense, stability operations, and civil support. The BSB and its subordinate units must be fully prepared to conduct any combination of these primary operations.

Each BSB is tailored to support a specific type of brigade. While most types are designed with essentially the same structures and capabilities, the exact capabilities in each vary based on the type of supported brigade.

The **BSB of the HBCT** contains a headquarters and headquarters company, one distribution company, one field maintenance company, one forward support company (FSC) to support an armored reconnaissance squadron, two identical FSCs to support the two combined arms battalions, one FSC to support a fires battalion, and a brigade support medical company (BSMC).

The **BSB of the IBCT** is structured very similarly to the BSB of the HBCT. The two distinctions are that instead of an armored reconnaissance squadron and two combined arms battalions it supports a reconnaissance/surveillance/target acquisition battalion and two infantry battalions. It also contains mobility elements, one element in the BSB and one in the infantry battalion FSC, that are collectively intended to move one battalion of infantry in one lift.

The **BSB of the SBCT** contains a headquarters and headquarters company, a distribution company, a field maintenance company and a medical company. It does not contain FSCs.

The **BSB of the MEB** contains a headquarters and headquarters company, a distribution company and a field maintenance company. It does not contain FSCs or a medical company.

The **BSBs of the Fires Brigade** contains a headquarters and headquarters company, a distribution company, a field maintenance company, and FSCs designed to support the particular type of field artillery battalion of which the brigade is comprised (i.e., Paladin, MLRS, towed). It does not contain a medical company.

The **Battlefield Surveillance Brigade (BFSB) contains a Brigade Support Company (BSC)**, not a BSB. The BSC contains capabilities that are generally commensurate with a BSB, but is sized as a company based on the BFSB support requirements. It contains a headquarters platoon, a distribution platoon with field feeding, class III and water sections, and a robust maintenance platoon. The BSC provides limited logistics and field maintenance support to the BFSB. The BFSB S4 is responsible for planning and coordinating the additional logical support and field maintenance.

Support Operations

Ref: FM 4-90, Brigade Support Battalion (Aug '10), pp. 2-7 to 2-8.

BSB Support Operations Officer (SPO)

The BSB support operations officer (SPO) is the principal staff officer for coordinating support for all units assigned to the brigade. The support operations officer provides planning, preparation, and C2 of the execution of all BSB sustainment operations in the brigade's AO. The support operations officer also provides technical supervision of all sustainment operations conducted by the BSB and is therefore the key interface between supported units and the sustainment brigade. He is responsible for communicating BSB sustainment requirements to the sustainment brigade as these requirements become known. Requirements are determined in coordination with the brigade S1, brigade S4, and BSB S2/3. The support operations officer performs logistics preparation of the battlefield and advises the commander on the relationship of support requirements to support assets available. The support operations officer plans and monitors support operations and makes necessary adjustments to ensure support requirements are met, and provides the status of SPO tracked systems and materiel as required to update the BSB Logistics Report.

The relation between the BSB SPO and the BSB S3 cannot be overemphasized. These two officers and their respective sections must have full cooperation in order to properly plan the sustainment support to the brigade. The method by which this is accomplished is not as important as the actual cooperation, and the two sections must use the method that is the most effective for them. Current and future operations must be taken into account and responsibility for each area fixed and acted on as a team.

The Support Operations Section

The support operations section, under the direction of the support operations officer, provides centralized, integrated, and automated command, control, planning, preparation, and execution of all support operations within the brigade. Although the section's structure varies slightly by type of BSB, and the types and number of personnel assigned will vary, generally the section consists of plans, operations, transportation, food service/field feeding, maintenance management, ammunition, mortuary affairs, AHS support (except fires, BFSB and MEB), and materiel management officers and NCOs.

The support section is responsible for coordinating logistics provided to the BCT and provides the technical supervision for the external logistics mission of the BSB. It is the key interface between the supported units, the BSB and the sustainment brigade. Its primary concern is customer support and increasing the responsiveness of support provided by subordinate units. This section coordinates and directs external support requirements, provides technical expertise to supported units, and synchronizes support requirements to ensure they remain consistent with current and future operations. The section coordinates with the S1/4 to track available logistics assets and coordinates with the S2/3 for operational locations and schedules of the supported units.

The support operations section acts as the distribution management element for the BSB, functioning as a distribution management center (DMC) for the brigade. It synchronizes operations within the distribution system to maximize throughput and ensure priorities are executed in accordance with the BCT commander's guidance. The distribution managers maintain situational understanding of the distribution system and act as the fusion center for distribution-related information. Distribution management resources also include a limited management capability to monitor MTS, FBCB2, TC-AIMS II, BCS3, legacy STAMIS/ Global Combat Support System – Army (GCSS-A), and daily battle loss reports to anticipate requirements. Requirements that exceed BSB capabilities are coordinated with higher supporting headquarters and utilize reach operations. The support operations section takes information from the distribution system to create a synchronized picture of the flow of units, personnel, and materiel into and throughout the AO.

III. The Distribution Company

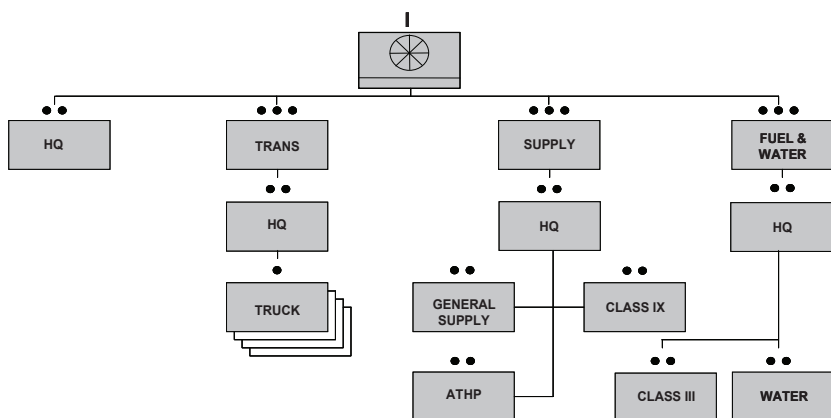
Ref: FM 4-90, *Brigade Support Battalion* (Aug '10), chap. 3.

Mission

The mission of the distribution company is to provide transportation, supply, Class III, and water support to the BCT. This unit is employed in the brigade support area (BSA) and operates as part of the BSB with subordinate elements that operate throughout the BCT area.

This unit provides the planning, direction, and supervision of supply distribution and transportation support to the BCT, daily receipt, temporary storage, and issue of Supply Classes I, II, III, IV, V and IX to the BCT. This unit also provides for the transportation of cargo and the water purification and distribution for the brigade.

Distribution companies are also a vital link in the retrograde of materiel. Retrograde of materiel is the return of new, repairable or salvageable materiel from the owning/using unit back through the distribution system to the source of supply, directed ship-to location and/or point of disposal. Retrograde of materiel is as important as the forward distribution of materiel. Retrograde functions include turn-in/classification, preparation, packing, transporting and shipping. To ensure these functions are properly executed, commanders enforce supply accountability and discipline, and maintain proper packing materials.



Organization

BSB distribution companies have three platoons consisting of a distribution platoon, supply platoon and a fuel and water platoon, as shown above. Distribution companies in the different types of BSBs are similar, with the major difference being a more robust fuel section in the HBCT BSB, a more robust ATHP Section in the MEB BSB, and a Mobility Section added in the IBCT BSB for movement of personnel. The distribution company has the capability to conduct replenishment operations in support of the BCTs tactical mission, which does not require the supported battalions' FSCs to go to the BSA for replenishment. The distribution company receives supplies coming from the supporting sustainment brigade with the capability to store these supplies and issue them to units within the BSA, to the FSCs, and the forward maintenance teams (FMTs).

Support Methods

Ref: FM 4-90, Brigade Support Battalion (Aug '10), pp. 1-3 to 1-4.

Unit (Battalion/Company/Platoon) Distribution

In unit distribution, supplies are configured in unit sets (battalion/company/platoon, depending on the level of distribution) and delivered to one or more central locations. Fuel trucks remain at the site to refuel unit vehicles as they cycle through the supply point. This technique makes maximum use of the capacity of BCT truck assets by minimizing delivery and turnaround time.

Supply Point Distribution

Supply point distribution requires unit representatives to move to a supply point to pick up their supplies. Supply point distribution is most commonly executed by means of a logistics release point (LRP). The LRP may be any place on the ground where unit vehicles return to pick up supplies and then take them forward to their unit. Occasionally, the LRP is the brigade support area (BSA) itself.

Refuel On The Move (ROM)

The refuel on the move (ROM) method is conducted by having a fixed time and place to conduct the refuel operations IAW current unit battle rhythm. As a general rule, a ROM operation is established and conducted as part of a unit movement. A ROM may be built to support several types of units passing through a point sequentially.

Aerial Resupply (Deliberate, Fixed-Wing and Rotary Wing)

Aerial delivery is a viable option for cargo delivery in limited access or far forward areas or when delivery time is critical/sensitive. It may be a vital link in supporting reconnaissance, surveillance and target acquisition (RSTA) units or other small dispersed units throughout the operation.

Immediate Resupply

Immediate resupply, also referred to as emergency resupply, is the least preferred method of distribution of supplies. While some may be required when combat losses occur, requests for immediate resupply not related to combat loss indicates a breakdown in coordination and collaboration between the logistician and customer. If it is necessary, all possible means, including options not covered above, may be used. The battalion/squadron S4s, the BCT S4, and the BSB SPO must constantly and thoroughly collaborate to minimize this need. Emergency resupply that extends beyond BSB capabilities requires immediate intervention of the next higher command capable of executing the mission. In such case, the BCT S4 and BSB SPO immediately coordinate with the next higher echelon of support for the BCT.

Support to Separate Companies

The BCT may have an engineer company, a military intelligence company, an antitank company, and a network support company that do not operate under a battalion but are subordinate to the special troops battalion (STB). These companies, like the brigade HHC, are supported by the BSB regardless of where they are located on the battlefield. If one of these companies, or part of the company, is task organized to a maneuver battalion, it will retain from an FSC assigned to the BSB. The company commander must coordinate with the maneuver battalion's S4, the BSB SPO, the distribution and maintenance company commanders, and the supporting combat repair team (CRT) chief. Based upon the local situation and conditions, they may decide to integrate company's logistics requirements into the gaining battalion's logistic support structure.

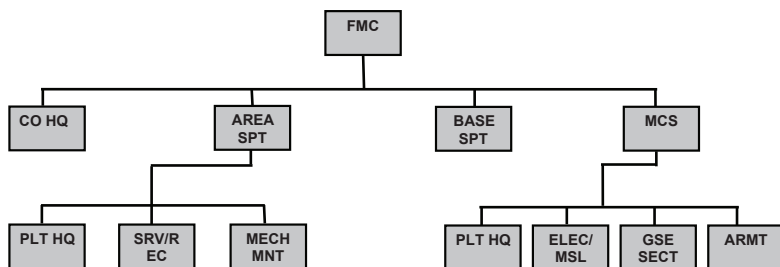
IV. The Field Maintenance Company (FMC)

Ref: FM 4-90, *Brigade Support Battalion* (Aug '10), chap. 4.

The nature of the modern battlefield demands that the maintenance system that is flexible and responsive, and focused on returning systems to operational status quickly and as near as possible to the point of failure or damage. This requirement implies a forward thrust of maintenance into brigade areas. Maintenance assets move as far forward as the tactical situation permits to return inoperable and damaged equipment to the battle as quickly as possible. Field maintenance accomplishes this mission by isolating faults and replacing failed components.

FMC Mission

The mission of the FMC is to provide field level maintenance support for the BCT or support brigade. This unit is employed in the brigade support area (BSA) and operates as part of the BSB. This unit provides field maintenance support to units in the BSA, technical inspection services, shop stock and bench stock, maintenance management and production control functions. The FMC provides lift capabilities for the repair shops, recovery of organic equipment, recovery to supported units, and support of maintenance evacuation.



FMCs are tailored to the specific equipment and densities of the BCT they support. Thus, the organizational structure of both personnel and equipment will vary in different BSBs.

Two-Level Maintenance

Field maintenance is repair and return to user, and is generally characterized by on (or near) system maintenance, often using line replaceable unit and component replacement, battle damage assessment, repair and recovery. Field level maintenance is not limited to remove and replace, but also provides adjustment, alignment, service and fault/failure diagnoses. Field maintenance is performed at all levels of the Army and most units have at least some organic field level maintenance capability. Sustainment maintenance is characterized by "off system" component repair and/or "repair and return to supply system" and can be employed at any point in the integrated logistics chain.

Sustainment maintenance, which is provided at echelons above brigade, focuses on repairing components, assemblies, modules, and end items in support of the distribution system. The intent of this level of maintenance is to perform off-system repairs on all supported items to a standard that provides a consistent and measurable level of reliability. The component is retrograded to a sustainment maintenance repair activity through the distribution system. Once the repair is completed, the component is returned to the distribution system as a serviceable asset.

See p. 1-40 for further discussion.

Replace Forward/Repair Rear

With replace forward/repair rear doctrine, the FMC uses field maintenance that quickly returns systems to a mission capable or fully mission capable status. Faults that do not render a system nonmission capable (NMC) will be deferred until augmentation arrives or the operational pace permits more repair time. To be most efficient and to generate combat power, the FMC will often focus on the replacement of LRUs and major assemblies, but, when appropriate, may perform on-system repairs of components. The majority of the FMC assets are located in the BSA to reduce the burden placed on maneuver elements. In the SBCT, the CRTs will carry a minimal Class IX load. Due to its limited size, the CRT will often require a daily resupply of mission critical repair parts.

Equipment that is beyond the FMC/CRT capability will be evacuated to the BSA (in the SBCT), evacuated beyond the BSA, or replaced. Either like-vehicle recovery or FMC recovery assets will perform the evacuation to the BSA. If a vehicle is unable to be recovered to a maintenance collection point (MCP), the BSB SPO will coordinate with EAB for transportation and evacuation assets. There are no set evacuation timelines.

The BSB SPO may coordinate with EAB maintenance elements for additional resources to assist in restoring combat power. The SPO may coordinate for Class VII replacements which can be either components of end items (COEI) such as radios, night vision devices, or small arms, or end items such as vehicles.

Controlled Exchange

Controlled exchange is the removal of serviceable components from unserviceable but economically repairable equipment for immediate reuse in restoring another like item of equipment to combat serviceable condition. The unserviceable component must be used to replace the serviceable component or retained with the end item that provided the serviceable component. Commanders at brigade level will set guidelines for controlled exchange. Controlled exchange is managed by the BSB commander IAW the set priorities and is maintained within the maintenance control section of the BSB.

Refer to AR 750-1 for more information on controlled exchange.

Cannibalization

Cannibalization is the authorized removal of components from materiel designated for disposal. It supplements supply operations by providing assets not readily available through normal supply channels. During combat, commanders may authorize the cannibalization of disabled equipment only to facilitate repair of other equipment for return to combat. Costs to cannibalize, urgency of need, and degradation to resale value of the end item should be considered in the determination to cannibalize. Cannibalization of depot maintenance candidate items, controlled exchange, or component parts by field organizations is prohibited. Exceptions will be made only in urgent cases of field operational readiness requirements and then only with the written concurrence of the AMC major subordinate command. Cannibalization is not authorized during peacetime without approval from the national inventory control point (NICP).

Refer to AR 750-1 and AR 710-2 for more information on cannibalization.

Battle Damage Assessment and Repair (BDAR)

BDAR is the rapid return of disabled equipment to the force through field-expedient repair of components. BDAR restores minimum essential combat capabilities to support the mission or to enable self-recovery. BDAR is accomplished by bypassing components or safety devices, cannibalizing parts from like or lower priority equipment, fabricating repair parts, taking shortcuts to standard maintenance, and using substitute fluids, materials, or components. Depending on the repairs required and the amount of time available, repairs may or may not return the vehicle to a fully mission capable status.

See FM 4-30.31, Recovery and Battle Damage Assessment and Repair, for more information.

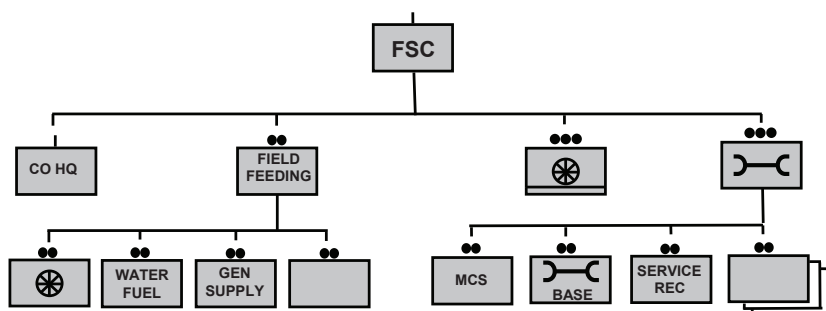
V. Forward Support Companies (FSCs)

Ref: FM 4-90, *Brigade Support Battalion* (Aug '10), chap. 6.

Forward support companies (FSCs) are organic units of the BSB. FSCs provide field feeding, fuel, ammunition, field maintenance, and distribution support for a combat arms battalion. While normally under the command of the BSB, an FSC may be placed in either a command or support relationship with its supported battalion. Command relationships, such as OPCON or TACON, are generally limited in duration and focused on the completion of a particular task or mission (e.g. the movement phase of an operation).

FSC Mission

The mission of the FSC is to provide direct and habitual logistics support to the supported battalion. An FSC provides field feeding, water, bulk fuel, general supply, ammunition, and field maintenance. The FSC provides each maneuver battalion commander with dedicated logistics assets organized specifically to meet his battalion's requirements. The FSC commander receives technical logistics oversight from the BSB commander. Due to the early entry and fast paced missions, there are no FSCs in the Stryker Brigade Combat Teams BSB.



FSC Organization

The forward support companies in the various BCTs are structured similarly with the most significant differences in the maintenance sections. The maintenance sections vary based upon the equipment and major weapon systems of the supported battalion. The other more noticeable difference is that the airborne IBCTs have a transportation section in their distribution platoons for the movement of infantry Soldiers.

The FSCs have a headquarters section, field feeding section, distribution platoon, and a maintenance platoon. The distribution platoon consists of a platoon headquarters, Class III section, general supply section, and a Class V section. The maintenance platoon consists of a platoon headquarters, maintenance control section, maintenance section, service and recovery section and the field maintenance teams (FMTs).

Although the BFSB Brigade Support Company is not part of a BSB, its supply distribution (to include bulk Class III and water), maintenance, and field feeding roles and responsibilities are similar to that of the BCT FSCs. However, The BFSB BSC does not have a Class V distribution section.

FSC Operations

The FSC provides field feeding, fuel, ammunition, field maintenance, and distribution support for a combat arms battalion. It may be placed in either a command or support relationship with its supported battalion. Command relationships, such as OPCON or TACON, generally being limited in duration and focused on particular tasks or missions. These units are structured accordingly dependant on the differences between the various types of units (infantry, field artillery, cavalry, and maneuver) it supports.

The FSC commander must know the capabilities and limitations of the company's personnel and equipment in performing the sustainment mission as well as those of the logistics elements attached to him. His responsibilities include leadership, discipline, tactical employment, training, administration, personnel management, supply, maintenance, communications, and sustainment activities of the company. The FSC commander is responsible for executing the sustainment plan in accordance with the supported battalion commander's guidance. The BSB provides technical oversight to each FSC.

The FSC commander is the senior logistician at battalion level for the combat arms battalion for general supply, distribution, and maintenance. The FSC commander assists the battalion S-4 with the battalion logistics planning and is responsible for executing the logistics plan in accordance with the supported battalion commander guidance. The FSC is organic to the BSB in BCTs. In Combat Support BDES, the FSC is organic to one of the support CS BDE BNs. In either instance, the FSC may be placed in a variety of command or support relationships within the battalion that it supports.

The FSC is as mobile as the unit it supports. This mobility provides greater flexibility for the supported commander. The FSC locates within 4 to 14 kilometers from their combat arms battalion support area. The location of the FSC is the supported battalion commander's decision, unless directed otherwise by the BCT commander.

The FSC commander/XO typically collocates with the supported battalion S-1/S-4 at the combat trains command post (CTCP). The battalion S-4 ensures the battalion's orders and requirements are passed to the FSC commander, who has supported the battalion S-1/4 with requisite information during the planning process. One scenario for major combat operations is for the CTCP to be located within the FSC forward location, one to four kilometers behind the battalion (combat trains).

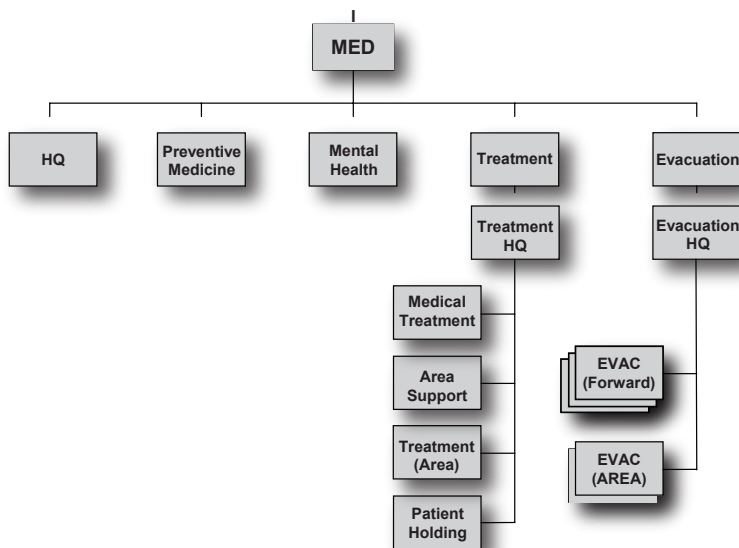
The FSC is organized for the combined arms, fires battalion and the reconnaissance squadron. The FSC depends upon the maneuver battalion/squadron and other units for the following support:

- Human resources support
- Religious support
- BSB support operations section for a COP for logistics outside the FSC's
- Maneuver battalion S-2 for intelligence
- The BSB or EAB for resupply assets to maintain the required quantity of materiel for push forward to the supported battalion
- The BSMC provides Roles 1 and 2 AHS support. The maneuver battalion provides Role 1 medical support to their FSC
- The BSB Distribution Company for water distribution to the FSC and its maneuver battalion

V. Brigade Support Medical Company (BSMC)

Ref: FM 4-90, *Brigade Support Battalion* (Aug '10), chap. 5.

The mission of the BSMC is to provide AHS support to all units operating within the BSA. The BSMC operates a Role 2 medical facility and provides AHS on an area basis to all BCT units that do not have organic medical assets. The BSMC provides C2 for its organic elements and operational control of medical augmentation elements. The BSMC locates and establishes its company headquarters in the BSA and establishes a BSMC Role 2 MTF and, when required, may be augmented with a surgical capability.



The BSMC is organized into a company headquarters, treatment and evacuation platoons, and PVNTMED and mental health (MH) sections, and performs the following :

- Emergency medical trmt and ATM for wounded and nonbattle injury patients
- Sick call services
- Ground ambulance evacuation
- Operational dental treatment that includes emergency essential dental care
- Class VIII resupply and medical equipment maintenance support
- Limited medical laboratory and radiology diagnostic services
- Outpatient consultation services for patients referred from Role 1 MTFs
- Patient holding for up to 20 patients
- Reinforcement and augmentation of maneuver battalion medical platoons
- Coordination with the UMT for required religious support
- Preventive medicine consultation and support
- Combat and operational stress control support
- Mass casualty operations (triage and management)
- Patient decontamination and treatment

III. The Brigade Support Area (BSA)

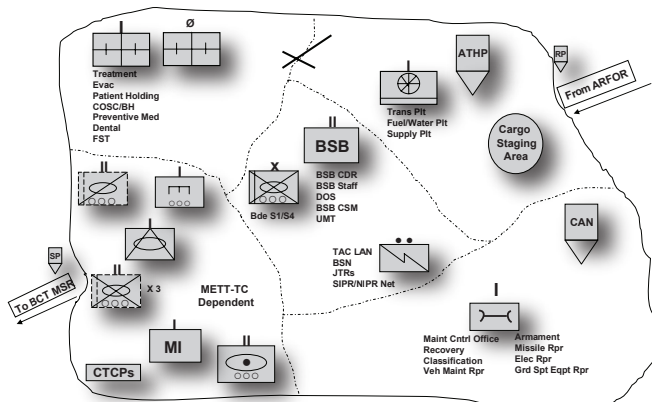
Ref: FM 4-90, *Brigade Support Battalion* (Aug '10), app. B.

I. Brigade Support Area (BSA)

The BSA is the logistical, personnel, and administrative hub of the BCT. It consists of BSB, but could also include a BCT alternate CP (if formed), battalion field trains, brigade special troops battalion units, signal assets, and other sustainment units from higher HQ. The BCT operations staff officer (S-3), with the BCT S-4 and the BSB, determines the location of the BSA. The BSA should be located so that support to the BCT can be maintained, but does not interfere with the tactical movement of BCT units, or with units that must pass through the BCT area. The BSA's size varies with terrain; however, an area 4 km to 7 km in diameter is a planning guide. Usually the BSA is on a main supply route (MSR) and ideally is out of the range of the enemy's medium artillery. The BSA should be positioned away from the enemy's likely avenues of approach and entry points into the BCT's main battle area (MBA).

Brigade Support Area (BSA)

A Typical BSA Configuration



Ref: FM 4-90, *Brigade Support Battalion*, fig. B-1, p. B-2.

The Brigade Support Battalion (BSB) is the central tenant of the Brigade Support Area (BSA) and arrays its subordinate units and other BSA tenant units to most effectively and efficiently use the terrain available for logistics operations and force protection.

The brigade support battalion (BSB) commander is responsible for the brigade support area (BSA). For security purposes, this includes the operational control (OPCON) of all elements operating within the BSA. The BSB commander might be assigned additional unassigned area functions.

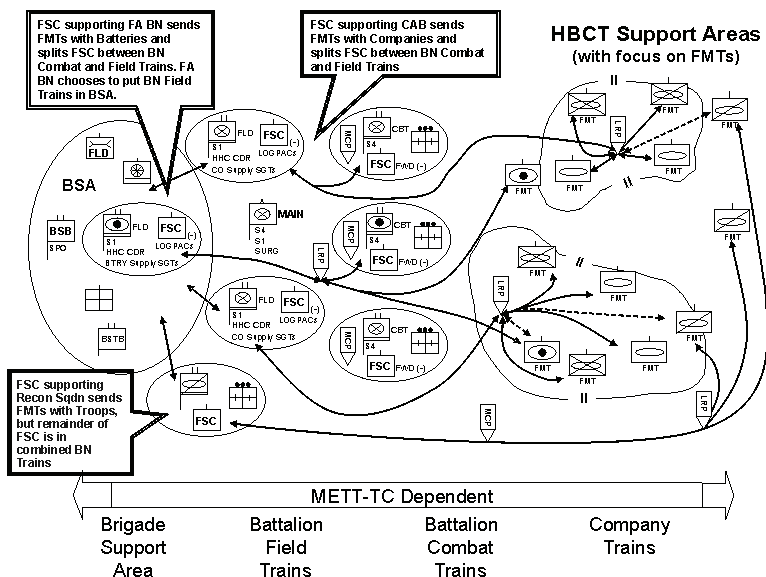
See p. 3-13 for discussion of additional sustainment support areas.

II. Sustainment Support Areas

Ref: FM 4-90.7, Stryker Brigade Combat Team Logistics (Sept '07) and related sources.

A support area is a designated area in which sustainment elements, some staff elements, and other elements locate to support a unit. The BCT S-4, BCT S-3, and BSB S-3 coordinate the location of the BCT sustainment support areas.

Sustainment Support Areas



Trains

Trains are a grouping of unit personnel, vehicles, and equipment to provide sustainment. It is the basic sustainment tactical organization. Maneuver battalions use trains to array their subordinate sustainment elements including their designated forward support company. Battalion trains usually are under the control of the battalion S-4, assisted by the battalion S-1. The composition and location of battalion trains varies depending on the number of units attached to, or augmenting, the battalion.

Company Trains

Company trains provide sustainment for a company during combat operations. Company trains usually include the first sergeant, medical aid/evacuation teams, supply sergeant, and the armorer. Usually, the forward support company provides a field maintenance team with capabilities for maintenance, recovery, and limited combat spares. The supply sergeant can collocate in the combat trains if it facilitates logistics package (LOGPAC) operations. The first sergeant usually directs movement and employment of the company trains; although the company commander may assign the responsibility to the company XO.

Battalion Trains

Battalion trains consist of two types: combat trains and field trains.

- **Combat Trains.** The combat trains usually consist of the forward support company and the battalion medical unit. The UMCP should be positioned where recovery vehicles have access, or where major or difficult maintenance is performed. The factors of mission, enemy, terrain and weather, troops and support available, time available (METT-TC) must be considered when locating combat trains in a battalion support area.
- **Field Trains.** Field trains can be located in the BSA and include those assets not located with the combat trains. The field trains can provide direct coordination between the battalion and the BSB. When organized, the field trains usually consist of the elements of the forward support company, battalion HHC, battalion S-1, and battalion S-4.

Battalion trains can be employed in two basic configurations:

- **Unit Trains.** Unit trains at the battalion level are appropriate when the battalion is consolidated, during reconstitution, and during major movements.
- **Echeloned Trains.** Echeloned trains can be organized into company trains, battalion combat trains, unit maintenance collection point (UMCP), battalion aid station (BAS), or battalion field trains.

Sustainment-Related Command Posts (CPs)

The battalion commander may choose to create a **combat trains command post (CTCP)** or a **field trains command post (FTCP)** to control administrative and sustainment support. Most of the time, the S-4 is the officer in charge of the CTCP. If constituted, the FTCP could be led by the HHC commander. These command posts (CPs) can be organized to accomplish specific logistical tasks.

Brigade Support Area (BSA)

The BSA is the logistical, personnel, and administrative hub of the BCT. It consists of BSB, but could also include a BCT alternate CP (if formed), battalion field trains, brigade special troops battalion units, signal assets, and other sustainment units from higher HQ. The BCT operations staff officer (S-3), with the BCT S-4 and the BSB, determines the location of the BSA. The BSA should be located so that support to the BCT can be maintained, but does not interfere with the tactical movement of BCT units, or with units that must pass through the BCT area. The BSA's size varies with terrain; however, an area 4 km to 7 km in diameter is a planning guide. Usually the BSA is on a main supply route (MSR) and ideally is out of the range of the enemy's medium artillery. The BSA should be positioned away from the enemy's likely avenues of approach and entry points into the BCT's main battle area (MBA).

Usually the S-4 coordinates the BCT main CP's sustainment cell which contains the BCT S-4, BCT S-1, BCT surgeon section, and the BCT UMT. The BCT commander can create an alternate CP for sustainment, should the administrative and logistics presence in the main CP become too large. The BSB or brigade special troops battalion CPs may be able to host the sustainment cell if communications links are adequate.

III. Support Area Considerations

Ref: FM 4-90.7, Stryker Brigade Combat Team Logistics (Sept '07) and related sources.

The brigade support battalion (BSB) commander is responsible for the brigade support area (BSA). For security purposes, this includes the operational control (OPCON) of all elements operating within the BSA. The BSB commander might be assigned additional unassigned area functions.

Locations for Support Areas

The trains should not be considered a permanent or stationary support area. The trains must be mobile to support the battalion when it is moving, and should change locations frequently, depending on available time and terrain. The trains changes locations for the following reasons:

- Change of mission
- Change of unit AOs
- To avoid detection caused by heavy use or traffic in the area
- When area becomes worn by heavy use (e.g., wet and muddy conditions)
- Security becomes lax or complacent due to familiarity

All support areas have many similarities, including:

- Cover and concealment (natural terrain or man-made structures)
- Room for dispersion
- Level, firm ground to support vehicle traffic and sustainment operations
- Suitable helicopter landing site (remember to mark the landing site)
- Good road or trail networks
- Good routes in and out of the area (preferably separate routes going in and going out)
- Access to lateral routes
- Positioned along or good access to the MSR
- Positioned away from likely enemy avenues of approach

Security of Support Areas

Tactical logistics organizations are normally the units least capable of self-defense against a large, enemy combat force. Given the common operating environment (COE), they are also often the targets of enemy action. As the enemy threat increases, unit commanders cannot decrease logistics operations in favor of enhancing force protection. The supported commander and the logistics unit commander must have previously discussed what risks are reasonable to accept and what risk mitigation measures they should implement based on requirements and priorities including Force Health Protection. Only then can logistics commanders and staffs plan accordingly. Logisticians and unit commanders must be competent in warfighting, military decision-making, maneuver, and other tactical skills to anticipate and decide on appropriate risk mitigation measures.

Sustainment elements must organize and prepare to defend themselves against ground or air attacks. Often, they occupy areas that have been secured by maneuver elements of the BCT. The security of the trains at each echelon is the responsibility of the individual in charge of the trains. The best defense is to avoid detection. The following activities help to ensure trains security:

- Select good trains sites that use available cover, concealment, and camouflage
- Use movement and positioning discipline as well as noise and light discipline to prevent detection
- Establish a perimeter defense
- Establish observation posts and patrols

- Position weapons (small arms, machine guns, and antitank weapons) for self-defense
- Plan mutually supporting positions to dominate likely avenues of approach
- Prepare a fire plan and make sector sketches
- Identify sectors of fires
- Emplace target reference points (TRPs) to control fires and for use of indirect fires
- Integrate available combat vehicles within the trains (i.e., vehicles awaiting maintenance or personnel) into the plan, and adjust the plan when vehicles depart
- Conduct rehearsals
- Establish rest plans
- Identify an alarm or warning system that would enable rapid execution of the defense plan without further guidance; the alarm, warning system, and defense plan are usually included in the standing operating procedure (SOP)
- Designate a reaction force. Ensure the force is equipped to perform its mission. The ready reaction force must be well rehearsed and briefed unit assembly.
- Friendly and threat force recognition
- Actions on contact

Supply Routes

The BCT S-4, in coordination with the BSB support operations officer and BCT S-3, select supply routes between support areas. MSRs are routes designated within the BCT's AO upon which the bulk of sustainment traffic flows in support of operations. An MSR is selected based on the terrain, friendly disposition, enemy situation, and scheme of maneuver. Alternate supply routes are planned in the event that an MSR is interdicted by the enemy or becomes too congested. In the event of chemical, biological, radiological, and nuclear (CBRN) contamination, either the primary or alternate MSR can be designated as the —dirty MSR to handle contaminated traffic. Alternate supply routes should meet the same criteria as the MSR. Military police (MP) may assist with regulating traffic, and engineer units, if available, could maintain routes. Security of supply routes in a non-contiguous environment might require the BCT commander to commit non-sustainment resources. Route considerations include:

- Location and planned scheme of maneuver for subordinate units
- Location and planned movements of other units moving through the BCT's AO
- Route characteristics such as route classification, width, obstructions, steep slopes, sharp curves, and type of roadway surface
- Two-way, all-weather trafficability
- Classification of bridges and culverts
- Requirements for traffic control such as at choke points, congested areas, confusing intersections, or along built-up areas
- Number and locations of crossover routes from the MSR to alternate supply routes
- Requirements for repair, upgrade, or maintenance of the route, fording sites, and bridges
- Route vulnerabilities that must be protected. This can include bridges, fords, built-up areas, and choke points
- Enemy threats such as air attack, conventional and unconventional tactics, mines, ambushes, and chemical strikes
- Known or likely locations of enemy penetrations, attacks, chemical strikes, or obstacles
- Known or potential civilian/refugee movements that must be controlled or monitored

See p. 2-85 for additional discussion of main supply routes (MSRs)/alternate supply routes (ASRs). See pp. 2-79 to 2-92 for additional protection considerations.

IV. BSA Layout

The location of the BSA is dependent on terrain features and the geographical location of the supported brigade. Location of EAB logistics units and the battalions' support areas must also be evaluated to ensure that there will be no interruption of throughput. The brigade commander approves the location of the BSA based upon recommendations from the BSB commander and brigade staff.

The composition of BSA elements will not remain static. The BSB commander must be able to track and control changes. To accomplish this, all ground units entering the brigade area must send a representative to report to the BSB TOC. They will coordinate movement routes, positioning for units locating in the BSA, communications, support requirements and procedures, security responsibilities and arrangements. Guards at entry control points (ECP) going into the BSA will direct representatives of entering units to the TOC. Also, unit commanders will notify the TOC of all support package arrivals and departures. Movement of displaced civilians and local civilians must also be controlled.

Personnel available for defense actions may be extremely limited within certain units. Unit commanders must keep the BSB S2/S3 informed of their situations. The BSB commander will identify a command post as the alternate for the BSA.

Locations of elements within the BSA will vary depending on METT-TC factors. The BSB commander and S2/S3 must use their best judgment in positioning units. Position the BSB TOC near the center of the BSA perimeter for C2 and security reasons.

Ensure that units such as the BSB distribution company and the BSB FMC locate their CPs near the BSB's area of operation (closer to the TOC to enhance communications and protection of C2 facilities). Balance the advantages of dispersion (reduced destruction from a single enemy strike) with the disadvantages (C2 constraints and extended perimeter).

Make supply points accessible to both customers and resupply vehicles and helicopters. Keep Class III points away from other supplies to prevent contamination. They should also be located at least 100 feet from water sources. Locate the MTFs away from likely target areas (ATHP, Class III point, bridges, and road junctions) but near evacuation routes and an open area for landing air ambulances.

Position the ATHP near, but off the MSR, so that EAB trailers bringing ammunition into the area do not clog up the MSR within the BSA. The ATHP requires sufficient area to perform transload operations without interfering with BSA traffic. Locate the ATHP at least 180 meters from other supplies and 620 meters from the nearest inhabited tent; due to its size, the ATHP will often be outside the BSA. This creates a security issue for the BSB commander that will often require forces from outside the BSA to provide protection. When the ammunition point is sufficiently large, it will be assigned its own area for defense and a security force will be attached.

Units with heaviest firepower should be positioned along the most threatening avenue of approach.

IV. BSA Protection

Tactical logistics organizations are normally the units least capable of self-defense against a large, enemy combat force. Given the common operating environment (COE), they are also often the targets of enemy action. As the enemy threat increases, unit commanders cannot decrease logistics operations in favor of enhancing protection. The supported commander and the logistics unit commander must have previously discussed what risks are reasonable to accept and what risk mitigation measures they should implement based on requirements and priorities including Force Health Protection. Logisticians and unit commanders must be competent in warfighting, military decision-making, maneuver, and other tactical skills to anticipate and decide on appropriate risk mitigation measures.

See related discussion of protection on pp. 2-79 to 2-92.

3-18 (BSB/BSA) III. The Brigade Support Area

I. Planning Sustainment Operations

Ref: Adapted from ADP/ADRP 4-0, *Sustainment* (Jul '12).

Planning begins with analysis and assessment of the conditions in the operational environment with emphasis on the enemy. It involves understanding and framing the problem and envisioning the set of conditions that represent the desired end state. Sustainment planning indirectly focuses on the enemy but more specifically on sustaining friendly forces to the degree that the Army as a whole accomplishes the desired end state. There are several tools available for conducting course of action analysis. We will highlight a couple of them below.

Sustainment is a critical and essential enabler that allows the U.S. forces to deploy long distances (operational reach), conduct operations across the depth and breadth of the operational area (freedom of action), and maintain operations for extended durations (prolong endurance). See related discussion from ADP 4-0 of "sustainment of decisive action" on pp. 1-21 to 1-36 and "sustainment planning" on p. 1-24 to 1-26. See also chap. 5, Joint Logistics, pp. 5-7 to 5-12 for information on planning joint operations.

I. Sustainment Preparation of the Operational Environment

Sustainment preparation of the operational environment is the analysis to determine infrastructure, environmental, or resources in the operational environment that will optimize or adversely impact friendly forces means for supporting and sustaining the commander's operations plan. The sustainment preparations of the operational environment assist planning staffs to refine the sustainment estimate and concept of support. It identifies friendly resources (HNS, contractable, or accessible assets) or environmental factors (endemic diseases, climate) that impact sustainment.

Some of the factors considered (not all inclusive) are as follows:

- **Geography.** Information on climate, terrain, and endemic diseases in the AO to determine when and what types of equipment are needed. For example, water information determines the need for such things as early deployment of well-digging assets and water production and distribution units.
- **Supplies and Services.** Information on the availability of supplies and services readily available in the AO. Supplies (such as subsistence items, bulk petroleum, and barrier materials) are the most common. Common services consist of bath and laundry, sanitation services, and water purification.
- **Facilities.** Information on the availability of warehousing, cold-storage facilities, production and manufacturing plants, reservoirs, administrative facilities, hospitals, sanitation capabilities, and hotels.
- **Transportation.** Information on road and rail networks, inland waterways, airfields, truck availability, bridges, ports, cargo handlers, petroleum pipelines, materials handling equipment (MHE), traffic flow, choke points, and control problems.
- **Maintenance.** Availability of host nation maintenance capabilities.
- **General Skills.** Information on the general skills such as translators and skilled and unskilled laborers.

See also pp. 4-9 to 4-14 for discussion of logistics preparation of the battlefield.

Operations Logistics (OPLOG) Planner

The OPLOG Planner is a web-based interactive tool that assists commanders and staff from strategic through operational levels in developing a logistics estimate. It is designed to support operations typically associated with multi-phase operations plans and orders. The OPLOG Planner enables staffs to develop estimated mission requirements for supply Class I, Class II, Class III(P), Class IV, Class VI, Class VII, Class X including water, ice, and mail. The tool uses the latest Army approved planning rates and modular force structures. It is updated at least annually to stay current with force structure and rate changes.

OPLOG Planner allows planners to build multiple task organizations from a pre-loaded list of units and equipment or from custom built units that are generated or imported. Each task organization is assigned a consumption parameter set that establishes the rates, climate, Joint Phases (Deter, Seize Initiative, and Dominate), and Army full spectrum operations (Offense, Defense, and Stability). The planners have the option of using predefined default planning rates or customizing rates based on what a unit is experiencing.

OPLOG Planner generates the logistics supply requirements which can be viewed by the Entire Operation, each Phase of the Operation, each Task Organization, each Unit, or each Unit's Equipment. Logistics requirement reports can be printed or exported to automated spread sheets for further analysis or saved for recall to be used in course of action analysis.

See pp. 4-14 for further discussion of the Operations Logistics (OPLOG) Planner.

Planning Health Services Support (HSS)

Medical planners determine the capabilities and assets needed to support the mission. To ensure effective and efficient support, medical plans adhere to the principles of AHS support, the commander's planning guidance, medical intelligence related to the operational area, and other planning considerations.

The theater evacuation policy, health threat, troop strength or size of the supported population, and the type, intensity and duration of the operation are some of the factors considered for determining medical requirements. The medical staff estimates and patient estimates are also developed during planning. The patient estimate is derived from the casualty estimate prepared by the G-1.

In-depth analysis is critical at every level of the operation to ensure the flexibility to quickly react to changes in the mission and continue to provide the required support. The observations of commanders, disease and nonbattle injury rates, and running estimates are the primary means of assessing an operation to ensure that the concept of operations, mission, and commander's intent are met. These factors and continuous analysis help to make certain that once developed, the plan includes the right number and combination of medical assets to support the operation.

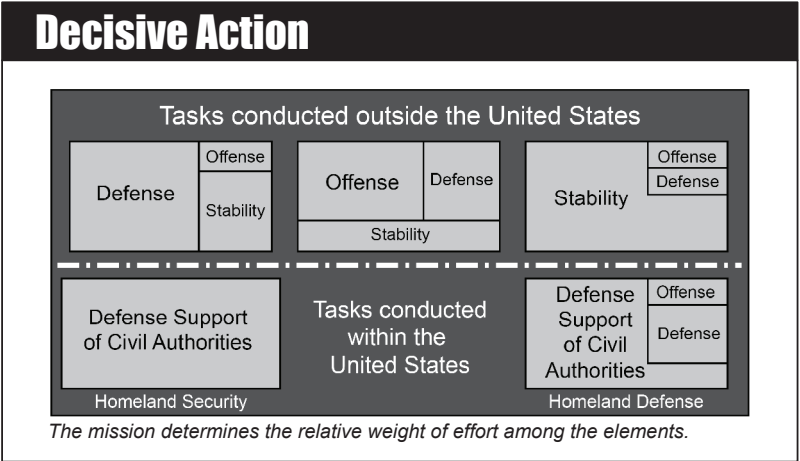
See FM 8-55 for additional information.

Medical and nonmedical automated information systems are used to plan AHS mission. Medical commanders must know the complete COP which includes situational awareness of three areas—(1) tactical (via FBCB2), (2) medical (via MC4/DHIMS), and (3) sustainment (via GCSS-Army). The commanders and medical planners must maintain situational awareness, in-transit visibility and tracking of patients and equipment, and a common operational picture of the AO. This information is obtained through various plans, reports, and information systems available to commanders and planners to facilitate the decision making process.

See pp. 4-31 to 4-36 for discussion and listing of HSS planning considerations.

II. Sustainment of Decisive Action

Army forces demonstrate the Army's core competencies through decisive action—the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks. In unified land operations, commanders seek to seize, retain, and exploit the initiative while synchronizing their actions to achieve the best effects possible. Operations conducted outside the United States and its territories simultaneously combine three elements—offense, defense, and stability. Within the United States and its territories, decisive action combines the elements of defense support of civil authorities and, as required, offense and defense to support homeland defense.



Ref: ADRP 3-0, Operations (Mar '12), fig. 2-1, p. 2-3.

Editors's note. See related discussion from ADP 4-0 of "sustainment of decisive action" on pp. 1-21 to 1-36 and "sustainment planning" on p. 1-24 to 1-26. The following discussion of sustainment of decisive operations has been adapted from ADRP 3-0, Unified Land Operations (Mar '12) and ADP 4-0, Sustainment (Jul '12), pp. 10 to 15. Some elements from the previous edition of FM 4-0, Sustainment (Aug '09) have been retained for the purposes of this discussion.

A. Sustaining Offensive Tasks

An offensive task is a task conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers (ADRP 3-0). Sustainment operations in support of offensive tasks are high in intensity. Commanders and staffs plan for increased requirements and demands, anticipate where the greatest need might occur, and develop a priority of support. Sustainment planners may consider positioning sustainment units in close proximity to operations to reduce response times for critical support.

See following pages (4-4 to 4-5) for further discussion of supporting offensive tasks.



Army forces demonstrate the Army's core competencies through decisive action—the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks. See related discussion from ADP 4-0 of "sustainment of decisive action" on pp. 1-21 to 1-36. Refer to The Army Operations & Doctrine SMARTbook for further discussion of unified land operations and decisive action.

Sustaining Offensive Tasks

Ref: Adapted from ADP 4-0, Sustainment (Jul '12) and FM 4-0, Sustainment (Aug '09).

An offensive task is a task conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers (ADRP 3-0). Sustainment operations in support of offensive tasks are high in intensity. Commanders and staffs plan for increased requirements and demands, anticipate where the greatest need might occur, and develop a priority of support. Sustainment planners may consider positioning sustainment units in close proximity to operations to reduce response times for critical support.

Sustainment of offensive operations is high in intensity. Commanders and staffs plan for increased requirements and demands on sustainment. Sustainment planners work closely with other WFF staffs to determine the scope of the operations and develop estimates for quantity and types of support required. They anticipate where the greatest need might occur and develop a priority of support. Sustainment planners may consider positioning sustainment units in close proximity to operations to reduce response times for critical support. They also consider alternative methods for delivering sustainment in emergency situations.

To maintain momentum and freedom of action, coordination between staff planners must be continuous. During offensive operations, certain requirements present special challenges. The most important materiel is typically fuel (Class III Bulk) and ammunition (Class V), Class VII, movement control, and medical evacuation. Based on planning assessments, sustainment commanders direct the movement of these and other support to meet anticipated requirements.

Another challenge in planning for and sustaining an offensive operation is the lengthened lines of communication (LOCs). Widely dispersed forces, longer LOCs, and congested road networks increase stress on transportation systems. As a result, a combination of ground and aerial delivery may be planned to accommodate the distribution. Distribution managers and movement control units synchronize movement plans and priorities according to the commander's priority of support. Distribution must be closely coordinated and tracked to ensure delivery of essential support. The routing function of movement control becomes an essential process for coordinating and directing movements on main supply routes or alternate supply routes, and regulating movement on LOCs to prevent conflict and congestion.

Higher casualty rates associated with offensive operations increase the requirement of medical resources. Plans to position medical support close to operations to facilitate treatment and evacuation are considered. If increased casualty rates overwhelm medical resources, nonmedical transportation assets may be needed for evacuation. Another planning consideration may be moving combat and operational stress control teams to support combat stress casualties following operations.

Higher casualty rates also increase the emphasis on personnel accountability, casualty reports, and replacement operations. G-1s and S-1s plan for accurate tracking of casualties and replacements through coordination with Casualty Liaison Teams (CLTs) and the HRSC.

Plans should also provide for religious support, which may become critical during offensive operations. Religious support through counseling and appropriate worship can help reduce combat stress, increase unit cohesion, and enhance performance.

Using contractors during the sustainment of offensive operations entails great risk and raises significant practical and legal considerations. However when necessary, the force commander may be willing to accept this risk and use contractors in forward areas. Commanders should seek counsel from their judge advocates when considering the use of contractors during offensive operations.

Tactical-Level Considerations

Sustainment in the offense is characterized by high-intensity operations that require anticipatory support as far forward as possible. Commanders and staffs ensure adequate support for continuing the momentum of the operation as they plan and synchronize offensive operations. Plans should include agile and flexible sustainment capabilities to follow exploiting forces and continue support (FM 4-0).

The following sustainment techniques and considerations apply to offensive planning:

- Plan for dealing with threats to sustainment units from bypassed enemy forces in a fluid, non-contiguous area of operations
- Recover damaged vehicles only to the main supply route for further recovery or evacuation
- Pre-stock essential supplies forward to minimize interruption to lines of communications
- Plan for increased consumption of petroleum, oils, and lubricants (POL)
- Anticipate increasingly long lines of communications as the offensive moves forward
- Anticipate poor trafficability for sustainment vehicles across fought-over terrain
- Consider planned/pre-configured sustainment packages of essential items
- Plan for increased vehicular maintenance, especially over rough terrain
- Maximize maintenance support teams well forward
- Request distribution at forward locations
- Increase use of meals-ready-to-eat (MREs)
- Use captured enemy supplies and equipment, and particularly support vehicles and POL. Before use, test for contamination.
- Suspend most field service functions except airdrop and mortuary affairs
- Prepare thoroughly for casualty evacuation and mortuary affairs requirements
- Select potential/projected supply routes, logistic release points, and support areas based on map reconnaissance
- Plan and coordinate enemy prisoner of war operations
- Plan replacement operations based on known/projected losses
- Consider the increasing distances and longer travel times for supply operations
- Ensure that sustainment preparations for the attack do not compromise tactical plans

B. Sustaining Defensive Tasks

Ref: Adapted from ADP 4-0, Sustainment (Jul '12) and FM 4-0, Sustainment (Aug '09).

A defensive task is conducted to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability tasks (ADRP 3-0). For sustainment, the movement of materiel and troops within the area of operation has to be closely and continuously coordinated, controlled, and monitored. Distribution managers direct forecasted sustainment to designated units. Army health system support assets should be placed within supporting distance of maneuver forces but not close enough to impede ongoing operations.

The commander positions assets so they can support the forces in the defense and survive. Requirements for sustainment of forces in the defense depend on the type of defense.

Typically, defensive operations require more centralized control. Movements of supplies, replenishment, and troops within the AO have to be closely and continuously coordinated, controlled, and monitored. In retrograde operations (a type of defense) special care is necessary to assure that combat units receive necessary support across the depth of the AO and that the sustainment unit and stocks are not lost as the unit moves away from enemy activity.

Distribution managers direct resupply forecasted items to designated units. Increases in items such as barrier and construction materials should be pushed to designated collection points for unit retrieval whenever possible. Planners should consider the impact of increased ammunition expenditures on available transportation assets.

The task of medical units is to triage casualties, treat, and return to duty or resuscitate and stabilize for evacuation to the next higher level of medical care or out of the theater of operations. MTFs and other AHS support assets should be placed within supporting distance of maneuver forces but not close enough to impede ongoing combat operations.

Tactical-Level Considerations

The BCT commander positions sustainment assets to support the forces in the defense and survive. Sustainment requirements in the defense depend on the type of defense. For example, increased quantities of ammunition and decreased quantities of fuel characterize most area defensive operations. However, in a mobile defense, fuel usage may be a critical part of support. Barrier and fortification materiel to support the defense often has to move forward, placing increased demands on the transportation system (FM 4-0).

The following sustainment techniques and considerations apply to defensive planning:

- Preposition ammunition, POL, and barrier materiel in centrally located position well forward
- Make plans to destroy those stocks if necessary
- Resupply during limited visibility to reduce the chance of enemy interference
- Plan to reorganize to reconstitute lost CSS capability
- Use maintenance support teams in the unit maintenance collection point (UMCP) to reduce the need to recover equipment to the brigade support area (BSA)
- Consider and plan for the additional transportation requirements for movement of CL IV barrier materiel, mines, and pre-positioned ammunition, plus the CSS requirements of additional engineer units assigned for preparation of the defense
- Plan for pre-positioning and controlling ammunition on occupied and prepared defensive positions

C. Sustaining Stability Tasks

Stability tasks are tasks conducted as part of operations outside the United States in coordination with other instruments of national power to maintain or reestablish a safe and secure environment, provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief. Sustainment of stability tasks often involves supporting U.S. and unified action partners in a wide range of missions and tasks. It will almost always require interaction with other governmental agencies and nongovernmental organizations.

The tasks most impacted by sustainment are briefly discussed below.

1. Establish Civil Security

Civil security involves providing for the safety of the host nation and its population, including protection from internal and external threats (FM 3-0). Sustainment staffs must consider plans to support I/R operations. Sustainment may be provided to these operations until HNS, NGO, and OGOs are available.

Sustainment planners must address the sustainment of I/R operations. Sustainment to I/R involves all of the sustainment functions. Planners should consider general engineering support horizontal and vertical construction of detention centers, as well as repair and maintenance of the infrastructure (see FM 3-34.400). A more detailed discussion of sustainment support of I/R and detainee operations will be provided later in this chapter.

2. Establish Civil Control

Legal staffs should plan for supporting civil control operations. Civil control centers on rule of law, supported by efforts to rebuild the host nation judiciary and corrections systems. It encompasses the key institutions necessary for a functioning justice system, including police, investigative services, prosecutorial arm, and public defense. If transitional military authority is instituted, intervening forces will likely carry out judicial and correctional functions.

3. Restore Essential Services

Efforts to restore essential services involve developing host nation capacity to operate, maintain, and improve those services. At the tactical or local level, sustainment in support of civil authorities will restore essential civil services as defined in terms of immediate humanitarian needs (such as providing food, water, shelter, and medical and public health support) necessary to sustain the population until local civil services are restored. Other sustainment tasks associated with restoration of services include support to dislocated civilians and demining operations.

4. Support to Economic and Infrastructure Development

The role of sustainment in supporting economic stabilization and infrastructure development is significant, especially at the local level. Here the emphasis is on generating employment opportunities, infusing monetary resources into the local economy, stimulating market activity, fostering recovery through economic development, and supporting the restoration of physical infrastructure. Drawing on local goods, services, and labor through contracting, presents the force an opportunity to infuse cash into the local economy, which in turn stimulates market activity.

Restoring the transportation infrastructure in the area is central to economic recovery. General engineering is required in order to initiate immediate improvement of the transportation network. These networks enable freedom of maneuver, logistics support, and the movement of personnel and material to support ongoing operations.

Tactical-Level Considerations

Sustainment in stability operations involves supporting U.S. and multinational forces in a wide range of missions. Stability operations range from long-term sustainment-

focused operations in humanitarian and civic assistance missions to major short-notice peace enforcement missions. Some stability operations may involve combat. Tailoring sustainment to the requirements of a stability operation is key to success of the overall mission (FM 4-0). The sustainment techniques and considerations that are applicable to offensive and defensive operations also apply to stability operations conducted in hostile environment. When these operations are in urban areas, the following considerations may also apply:

- Preconfigure resupply loads and push them forward at every opportunity
- Provide supplies to using units in required quantities as close as possible to the location where those supplies are needed
- Protect supplies and sustainment elements from the effects of enemy fire
- Disperse and decentralize sustainment elements with proper emphasis on communication, command and control, security, and proximity of main supply route
- Plan for extensive use of carrying parties
- Plan for and use host country support and civil resources when practical
- Position support units as far forward as the tactical situation permits
- Plan for special equipment such as rope, grappling hooks, ladders, and hand tools

D. Sustaining Defense Support of Civil Authorities (DSCA) Tasks

DSCA is support provided by U.S. Federal military forces, Department of Defense civilians, Department of Defense contract personnel, Department of Defense component assets, and National Guard forces (when the Secretary of Defense, in coordination with the Governors of the affected States, elects and requests to use those forces in Title 32, U.S. Code, status). This support is in response to requests for assistance from civil authorities for domestic emergencies, law enforcement support, and other domestic activities, or from qualifying entities for special events. Defense support of civil authorities is a task that takes place only in the homeland, although some of its tasks are similar to stability tasks. Defense support of civil authorities is always conducted in support of another primary or lead federal agency.

Refer to JP 2-28 for further discussion.



Army forces demonstrate the Army's core competencies through decisive action—the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks. See related discussion from ADP 4-0 of “sustainment of decisive action” on pp. 1-21 to 1-36. Refer to The Army Operations & Doctrine SMARTbook for further discussion of unified land operations and decisive action.

II. Logistics Preparation of the Battlefield (LPB)

Ref: FMI 4-93.2, Sustainment Brigade (Feb '09), app. A. See pp. 5-7 to 5-12 for additional information on planning joint and theater Logistics. See also p. 4-1.

Logistics preparation of the battlefield (LPB) is a key conceptual tool available to personnel in building a flexible strategic/operational support plan. Logistics preparation of the theater of operations consists of the actions taken by logisticians at all echelons to optimize means (force structure, resources, and strategic lift) of supporting the joint force commander's plan. These actions include identifying and preparing ISB's and forward operating bases; selecting and improving LOC; projecting and preparing forward logistics bases; and forecasting and building operational stock assets forward and afloat. LPB focuses on identifying the resources currently available in the theater of operations for use by friendly forces and ensuring access to those resources. A detailed estimate of requirements, tempered with logistics preparation of the theater of operations, allows support personnel to advise the JTF/ASCC/ARFOR commander of the most effective method of providing responsive support.

I. Intelligence in Support of Logistics

The logistician uses intelligence to develop and execute the logistics support plan. Logistics intelligence is critical to the planning effort. Some of the areas that should be included in the intelligence analysis are listed below:

- Intent to engage in multinational operations and the extent of logistics support to be provided to non-DOD agencies and allies
- Available resources in the AO
- Conditions that alter consumption factors, such as severe climate changes or a requirement to provide support to allies
- Capabilities of local facilities to support reception and staging operations
- Foreign military logistics structure, national infrastructure capabilities, and political inclination to facilitate joint forces support
- Environmental, geographical, climatological, and topographical factors that may affect support operations
- Analysis of the capabilities of the host nation's and region's LOC's and capabilities to support the operation

Intelligence is equally critical for war and stability operations. Logisticians must have a complete logistics database or file to develop a solid plan for the LPB.

LPB is those actions (force structure, resources, and strategic lift) taken to reduce the cost of logistically supporting an OPLAN or a contingency plan. LPB minimizes or eliminates potential problems at the outbreak of hostilities, during deployment, and throughout the operations. It is a systematic tool used by logisticians and commanders to complete their mission. It becomes the basis for deciding where, when, and how to deploy limited resources (supplies, equipment, people, and money).

The ASCC of a combatant command will prepare supporting Army plans with logistics planners concentrating on the logistics plans. Once logistics planners know the contingency country or geographic region, they can begin to build a logistics information database. This applies even if the command has a small chance of being deployed to a particular area. Once completed, the information data base file can be used to develop a comprehensive plan for LPB. The relative priority given to this ef-

fort will depend on the concept of operations and other command priorities. The key point is that the logisticians cannot afford to wait until maneuver units deploy to begin the LPB. It is a complex and time-consuming function.

Any actions that can reduce the cost of moving supplies, equipment, and people into an objective or contingency area are candidates for inclusion in the LPB plan. Planning must provide for the timely arrival of sustainment assets that are balanced according to the mission. Strategic lift assets are extremely limited.

II. Relevant Logistics Information

The following paragraphs contain types of relevant logistics information. These can be added to or taken away as individual missions dictate.

1. Geography

Collect information on climate and terrain in the AO. Determine if current maps are available. Use this information to determine when various types of supplies, equipment, and field services will be needed. For example, use water information to determine the need for early deployment of well-digging assets and water production and distribution units.

2. Supply

Collect information on supply items that are readily available in the AO. Determine which of these can be used in support of US forces. Subsistence items, bulk petroleum, and barrier materials are often available in country. Collect information on the supply system of the armed forces of the supported country; determine if it is compatible with the US system. Has the host nation bought, through foreign military sales, repair parts supporting current US systems? Can contingency contracting provide resources from HNS sources or third country sources until Army capabilities arrive in the AOR? Answers to these types of questions will aid in analyzing whether HNS negotiations are possible.

3. Facilities

Collect information on warehousing and cold storage facilities, production and manufacturing plants, reservoirs, administrative facilities, sanitation capabilities, and hotels. Their availability could reduce the requirement for deployment of similar capacity.

4. Transportation

Collect information on road nets, truck availability, rail nets, bridges, ports, cargo handlers (longshoremen), petroleum pipelines, and MHE. Also collect information on traffic flow, choke points, and control problems.

5. Maintenance

Collect information on maintenance facilities that could support US or coalition equipment. Examine the supported country's armed forces. Could they supplement our capability? Is there a commonality in equipment and repair parts? Does the country have adequate machine works for possible use in the fabrication of repair parts?

6. General Skills

Collect information on the general population of the supported country. Is English commonly spoken? Are personnel available for interpreter/translator duties? Will a general labor pool be available? What skills are available that can be translated to joint forces? Will drivers, clerks, MHE operators, food service personnel, guards, mechanics, and longshoremen be available?

7. Miscellaneous

Include any other information that could prove useful. Set up other categories as needed.

III. General Information Sources

Ref: Adapted from FMI 4-93.2, Sustainment Brigade (Feb '09), app. A.

Collectors routinely provide an abundance of information on targeted theaters or likely contingency areas. Also, agencies can assist CSS personnel in building the information file. The CSS planner must not underestimate the time and resources required for these actions. The LPT is a living document that is in a continual state of review, refinement, and use. Forces should use it as the basis for negotiations, preparing the TPFDD, and the Total Army analysis process.

The following sources of information are only a few; this list is not all-inclusive.

Department of State

Department of State embassy staffs routinely do country studies. They also produce information on foreign countries, including unclassified pamphlets. These pamphlets focus on political and economic issues, not military or CSS matters.

Intelligence Preparation of the Battlefield (IPB)

The weather and terrain databases in the IPB, with its overlays, provide current information for preselecting LOC and sites for CSS facilities. The IPB event analysis matrix and template can determine the need for route improvements and bridge reinforcements. *FM 34-130 has more details. See also The Battle Staff SMARTbook.*

Special Operations Forces, to Include Civil Affairs Units

Whether in country or targeted on a specific country, SOF can provide a wealth of CSS information. They include functional specialists who focus on particular areas (such as civilian supply, public health, public safety, and transportation). Civil affairs (CA) units also can provide vital assistance when coordinating theater contract support and CUL support to NGOs.

Culturegrams

Culturegrams are a series of unclassified pamphlets published by Brigham Young University that provide general/social information on specific countries. Though not focused on governmental or military interests, they provide a variety of useful information that can be used by deploying forces.

Army Country Profiles

Army country profiles (ACPs) are produced by the Army Intelligence Threat Analysis Center. ACPs are classified country profiles providing information on logistics, military capabilities, intelligence and security, medical intelligence, and military geography. They include photos, maps, and charts.

Country Contingency Support Studies

Country contingency support studies are produced by the Defense Intelligence Agency (DIA). These classified documents contain extensive information on railways, highways, bridges, and tunnels within a given country.

Other assets or tools the CSS planner may want to consider as the LPT plan is developed include:

- Army prepositioned stocks
- Use of containerization to limit handling
- HNS agreements
- ISSAs and ACSAs
- Prearranged contracts to provide support

Logistics Prep of the Battlefield (LPB)

Ref: Adapted from FM 4-93.52 *Tactics, Techniques, and Procedures for the DISCOM (Digitized)*, chap. 5.

Logistics preparation of the battlefield is the process of gathering data against pertinent battlefield components, analyzing their impact on sustainment, and integrating them into tactical planning so that support actions are synchronized with maneuver. It is a conscious effort to identify and assess those factors, which facilitate, inhibit, or deny support to combat forces. Just as intelligence preparation of the battlefield is important to the conduct of actual combat operations, logistics preparation of the battlefield is equally important to sustaining the combat power of the force.

The process requires tacticians to understand the data needed by logisticians to plan and provide timely, effective support. It requires TF logisticians to understand the mission, the tactical plan, and the battlefield's time and space implications for support. It is a coordinated effort to prepare the battlefield logistically. The basic steps in systematizing the process are:

- Determine battlefield data pertinent to support actions
- Determine sources from which raw data can be derived
- Gather pertinent data
- Analyze collected data elements and translate them into decision information by assessing their impact on the mission and the competing courses of action
- Integrate decision information into tactical planning by incorporating it in sustainment estimates and TF plans and orders

When determining what battlefield data are relevant to sustainment, it's helpful to break down CSS operations into certain key elements against which data can be collected for study and analysis. These data elements are called the components of tactical sustainment. The following descriptions of the components of tactical sustainment are not intended to be all-inclusive. They are offered here, however, to stimulate thought and to facilitate an understanding of those factors which impact on tactical sustainment:

- Logistics resources are the wherewithal to effect support, including CSS organizational structures, command and control, task organizing for support, communications, information automation systems, medical facilities, and materiel such as transportation assets and supply, maintenance and field services equipment.
- Logistics capabilities include soldier and leader skills and the personnel staffing which, collectively, activate sustainment resources and bring to life the required support.
- Logistics capacities include reception and clearance capacities, carrying capacities of transportation assets, volumes of storage facilities, maintenance production output rates, and supply route characteristics such as surface composition, tunnels, overhead obstructions, bridge weight limits and traffic circulation rates.
- Materiel stocks include the quantity and status of weapon systems, ancillary equipment, ammunition, repair parts and consumable supplies required or available to sustain or reconstitute combat power of deployed units. Also included are sustainment status reports and known or projected shortfalls.
- Consumption and attrition rates include experienced or expected usages of consumable supplies and weapon systems, which must be considered to anticipate support requirements.
- Time and space factors are those requirements and restrictions of the battlefield, which influence whether logistic support is provided to deployed forces at the right place and time. Included here are plans, orders, rehearsals, priority of support,

positioning for support, tempo of support (intensity of demand), security, risk assessment, the effects of terrain, weather, contaminated areas, minefields, night time enemy threat on sustainment operations, and the battlefield signatures of logistic resources. Time and space factors, especially, impact on the synchronization and integration of sustainment on the battlefield.

Sources from which relevant battlefield data are derived include:

- Higher headquarters briefs, plans and orders
- The commander's planning guidance
- The commander's intent (or concept)
- Operations and intelligence briefings and overlays
- Modified table of equipment (MTOE) of task force units
- Sustainment status reports
- Scouts
- Engineer route reconnaissance overlays
- Traffic circulation and highway regulating plans
- Personal reconnaissance

Logisticians should treat the components of tactical sustainment as essential factors that should be assessed for each plan. By doing so, they bring a professional approach to the contributions they make in the planning process. The components are variables. Some are dynamic and change with METT-TC so they should be validated daily, even hourly, if necessary. Commanders should appreciate the unique contributions their logisticians make in the planning process and when they've done a thorough job of collecting and analyzing pertinent battlefield data. Commanders must not accept less.

The commander and staff conduct LPB. Successful LPB contributes immeasurably to the favorable outcome of battle. Logistics preparation of the battlefield is an on-going process by which logisticians analyze:

- Tactical commander's plan/concept of operation
- Tactical commander's intents
- Supported force sustainment requirements
- Available sustainment resources
- Combat service support shortfalls
- The enemy (intentions, capabilities, weaknesses, doctrine)
- Terrain and weather
- Intelligence preparation of the battlefield (IPB) products
- Transportation infrastructure
- Host nation support available
- Time/distance factors

Logistics preparation of the battlefield (LPB) products are:

- A logistics estimate
- A visualization of the pending battle and logistics activity required by phase
- Anticipated logistics challenges and shortfalls
- Solutions to logistics challenges and shortfalls
- How, when, and where to position logistics units to best support the tactical commander's plan
- A synchronized tactical and logistical effort

Operations Logistics (OPLOG) Planner

Ref. <https://www.cascom.army.mil/private/CDI/FDD/Multi/PDB/OPLOGPlanner.HTM>

* Requires Army Knowledge Online (AKO) log-in and password.

The OPLOG Planner is a web-based interactive tool that assists commanders and staff from strategic through operational levels in developing a logistics estimate. It is designed to support operations typically associated with multi-phase operations plans and orders. The OPLOG Planner enables staffs to develop estimated mission requirements for supply Class I, Class II, Class III(P), Class IV, Class VI, Class VII, Class X including water, ice, and mail.

Microsoft Access - [Operation Logistics Planner]

File View Help

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Operation Logistics Planner Main Menu

Instructions:
Complete each Process step in sequence.

Process

1. Select Units
2. Create Task Organizations
3. Determine Operational Phases
4. Set Consumption Parameters
5. Select Reports to Create
6. View Available Reports

Detail Instructions

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Quit OPLOG

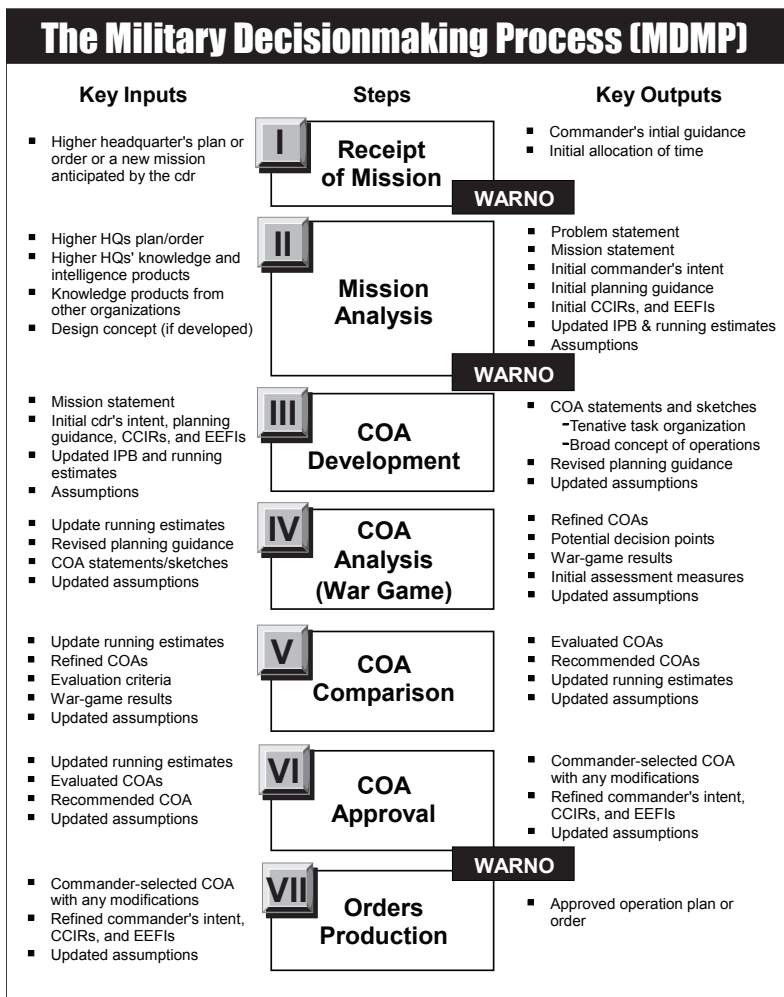
OPLOG Planner allows planners to build multiple task organizations from a preloaded list of units and equipment or from custom built units that are generated or imported. Each task organization is assigned a consumption parameter set that establishes the rates, climate, Joint Phases (Deter, Seize Initiative, and Dominate), and Army full spectrum operations (Offense, Defense, and Stability). The planners have the option of using predefined default planning rates or customizing rates based on what a unit is experiencing.

OPLOG Planner generates the logistics supply requirements which can be viewed by the Entire Operation, each Phase of the Operation, each Task Organization, each Unit, or each Unit's Equipment. Logistics requirement reports can be printed or exported to automated spread sheets for further analysis or saved for recall to be used in course of action analysis.

III. The Military Decision Making Process (MDMP)

Ref: ATTP 5-0.1, Commander and Staff Officer Guide (Sept. '11), chap. 4.

The military decisionmaking process is an iterative planning methodology to understand the situation and mission develop a course of action, and produce an operation plan or order (ADP 5-0).



Ref: ATTP 5-0.1, Commander and Staff Officer's Guide, fig. 4-1, p. 4-3.



Refer to The Battle Staff SMARTbook (Guide to Designing, Planning & Conducting Military Operations) for complete discussion of the military decisionmaking process.

MDMP - Sustainment Considerations

Ref: Adapted from FM 4-93.52 TTP for the DISCOM (Digitized), chap. 4.

Refer to The Battle Staff SMARTbook and ATP 5-0.1, Commander and Staff Officer Guide (Sept. '11), chap. 4 for detailed information reference MDMP.

I. Mission Analysis

See pp. 4-19 to 4-26 for discussion of personnel/logistics estimates.

The MDMP begins when a mission is received from higher headquarters. Very rarely will this be in the form of a complete operations order. More likely it will begin after a verbal or written warning order is received. The commander, upon receiving a mission, should provide his staff with guidance as to how they should proceed with their analysis, and a warning order, in five-paragraph field order format, should be issued to subordinate units to allow them to begin to prepare for a new mission.

The staff begins mission analysis by developing their initial staff estimates based upon the higher headquarters order and their commander's guidance. Mission analysis also determines what the mission of higher headquarters is, what this equates to as a mission for their unit, and the situation/circumstances that may impact upon their unit's ability to execute a particular course of action that will be proposed to accomplish the mission. Each staff officer produces an estimate in his or her area. The results of mission analysis should include completed staff estimates, including an initial intelligence preparation of the battlefield (IPB) by the S-2. The staff will also produce a proposed restated mission for their unit. These products will be presented to the commander and he will provide additional planning guidance to include: number of courses of action he wants the staff to develop, initial commander's critical information requirements (CCIR), timeline, risk guidance, and rehearsals to be conducted. Additionally, the commander will provide his initial intent that will include the method and end state for the operation. A second warning order should be issued to subordinate units no later than the end of mission analysis.

The Logistics Estimate

The logistician's input during mission analysis primarily comes from the logistics estimate. The logistics estimate is a continuous process that begins during mission analysis and is continually refined and updated through mission completion.

II. COA Development

During COA development, the logistics planners must refine the logistics estimate they developed during mission analysis. Facts and assumptions developed during mission analysis must be verified and updated. Sustainment planners must identify any significant Sustainment considerations and requirements that have a major impact on mission accomplishment. Additionally, the sustainment planner must develop a draft concept of support during this phase of the MDMP.

COA Sustainment Feasibility

For each course of action, the logistics planner must access its sustainment feasibility. The sustainment feasibility is determined by whether or not the unit possesses the required resources to sustain the unit throughout the tactical operation. Tailoring your logistics estimate for each course of action can help make this determination. If requirements do not exceed capabilities, the sustainment of the course of action will generally be feasible. If any requirements do exceed capabilities you must again determine its significance and potential impact upon the mission. If the shortfall is a "WAR-STOPPER", and there are no workable solutions to the problem, then sustainment of the COA is not feasible. Ensure you have exhausted all possible means to solve the problem, to include support from higher headquarters, before you deem the COA not feasible.

Synchronization Requirements

The synchronization of sustainment during COA analysis is critical to ensure continuous support during the operation. During the war game, the logistical planner will determine, based on the scheme of maneuver, what supplies and services must be

where at a given time. This will generate critical Sustainment actions that must be accomplished to sustain the mission. He must consider time-distance factors and determine which support activity will be available to provide the required support. This is where the logistical planner begins to directly link the actions of task force logistics assets with the support battalion sustainment activities and division/corps resupply activities. He must ensure that all critical Sustainment activities are included in the synchronization matrix to successfully synchronize all levels of support.

Critical Sustainment Requirements

During this phase of MDMP, the courses of action are compared using the synchronization matrices and notes taken for each evaluation criteria used. A decision matrix with the evaluation criteria and some type of weighting factor (e.g., numbers, +/-, etc.) should be used to record the results of the course of action comparison. A decision matrix can be used as an aid to obtain a decision from the commander as to what course of action will be selected.

III. COA Comparison

In order to compare COAs and determine which is more supportable, logistical planners must calculate estimated attrition rates, project battle losses for critical weapons systems, and project personnel battle losses. The RSR for each COA must be refined and compared to any CSR that may be in effect. Quantities of supplies required, demands on transportation assets, and reconstitution requirements must be compared to determine which COA stresses the units' logistical system the most. An analysis of the risks to Sustainment assets and operations must be compared and considered.

IV. Orders Production

See pp. 4-27 to 4-30 for further discussion of the concept of support (para. 4a).

The brigade logistic planners are responsible for paragraph 4 of the OPORD as well as the logistics annex (annex I). These products must be complete, concise and synchronize all levels of logistics support from top to bottom with the tactical plan.

Final Concept Of Support

The paragraph four consists of the final approved concept of support. Remember that this paragraph is written primarily to inform the commanders how they will be supported throughout the tactical operation, so do not include details on how the support elements are to execute the plan. Save all those details for the logistics annex. The concept of support should include a brief synopsis of the support command mission, support area locations to include the locations of the next higher logistics bases, the next higher levels support priorities, the commander's priority of support, significant or critical Sustainment activities, any significant risks, and the major support requirements in each tactical logistics function. If the tactical concept of operation is phased, the concept of support should also be phased to facilitate changes of priorities and logistics focus during each phase.

Complete/Concise

It is essential that the OPORD be complete, concise, and include all critical tasks that must be accomplished to support the tactical mission. Ensure you consider the command and support relationships of all units within your area of operation and ensure all elements receive support. Ensure you address all of the tactical logistics functions and properly phase the support concept if the tactical concept of operation is phased.

Synchronized Top-to-Bottom

To ensure proper synchronization, include all critical tasks and coordination requirements that were developed during the war gaming phase. Consider developing a logistics synchronization matrix, if possible. Ensure that all priorities of support are in agreement with the scheme of maneuver and weight the main effort. Coordinate with the other battlefield operating system elements to ensure that there are no inconsistencies in logistics information within the maneuver, engineer, artillery, and Sustainment annexes. As subordinate OPORDs are developed, you must ensure that their support plans are consistent and executable within your support framework. Synchronization of resupply operations from the corps/division, to the support battalion, to the task force level is critical.

The Military Decision-Making Process: A Sustainment Planner's Perspective

Ref: Adapted from FM 4-93.52, TTP for the DISCOM (Digitized), chap. 4.

Appendix A, FM 4-93.50 provided an overview of the military decision making process (MDMP) used by the Sustainment battle staff providing support to brigade and below echelons and is not intended as an all-inclusive description of the process. Refer to The Battle Staff SMARTbook and FM 5-0, Army Planning & Orders Production, Chapter 5, for more detailed information on the MDMP.

The MDMP must be integrated from top to bottom and from bottom to top in order to produce a synchronized concept of support that effectively supports the brigade tactical operation. The support battalion should have a Sustainment planner (liaison officer-LNO) who actively participates with the brigade S-1 and S-4 in the MDMP. Information must flow continuously between the brigade S-1/S-4, the support battalion, and the battalion task force S-1/S-4. At each level, the logistics estimate process should assess Sustainment capabilities, develop detailed requirements, and identify shortfalls as well as possible solutions. The logistics estimate process must be continuous and communication between the many Sustainment planners is essential. An integrated Sustainment concept of support must provide, at each level, the details of how a unit will both receive and provide support throughout an operation. It must provide enough detail so commanders know how they will be supported as well as how they and their subordinate units will execute the Sustainment

Sustainment planners at all echelons must actively participate during each stage of the MDMP, and these planners must not only participate, but they must communicate with each other throughout the process.

The courses of action are compared, and one is recommended to the commander as the best option for providing support to the task force, support battalion, and the brigade. The commander selects the course of action which he feels best supports his concept of the operation. Throughout this stage of the MDMP, information must flow between the brigade, support battalion, and task force Sustainment planners. After the commander has made his decision, warning orders to subordinate units must be issued. Staffs at each echelon now produce a complete operations order. For brigade level Sustainment planners, this includes paragraph four (concept of support), a Sustainment annex/overlay and possibly a Sustainment matrix. For task force level Sustainment planners, this includes paragraph 4 (concept of support) and possibly a Sustainment annex/matrix with additional information on support arrangements. The support battalion should produce a full five-paragraph field order. Paragraph four for the support battalion should discuss the concept of internal Sustainment support. Additionally, this paragraph should be expanded upon in a Sustainment annex and possibly a Sustainment matrix. External Sustainment support to the brigade should be discussed in paragraph three of the support battalion base order, in an external Sustainment support annex, and possibly a Sustainment matrix. The support battalion order must also contain in the base order appropriate annexes on how the BSA and Sustainment assets will be supported by the warfighting functions (WFF) of fire support, air defense, intelligence (to include a reconnaissance and surveillance plan) and mobility/survivability (to include NBC).

IV. Running Estimates & Mission Analysis

Ref: Adapted from ADRP 5-0, The Operations Process (May '12) and ADP/ADRP 4-0, Sustainment (Aug '12). Refer to The Battle Staff SMARTbook for detailed discussion of the operations process and the military decision making process (MDMP).

Running Estimates

A running estimate is a staff section's continuous assessment of current and future operations to determine if the current operation is proceeding according to the commander's intent and if future operations are supportable (FM 3-0). Building and maintaining running estimates is a primary task of each staff section. The running estimate helps the staff provide recommendations to commanders on the best course of action to accomplish their mission. Running estimates represent the analysis and expert opinion of each staff section by functional area.

Mission Analysis

Mission analysis helps commanders to understand the situation to include their mission. This enables commanders to issue the appropriate guidance that drives the rest of the planning process. Commanders—supported by their staffs—gather, analyze, and synthesize information to orient themselves on current conditions in the AO. Such orientation helps commanders to better understand the relationships among the operational and mission variables. Mission analysis helps commanders understand the problem they have been called upon to resolve and how their units fit into the higher headquarters' plan.

During mission analysis, the staff conducts intelligence preparation of the battlefield and updates running estimates in relation to the new mission. The commander and staff analyze the higher headquarters' order to completely understand the higher headquarters commander's intent, mission, and concept of operations. They develop facts and assumptions about the upcoming operations and determine specified, implied, and essential tasks. They identify forces available for the mission, resource shortfalls, and any constraints placed on them from the higher command.

The logistician's input during mission analysis primarily comes from the logistics estimate. The logistics estimate is a continuous process that begins during mission analysis and is continually refined and updated through mission completion. The logistics estimate does not have a doctrinal format at the brigade level.

Mission analysis considerations feed information into the estimate process. The estimates are as thorough as time permits. Personnel/logistics estimates are kept current. As factors that influence operations change, new facts are developed and assumptions become facts or become invalid.

Ideally, the commander holds several informal meetings with key staff members before the mission analysis briefing. These meetings increase a common understanding, pass information to the staff, and issue guidance.

The duration of the mission analysis briefing may vary. It may be with only a few staff briefing the commander, or it may take be several days in the form of a conference that includes commanders, subordinate commanders, staff, and other partners.

See following pages (pp. 4-20 to 4-21) for a listing of suggested sustainment mission analysis considerations by element.

Mission Analysis Considerations

Ref: Adapted from ADP/ADRP 5-0 and ADP/ADRP 4-0.

A comprehensive mission analysis briefing helps the commander, staff, subordinates, and other partners develop a shared understanding of the requirements of the upcoming operation. Time permitting, the staff briefs the commander on its mission analysis using the following outline:

- Mission and commander's intent of the headquarters two levels up
- Mission, commander's intent, and concept of operations of the HQs one level up
- Review of the commander's initial guidance
- Initial IPB products, including modified combined obstacle overlays and situation templates
- Civil considerations that impact the conduct of operations
- Specified, implied, and essential tasks (to include minimum essential stability tasks)
- Pertinent facts and assumptions
- Constraints
- Forces available and resource shortfalls
- Initial risk assessment
- Recommended initial information themes and messages
- Recommended initial critical commander's critical information requirements (CCIRs) and essential elements of friendly information (EEFIs)
- Initial intelligence, surveillance, and reconnaissance (ISR) plan
- Recommended timelines
- Recommended collaborative planning sessions
- Recommended restated mission

Sustainment Elements

I. Logistics

A. Supply

1. General Supply

a. Facts

- Classes I, II, III(p), IV, VI, VII, X, and water status
- Distribution system
- Critical shortages

b. Assumptions

- Resupply rates
- Host nation/multinational support
- Other

c. Conclusions

- Projected supply levels and status
- Shortfalls and critical sustainment risks/events

2. Class III (B)

a. Facts

- Class III(b) status
- Restrictions
- Distribution Systems
- Critical shortages

b. Assumptions

- Resupply rates
- Host nation/multinational support
- Other

c. Conclusions

- Projected supply status
- Projected distribution system
- Shortfalls and critical risks/events

3. Class V

a. Facts

- Class V status
- Distribution system
- Restrictions
- Critical shortages

b. Assumptions

- Resupply rates
- Host nation/multinational support
- Other

c. Conclusions

- Projected supply status
- Projected distribution status
- Shortfalls and critical risks/events

B. Field Services

Life support functions, including field laundry, showers, light textile repair, food preparation, mortuary affairs, aerial delivery support, food services, billeting, and sanitation.

a. Facts

b. Assumptions

c. Conclusions

C. Maintenance

Field and sustainment maintenance.

a. Facts

- Maintenance status (equip readiness)
- Class IX status
- Repair times, evacuation policy, assets
- Critical shortages

b. Assumptions

- Host nation/multinational support
- Other

c. Conclusions

- Projected maintenance status
- Shortfalls and critical CSS risks/events
- Recommendations

D. Transportation

Movement control, mode operations, terminal operations, container management.

a. Facts

- Status of transportation assets
- Critical LOC and MSR status
- Critical shortages

b. Assumptions

- Host nation/multinational support
- Other

c. Conclusions

- Projected status of transportation assets
- Projected status of LOCs and MSRs
- Shortfalls and critical risks/events
- Recommendations

E. Operational Contract Support

Operational contract support is the process of planning for and obtaining supplies, services, and construction from commercial sources along with associated contract management functions.

A. Facts

B. Assumptions

C. Conclusions

II. Personnel Services

A. Human Resource (HR) Support

a. Facts

- Personnel strengths and morale
- Replacements and medical RTD

- Critical shortages

b. Assumptions

- Replacements
- Host nation/multinational support
- Other

c. Conclusions

- Projected personnel strength
- Projected critical MOS status
- Shortfalls and critical risks/events

B/C/D/E. Finance/Legal/Religious/Band

a. Facts

b. Assumptions

c. Conclusions

III. Health Services Support (HSS)

See pp. 4-31 to 4-36 for discussion of considerations for HSS in support of joint and multinational operations. Include medical logistics considerations (class VIII supply).

a. Facts

b. Assumptions

c. Conclusions

IV. Other Sustainment-Related Functions

As a result of the movement from battle-field operating systems to the Warfighting Functions (WFF) construct, some tasks are realigned. Two of those tasks include:

A. Explosive Ordnance Disposal (EOD)

From a WFF perspective, EOD falls under the Protection WFF

a. Facts

b. Assumptions

c. Conclusions

B. Internment/Resettlement (I/R) Opns

Internment/Resettlement (I/R) operations are included under the Sustainment WFF (FM 3.0). While not a major sub-function of the sustainment WFF, I/R are supported by logistics, personnel services, and HSS.

Recommendations

- Sustainment unit and system capabilities, limitations, and employment
- Risk identification and mitigation
- Organization for operations, allocations to subordinate units, command and support relationships among subordinate units
- Resource allocation and employment synchronization of organic and supporting units (including other joint assets)
- General locations and movements of units

I. The Logistics Estimate

Ref: Adapted from ADP/ADRP 5-0, ADP/ADRP 4-0 and FM 4-93.50, app. A.

A running estimate is a staff section's continuous assessment of current and future operations to determine if the current operation is proceeding according to the commander's intent and if future operations are supportable (FM 3-0). Building and maintaining running estimates is a primary task of each staff section. The running estimate helps the staff provide recommendations to commanders on the best course of action to accomplish their mission. Running estimates represent the analysis and expert opinion of each staff section by functional area.

Staff representatives do more than collect and store information; they process it into knowledge and apply judgment to get that knowledge to those requiring it. The staff section's running estimate is one product of this effort. By synthesizing relevant information from a variety of sources into a prescribed format, the staff and commander can quickly identify and summarize how a given functional area impacts other functional areas and the operation as a whole.

1. Requirements

The first step in the log estimate process is to determine the logistical requirements for the mission. To determine the requirements, you may use a number or combination of methods. Automated systems such as OPLOG PLANNER are good tools to use to estimate requirements. If you prefer to do the number crunching yourself, planning factors from the CGSC ST 101-6 (G1/G4 BATTLEBOOK) or the FM 101-10-1/2 may be used to determine estimates; historical data from previous missions should also be used.

2. Capabilities

To correctly determine the logistics capability of your unit, you must consider the capabilities of all the available Sustainment assets at your disposal. This includes all available Sustainment units assigned, attached, or OPCON, and the sustainment capability organic to the maneuver units themselves. Be sure to consider the unit's current status in terms of personnel and equipment, as well as the projected status at mission execution.

3. Comparison/Shortfall

Once you have determined your estimated requirements and the unit's sustainment capability, compare them to determine any logistical shortfalls. If there are no shortfalls, go to the analysis step of this methodology. Shortfalls may occur in terms of storage, distribution, and transportation capability or may be caused by personnel or equipment shortfalls based on current on hand shortages or maintenance status. A shortfall may also occur if required facilities or terrain are not available or the plan does not provide enough time to prepare. If there is a shortfall, determine what the shortfall is in terms of short tons, gallons, or other units of measurement and when or where during the operation the shortfall occurs.

4. Analysis

Whether or not there is a shortfall, the analysis process must occur for all support operations. The sustainment planner must determine: when the support operation must begin, how much time there is to prepare for the mission, the purpose of the support mission, the duration of the mission, and whether the mission can be supported from a fixed location or whether to echelon support forward in some way. If there is a shortfall identified in the comparison of requirements and capabilities, you must also determine its cause, its significance and its potential impact on the tactical operation.

5. Solutions

Determine the most workable solutions based on your analysis. Ensure that all solutions are integrated into the MDMP to enhance continuity between the tactical decision making and logistical planning.

A comprehensive running estimate will address all aspects of operations and contain both facts and assumptions based on the staff's experience within a specific area of expertise. A base document for a running estimate is provided below. Each staff section modifies it to account for their specific functional area. All running estimates should cover essential facts and assumptions, a summary of the current situation by the mission variables, conclusions, and recommendations. The mission variables of METT-TC are mission, enemy, terrain and weather, troops and support available, time available, civil considerations.

1. Mission. Show the restated mission resulting from mission analysis

2. Situation and Considerations

a. Characteristics of the Operational Environment. Identify area structures, capabilities, organizations, people, and events that impact or affect functional area considerations.

b. Characteristics of the Area of Operations.

- (1) **Weather.** State how weather affects staff functional area's capabilities
- (2) **Terrain.** State how terrain affects staff functional area's capabilities
- (3) **Enemy Forces.** Describe enemy disposition, composition, strength, capabilities, systems, and possible courses of action (COAs) with respect to their effect on functional area.
- (4) **Friendly Forces.** List current functional area resources in terms of equipment, personnel, and systems. Identify additional resources available for functional area located at higher, adjacent, or other units. Compare requirements to current capabilities and suggest solutions for satisfying discrepancies.
- (5) **Civilian Considerations.** Describe additional personnel, groups, or associations that cannot be categorized as friendly or enemy. Discuss possible impact these entities may have on functional area.
- (6) **Assumptions.** List all assumptions that affect the functional area. Best practice is to prioritize assumptions based on operational requirement or to divide assumptions (if many) into categories such as —friendly assumptions and —enemy assumptions.

3. Courses of Action (COAs)

- a. List friendly COAs that were war-gamed.
- b. List enemy actions or COAs that were templated that impact functional area.
- c. List the evaluation criteria identified during COA analysis. All staff use the same criteria.

4. Analysis. Analyze each COA using that evaluation criteria from COA analysis. Review enemy actions that impact functional area as they relate to COAs. Identify issues, risks, and deficiencies these enemy actions may create with respect to functional area.

5. Comparison. Compare COAs. Rank order COAs for each key consideration. Use a decision matrix to aid the comparison process.

6. Recommendations

- a. Recommend the most supportable COAs from the perspective of the functional area.
- b. Prioritize and list issues, deficiencies, and risks and make recommendations on how to mitigate them

See pp. 4-24 to 4-25 for a listing of suggested mission analysis considerations.

II. The Personnel Estimate

Ref: FM 1-0, Human Resources Support (Feb '07), pp. 1-3 to 1-5. An alternate (macro) format for the Personnel Estimate can also be found in App. A, Joint Pub 1-0.

G-1s and S-1s at all levels, HRSC divisions, Expeditionary Sustainment Command (ESC) and Sustainment Brigade SPO HR Operations Cells, HR Company headquarters, TG R5 Teams, MMT Teams, R5 Plans and Operations Teams, and Postal Plans and Operations Teams are responsible for executing the core competency of HR Planning and Operations to ensure that effective and efficient HR support is provided to both units and individuals.

Mission analysis is a critical early step in the MDMP. The HR planner/G-1/S-1 has specific responsibilities that establish favorable conditions for the remainder of the MDMP from the HR perspective. The following are G-1/S-1 mission analysis responsibilities:

- Analyze personnel strength data to determine current capabilities and project future requirements
- Analyze unit strength maintenance, including monitoring, collecting, and analyzing data affecting Soldier readiness
- Prepare estimates for personnel replacement requirements, based on estimated casualties, non-battle losses, and foreseeable administrative losses to include critical MOS requirements
- Determine personnel services available to the force (current and projected)
- Determine personnel support available to the force (current and projected)
- Determine HR specified, implied, and essential tasks (if any)
- Determine any HR constraints which may impact successful completion of the mission
- Identify critical HR facts and assumptions which will impact the mission
- Determine any HR Commander's Critical Information Requirements (CCIR) and Essential Elements of Friendly Information (EEFI) which may impact the mission

One of the primary tools used by HR planners is the Personnel Estimate, and like any staff estimate it: "Is an assessment of the situation and an analysis of those COAs a Commander is considering that best accomplishes the mission. It includes an evaluation of how factors in the HR staff section's functional area influence each course of action and includes conclusions and a recommended COA to the Commander" from the perspective of the HR supporter. The personnel estimate is a continuous process that evaluates current and future operations from the functional perspective of the HR provider. Once the commander has selected a COA, the Personnel Estimate becomes an assessment tool to evaluate the relative success of the COA and a means for HR operations cells to track the progress of the operation from an HR support perspective. Format is not the critical element of the personnel estimate. It is a tool that facilitates the collection and processing of key HR information, and may be adapted by HR planners for their own organization or purposes. The following are general characteristics of the personnel estimate:

- Prepared as thoroughly as time allows in either a simple form or a preformatted digital product
- Revised continuously as planning factors, manning levels, facts and assumptions change
- Prepared at all levels of command from Battalion to Army/ASCC by S-1s/G-1s and HR Operations Cell planners
- Not necessarily prepared in a fixed sequence
- Provides a thorough, clear, unemotional analysis of all pertinent data

1. MISSION: Commander's restated mission resulting from mission analysis

2. SITUATION AND CHARACTERISTICS:

a. Characteristics of the AO: Discuss how the weather, terrain, civil considerations, and other AO-specific conditions affect the HR support to the planned operation

b. Enemy Forces: Discuss any affect enemy dispositions, composition, strength, capabilities and COAs may have on the HR support to the planned operation

c. Friendly Forces: Discuss current status of resources available from the HR perspective and other resources which impact HR support and compare requirements and capabilities to develop recommendations to solve discrepancies.

- 1) Current subordinate unit manning levels/critical MOS shortages (consider all manning influences – Task Organization, R&R flow, Boots On Ground data, etc.)
- 2) New personnel requirements resulting from the operation (language skills, ASI, etc.)
- 3) Casualty estimates (as developed)
- 4) Forecasted replacement availability
- 5) Evacuation policy for the operation
- 6) Supporting HR organizations (location, command/support relationship, controlling element)
- 7) Supporting medical elements
- 8) Replacement fill priority (Coordinate with S-3/G-3)
- 9) Crew/key leader replacement
- 10) Projected postal flow/limitations
- 11) Change to established PASR reporting flow/times
- 12) Change to casualty reporting flow (CLT change, reporting changes)
- 13) RSOI Reception HR impacts
- 14) R&R schedule/flow operational impact (during operations conducted during sustained operations)
- 15) Civilian and JIM manning impacts on the operation focusing on strengths and personnel service requirements
- 16) Specific Army G-1 Personnel Planning Guidance (PPG) impacts on the operation
- 17) Status of other personnel service support factors (postal, MWR, legal, MILPAY support)
- 18) Connectivity and NIPR/SIPR and HR system access requirements and availability

d. Sustainment Situation: Discuss the sustainment supporting organizations (TSC, ESC, Sustainment Brigades) and possible impacts to include: supported/supporting relationship, reporting requirements, transportation planned, MSR status, etc.

e. Assumptions: List any assumptions that affect the delivery of HR support.

f. Other Considerations: List everything not covered elsewhere in the estimate.

3. COURSES OF ACTION:

a. COAs: List friendly COAs to be waged

b. Evaluation Criteria: List HR evaluation criteria determined during COA analysis

4. ANALYSIS: Analyze each COA using the HR evaluation criteria established during the COA analysis determining advantages and disadvantages of each COA

5. COMPARISON: Compare COAs and rank order from the perspective of HR supportability based on Step 4 (Analysis).

6. RECOMMENDATION and CONCLUSIONS:

a. Recommendation: Recommend the most supportable COA from HR support perspective.

b. Issues/Risks/Mitigations: List the issues, risks, or deficiencies associated with the recommended COA and proposed mitigation to reduce the impact.

APPENDIXES (Use appendixes when information/graphs is of such detail and volume that inclusion in the body makes the estimate too cumbersome. Appendixes should be lettered sequentially as they occur through the estimate.

III. Casualty Estimation

FM 1-0, Human Resources Support (Feb '07), pp. I-6 to I-7.

The Army's functional proponent for casualty estimation is the DA G-1. DA G-1 oversees policy on Army casualty estimation (to include methods and procedures) to ensure forces-wide planning coherence. DA G-1 is proponent for battle casualties (killed, captured, missing, wounded—total battle casualties, TBC). The Surgeon General is proponent for disease and nonbattle injury (DNBI) casualties.

Casualty estimates support operations planning, future force planning, and training at all levels. Operations' planning includes deliberate and contingency plans. Force planning describes options for out-year force structure and force capability designs. Training includes the Battle Command Training Program and other unit exercises. Supported functions include:

- Commander's evaluation of Courses of Action, by assessment of force strength for missions within the concept of operations and scheme of maneuver
- Personnel replacements and flow planning, and allocation among forces
- Medical support planning, for both force structure and logistics support
- Transportation planning, including both inter- and intra-theater requirements, to deliver medical force structure and to evacuate and replace personnel
- Evacuation policy options to sustain the force by balancing minimal support force footprint, maximum in-theater returns-to-duty, and stable personnel rotation.

At all echelons, the G-1/S-1, as the principal staff officer for manning and personnel readiness requirements projections and recommendations, prepares the casualty estimate as part of the Personnel Estimate. The G-1 (S-1) estimates battle casualties and administrative losses, and combines this with the medical staff's DNBI estimate.

The G-1/S-1 and Surgeon (medical staff) coordinate with the battle staff so estimated casualties reasonably reflect projected force activity in the planning scenario. The G-1/S-1:

- Consolidates the overall casualty estimate, stratifies the projected losses by skill and grade, projects personnel readiness requirements, and recommends and plans the support for appropriate replacements and evacuation flows.
- Coordinates with other staff elements that use casualty projections to guide their planning process. Examples include the C1/J1 at both component and COCOM (and higher) levels for a range of force planning needs, the Surgeon (who uses the wounded-in-action estimate, and possibly an EPW or other estimate, to help size medical support) and Army and/or Joint lift planners regarding transportation of the replacements and evacuation flows.

Achieving Reasonable Casualty Estimates

Ensuring reasonable casualty estimates requires more than a numeric estimating procedure or set of rates; a rates frame of reference is critical to show which rates relate to which variables, and how. The Benchmark Rate Structure (BRS) orients the planner by showing how rates vary as forces (size, type), time (duration of rate application), and operational settings vary. The BRS describes rate ranges and patterns seen in actual operations for both maneuver forces (Battalions, brigades, divisions) and support forces across the spectrum of conventional operations, including major combat and stability operations. The operating environments described range from peer or near-peer confrontations, to overwhelming dominance by one side, to isolated asymmetric events. It is critical to note that numerous non-standard and non-authorized casualty estimation tools are available to various planners, and that these various other estimators do not provide accurate casualty data.

V. The Concept of Support (para. 4a)

Ref: Adapted from FM 4-90.7, Stryker Brigade Combat Team Logistics (Sept '07) and related sources (ST 101-6, chap. 3 and app. C-G). See also p. 4-17.

After the commander selects a specific COA, the staff communicates this decision by publishing the operation plan/operation order (OPLAN/OPORD). The G4, with input from the other logistic staff elements (G1, G5, surgeon, finance and personnel officers, and the support command), will prepare paragraph 4 of the plan.

Paragraph 4a is the support concept. This concise, but comprehensive, paragraph tells the maneuver commander and his primary staff those critical or unusual logistic actions that will occur by phase or before, during, and after the battle to support the concept of the operation.

Additional subparagraphs can be used to provide more detailed sustainment information by functional area. Usually, these subparagraphs are omitted, and this detailed information is published as part of the service support annex to the plan. The G4 prepares this order with input from the other logistic staff elements. The G4 can also prepare a Sustainment overlay to show supported units' supply route locations and supporting logistic organizations. Finally, routine, doctrinal, or constant information is incorporated into the unit tactical standing operating procedures (TSOP) to avoid repetition.

I. Developing the Sustainment Concept

The logistician actively participating in the decisionmaking process facilitates the support concept's development. Specifically, during mission analysis, the Sustainment planner determines the units' current materiel and personnel posture before the operation begins. This, with the commander's priorities, determines which units and items of equipment should receive priority before the operation.

The wargaming and quantitative analysis portions of COA analysis highlight critical and/or unusual logistic requirements and determine support priorities during each phase of the operation. By its very nature, wargaming facilitates logistic synchronization with the concept of the operation.

There are numerous other information sources for the support concept:

- Commander's guidance and intent
- Concept of the operation
- Higher HQ support concept, service support order or plan (if applicable), and Sustainment overlay
- Maneuver control system screens and/or other locally generated status charts
- Lessons learned data and historical perspectives to view how others successfully, or unsuccessfully, supported other similar operations
- The unit's battle book

II. The Sustainment Overlay

The sustainment overlay is a graphic representation of the tactical array of support areas and units. Ideally, it accompanies copies of the OPLAN and/or OPORD distributed to subordinate HQ and is used as a graphic backdrop to the support concept briefing.

The sustainment overlay should include (as a minimum):

- Locations of current and proposed support areas
- Boundaries for sustainment responsibilities
- MSRs
- Locations of major HQ
- Locations of sustainment installations and units
- Locations of critical resources [potable water, maintenance collection points, ATPs, mortuary affairs (MA) collection points, ambulance exchange points (AXPs), etc.]

The sustainment overlay will not only depict the tactical array of sustainment units/nodes, but it is also an integral part of the overall OPLAN/OPORD graphics and must be synchronized with the operations overlays.

The **BRIGADE sustainment overlay** would include (as a minimum)—

- The brigade support area (BSA) location and, using type unit symbols, the sustainment units and HQ located therein
- Locations of alternate/proposed BSAs
- Locations of forward logistics elements (FLEs)
- The supply routes from the BSA to the logistic release points and/or maintenance collection points
- The MSR from the division support area (DSA) to the BSA

The **DIVISION sustainment overlay** would include (as a minimum):

- The division support area (DSA) location and using type unit symbols, the sustainment units and HQ contained there-in, whether they are divisional or nondivisional
- Locations of alternate and/or proposed DSAs
- The MSRs from the corps rear area to the DSA and from the DSA to each BSA

The **CORPS sustainment overlay** may have to encompass the entire corps area of operation (AO) as well as a part of the communication zone (COMMZ) and, as a minimum, would depict:

- The logistic support areas (LSAs) and, using type unit symbols, the Sustainment units and HQ located therein, and the locations of any other critical sustainment nodes not located in an LSA
- The MSRs leading into the corps rear area from the COMMZ and the MSRs leading from the corps rear area to each DSA (or, as a minimum, to the division rear boundary) and to other critical logistic nodes
- Locations of alternate and/or proposed LSAs
- Locations of corps sustainment units operating forward of the divisional rear boundaries

III. The Sustainment Matrix

The oral support concept briefing will allow the commander and his subordinates to visualize how the operation will be logistically sustained. The sustainment planners' oral briefing, using the sustainment overlay, is useful in communicating the support concept to the commander. In addition, a support concept matrix can be used to make complex logistic concepts more easily understood.

The sustainment matrix's design is aligned with the support concept format. The logistic functions are in the "by phase" context. The matrix can also be modified to reflect before, during, and after phases. The matrix will highlight those critical aspects of each sustainment function. It can also depict other critical information such as priorities, shifts in priorities, problem areas, critical events, and other critical action. The matrix is not intended to stand alone or to replace the support concept briefing. It should complement and supplement the support concept briefing.

Concept of Support (Format & Briefing)

Ref: Adapted from ST 101-6, chap. 3, pp. 3-5 to 3-7. See also p. 4-17.

The logistician's role in the overall OPLAN/OPORD briefing is to brief the support concept, but he must first understand the general concept of the operation and the commander's intent. The support concept briefing should address the critical, non-SOP, or unusual aspects of logistic support by phase of an operation by critical Sustainment functions. Doctrinal, usual, or SOP matters should not be addressed unless there is a deviation in support relationships or normal methods.

4. Concept of Support (Paragraph 4a)

a. Support Concept. Paragraph 4a will provide an overall view of the support concept. Its intent is to provide the non-Sustainment commanders and their primary staffs an image of how the operation will be logistically supported. If the information pertains to the entire operation, or if it pertains to more than one unit, include it in the introductory portion of paragraph 4a. Change it in the ensuing subparagraphs when needed. This could include: a brief synopsis of the support command mission; support command headquarters and/or support area locations, including locations of next higher logistics bases if not clearly conveyed in the Sustainment overlay; the next higher level's support priorities and where the unit fits into those priorities; priorities that remain unchanged throughout the operation; units in the next higher Sustainment organization supporting the unit; significant and/or unusual Sustainment issues that might impact the overall operation; the use of host nation support; and any significant sustainment risks

(1) PHASE I (repeat for each phase)

- Logistics focus.
- Priorities: By unit; for personnel replacements; maintenance and/or recovery and evacuation priorities (by unit and equipment type); mvmt; class of supply.
- Critical events. Use the Sustainment functions for information.
- Sustainment risks.

(4) Paragraphs 4b through 4e are normally more detailed and are included in the service support annex. They are not part of the support concept.

(5) **Concept of support written before, during, and after format.** Follow the same guidance as by phase.

Concept of Support Briefing Format

1. Introduction (overview of the support concept and orientation to the map, if required). Orientation to the map is not required if another briefer has done so previously. Do not assume the commander totally knows the terrain. Focus on locating critical Sustainment nodes, MSRs, etc.
2. Brief the support concept starting with critical actions that must be accomplished in the first phase of the operation and concluding with critical actions to be accomplished in the last phase. This will prepare for future operations using the Sustainment functions as a guide.
3. Identify which units have priorities for each critical sustainment function (this should correlate with the commander's priorities; e.g., main effort).
4. Identify the next higher echelon unit providing support and/or backup support.
5. Identify any critical shortages/problem areas for each sustainment function and solution. For example, this can be supported, but _____, or it can be done, but not without risk in _____.
6. Identify any other sustainment problem areas, arrangements, special requirements, or any other critical aspects addressed elsewhere in the briefing.

BCT Sustainment Planning (The BCT S-4)

Ref: Adapted from FM 4-90.7, Stryker Brigade Combat Team Logistics (Sept '07) and related sources.

The lead planner for sustainment in the BCT is the BCT S-4, assisted by the BCT S-1, the BCT surgeon, and the BSB support operations officer. Representatives from these and other sections form a sustainment planning cell at the BCT main CP to ensure sustainment plans are fully integrated into all operations planning. The unit SOP should be the basis for sustainment operations, with planning conducted to determine specific requirements and to prepare for contingencies. BCT and subordinate unit orders should address only specific support requirements for the operation and any deviations from SOP.

Although the sustainment planners at the BCT main CP control and coordinate sustainment for specific BCT operations, routine operations usually are planned in the BSA. The BCT S-1 may have representatives at or near the BSB to handle various personnel functions (e.g., replacement or monitor casualty operations). The BCT S-4 might choose to locate the property book or movement sections with the BSB support operations section.

To provide effective support, sustainment planners and operators must understand the mission statement, intent, and concept of the operation which in turn will lead to developing a concept of support that will be provided in the BCT operation order (OPORD). The BCT S-4 is responsible for producing the sustainment paragraph and annexes of the OPORD, which should include the following:

- Commander's priorities
- Class (CL) III/ V resupply during the mission, if necessary
- Movement criteria
- Type and quantities of support required
- Priority of support, by type and unit
- Sustainment overlay
- Supply routes
- Logistic release points (LRPs)
- Casualty evacuation (CASEVAC) points
- Maintenance collection points

The remainder of this section provides a description of the concepts that apply to planning sustainment support within the BCT. It also describes how the BCT organizes the sustainment staff and organizations during full spectrum operations.

BCT Concept of Support

The concept of support (Paragraph 4 of the Operations Order) establishes priorities of support (by phase or before, during, and after) for the operation. These priorities are set by the BCT commander at each level in his intent statement and the concept of the operation. Priorities include such things as personnel replacements; maintenance and evacuation, by unit and by system (aviation and surface systems would be given separate priorities); fuel and/or ammunition; road network use by unit and/or commodity; and any resource subject to competing demands or constraints. To establish the concept of support, the BCT sustainment planners must know:

- Subordinate units' missions
- Times missions are to occur
- End states
- BCT scheme of movement and maneuver
- Timing of critical events

VI. Army Health Service (AHS) Planning

Ref: ATTP 4-02, Army Health System (Oct '11), chap. 5.

I. Support to Tactical Operations

The traditional and primary AMEDD mission is to conserve the fighting strength of the tactical commander. The AMEDD battle rhythm is that of the tactical commander. Casualties begin to occur immediately upon engagement with the enemy. Due to the necessity to perform lifesaving interventions for Soldiers suffering combat trauma within minutes of wounding or injury, medical resources must be arrayed in close proximity to the forces supported. This also permits the medical assets to rapidly clear the battlefield of casualties and enhances the tactical commander's ability to quickly take advantage of opportunities which present themselves during the battle.

Army Health System planners must be included early-on in the planning cycle for tactical operations and must fully participate in rehearsals conducted by the combat forces being supported. To ensure effective and efficient AHS support within the operational environment, medical support plans must adhere to the AHS principles. Within noncontiguous operations, the linear array of medical units will not always occur and medical units must fully understand the various support relationships described in the operation orders to ensure that a seamless continuum of health care is established and can be maintained.

The tactical medical evacuation plan for the operation includes both rotary-wing air ambulances and ground ambulances. The preferred means of evacuation is the air ambulance; however its availability can be affected by air superiority issues and environmental factors such as visibility, winds, and dust. The evacuation plan must address the use of ground ambulances when feasible and/or the simultaneous use of both platforms.

Refer to ATTP 4-02, chap. 5 Section II, for discussion of primary AHS tasks in support of offensive, defensive, stability, and defense support of civil authority operations.

II. Medical Aspects of the Operational Variables (PMESII-PT)

As the operational environment is comprised of all of the factors, both military and civilian, that affect the conduct of military operations in an area of operations, the medical commander must define how the different elements will impact on the concept of operations. The operational variables are a means for exploring and describing the operational environment that focus on the human aspects of the environment. Commanders and planners can use the memory aid PMESII-PT (Political, Military, Economic, Social, Information, Infrastructure, Physical environment, Time) to ensure all elements are considered. The operational variables are used by strategic planners in the development of plans and information may be broader than required for mission analysis at the tactical level. However, as medical issues often have a regional focus and may be the result of environmental, socioeconomic, political, and religious practices, it is essential for the medical planner to consider the medical aspects of an operation on a much broader scale than the immediate area of operations. The medical command (deployment support) provides this regional focus in support of the combatant commander's theater engagement strategy.

See following pages (4-32 to 4-34) for listing and discussion of medical factors for consideration in relation to the operational variables.

Medical Aspects of the Operational Variables (PMESII-PT)

Ref: ATTP 4-02, Army Health System (Oct '11), table 5-1, pp. 5-1 to 5-4.

Operational Variables

The operational variables are fundamental to developing a comprehensive understanding of an operational environment.

Variable	Description
P - Political	Describes the distribution of responsibility and power at all levels of governance—formally constituted authorities, as well as informal or covert political powers
M - Military	Explores the military and paramilitary capabilities of all relevant actors (enemy, friendly, and neutral) in a given operational environment
E - Economic	Encompasses individual and group behaviors related to producing, distributing, and consuming resources
S - Social	Describes the cultural, religious, and ethnic makeup within an operational environment and the beliefs, values, customs, and behaviors of society members
I - Information	Describes the nature, scope, characteristics, and effects of individuals, organizations, and systems that collect, process, disseminate, or act on information
I - Infrastructure	Is composed of the basic facilities, services, and installations needed for the functioning of a community or society
P - Physical environment	Includes the geography and manmade structures, as well as the climate and weather in the area of operations
T - Time	Describes the timing and duration of activities, events, or conditions within an operational environment, as well as how the timing and duration are perceived by various actors in the operational environment

Ref: ADRP 5-0, The Operations Process, table 1-1, p. 1-7.

The following table provides medical factors for consideration in relation to the operational variables. This table is not all-inclusive but does provide some initial considerations.

Variable	Factors	Medical Aspects
Political	• Legitimacy. • Responsibility. • Ideas. • Beliefs. • Actions. • Control. • National will.	• Health status of population. • Public health issues. • Accessibility to health care. • Nutritional status of the population and/or subgroups of the population.
Military	• Equipment. • Manpower. • Doctrine. • Training levels. • Resource constraints. • Leadership. • Organizational culture. • History. • Nature of civil-military relations.	• Development of military medical infrastructure. • Trauma care capabilities. • Medical evacuation. • Forward surgical capabilities. • Hospitalization capabilities. • Disease and nonbattle injury rates. • Blood supply and blood banking capabilities. • Organic medical assets. • Area medical support capabilities. • Medical equipment and repair. • Medical logistics system. • Behavioral health and treatment of combat stress reactions capabilities. • Rehabilitative and convalescent care capabilities.

Economic	- Industrial organizations. - Trade. - Development (including foreign aid). - Finance. - Monetary policy and conditions. - Institutional capabilities. - Geography. - Legal constraints.	- The economic base can affect health care for both the human and the animal populations in the nation. - The types of injuries and health issues may vary significantly based upon whether it is an agricultural society or an industrialized nation and/or region. This affects the types of health care available including restorative and rehabilitative services and programs and the availability of health care to the populace. - The gross national product and the per capita income of the population affects the availability of resources for the government to expend on public health concerns and health care in general. - When the medical planner examines the economic factors of a nation or region, it is important to determine what influence it has on how much money is expended in the health sector (both private and public) as this will affect health care, medical equipment, and pharmaceuticals availability.
Variable	Factors	Medical Aspects
Social	- Demographics. - Religion. - Migration trends. - Urbanization. - Standard of living. - Literacy and nature of education. - Cohesiveness and activity of cultural, religious, and ethnic groups.	- Age, gender, and genetics affect how individuals are affected by disease and existing environmental factors. - Religion affects how people view medical intervention; it can affect how a person will comply with medical treatment regimes and whether they will accept recommended treatments (such as the use of blood transfusions). - Persons who are uprooted may be more susceptible to disease because of lowered immunity status due to fatigue, restricted food intake, poor living conditions, inadequate shelters, and poor sanitation. - Urbanization can increase the spread of infectious diseases due to inadequate living space, improper ventilation, poor sanitation practices, and lowered immunity. - If public health and disease prevention programs are not instituted, the general health of the population or the affected subpopulation will decrease. - Populations where education and literacy are not widespread will often have a lower standard of living, less appreciation for public health and disease prevention practices, less skilled workers, and be more difficult to reach with public health alerts and programs. - Cultural, ethnic, and religious beliefs often influence who will seek medical care and who will not. Privacy issues may require that consideration of the provider's gender is relevant in addressing women's health issues. - Providers must be cautious in using graphic aids to communicate with their patients, as the explicit graphics may be considered offensive.
Information	- Collect, process, disseminate, or act on information used in decisionmaking. - Conduct, inform, and influence. - Mission command warfare. - Operations security. - Military deception.	- Availability of mass communications enablers for public health warnings, alerts, and information. - Telephones. - Televisions. - Radios. - Newspapers/periodicals. - Computers/e-mail.

Medical Aspects of the Operational Variables (Cont.)

Variable	Factors	Medical Aspects
Infrastructure¹	• Utilities. • Sanitation and public health. • Transportation.	• Availability of electricity and running water. • Number of medical providers (by category). • Numbers of primary, secondary, and tertiary medical treatment facilities. • Status of waste disposal. • Sanitation practices and standards (availability of toilets, showers, and bathing facilities). • Accessibility issues (roads [paved and unpaved], commercial transportation systems [buses, taxis, rail, and air], vehicles and/or pack animals, and natural barriers [mountains, streams, jungles, and deserts]).
Physical environment	• Man-made structures (including urban areas). • Climate and weather. • Topography. • Hydrology. • Natural resources. • Biological features and hazards. • Other environmental conditions.	• Are brick and mortar structures available for use as medical treatment facilities? • Climate and weather effects on— - Disease vectors. - Categories and types of injuries. - Acclimatization issues pertaining to heat, cold, or altitude. - Medical evacuation operations. • Topography and hydrology considerations include— - Character and types of injuries to be encountered. - Natural barriers to medical evacuation. - Lines of patient drift. - Suitable for farming and for grazing animals. • Natural resources to include the availability of medicinal herbs. • Presence of toxic plants and animals and whether they pose a health hazard to deployed troops.
Time	• Anticipated duration of operation.	• Time affects not only the provision of medical care, but also may affect the types of diseases and injuries which may occur. Short duration operations require emphasis on rapidly treating Soldiers with traumatic injuries, while longer duration operations require emphasis on disease prevention and the management of chronic medical conditions.

¹ For a more detailed listing of factors on the medical infrastructure, refer to Tables A-1 and A-2.



Refer to *The Battle Staff SMARTbook (Guide to Designing, Planning & Conducting Military Operations)* for complete discussion of operational and mission variables (PMESII-PT and METT-TC) from ADRP 5-0, as well as operational sub-variables.

I. Joint Logistics Overview

Ref: JP 4-0, Joint Logistics (Jul '08), chap. I. For more information on joint operations, see The Joint Forces Operations & Doctrine SMARTbook.

The Nation's ability to project and sustain military power depends on effective joint logistics. Joint logistics delivers sustained logistic readiness for the combatant commander (CCDR) and subordinate joint force commanders (JFCs) through the integration of national, multinational, Service, and combat support agency (CSA) capabilities. The integration of these capabilities ensures forces are physically available and properly equipped, at the right place and time, to support the joint force. Joint logisticians coordinate sustained logistic readiness through the integrating functions of planning, executing and controlling joint logistic operations.

I. Sustainment as a Joint Function

The six joint functions described in Joint Publication (JP) 3-0, Joint Operations, include Command and Control (C2), Intelligence, Fires, Movement and Maneuver, Protection, and Sustainment. Sustainment is the provision of logistics and personnel services necessary to maintain and prolong operations until successful mission completion. Sustainment in joint operations provides the JFC flexibility, endurance and the ability to extend operational reach. Effective sustainment determines the depth to which the joint force can conduct decisive operations, allowing the JFC to seize, retain, and exploit the initiative. Sustainment is primarily the responsibility of the supported CCDR and subordinate Service component commanders in close cooperation with the Services, CSAs, and supporting commands. Key considerations include employment of logistic forces, facilities, environmental considerations, health service support (HSS), host-nation support (HNS), contracting, disposal operations, legal support, religious support, and financial management. JP 4-0 concentrates on the logistic function of sustainment; the personnel services function can be found in the JP 1-0 series.

II. Joint Logistics

Joint logistics is the coordinated use, synchronization, and sharing of two or more Military Departments' logistic resources to support the joint force. From a national perspective, it can be thought of as the ability to project and sustain a logistically ready joint force through the sharing of Department of Defense (DOD), interagency, and industrial resources. In today's operating environment this will include coordination and sharing of resources from multinational partners, intergovernmental organizations (IGOs) and nongovernmental organizations (NGOs). This provides the JFC the freedom of action necessary to meet mission objectives. It is an essential component of joint operations because the Services, by themselves, seldom have sufficient capability to independently support a joint force. By purposefully combining capabilities, the commander can optimize the allocation of limited resources to provide maximum flexibility to the joint force. It is this kind of interdependence, focused on common outcomes, that delivers sustained logistic readiness.



Refer to The Joint Forces Operations & Doctrine SMARTbook (Guide to Joint, Multinational & Interagency Operations) for complete discussion of joint operations. Topics include joint doctrine fundamentals, joint operations, joint operation planning, joint logistics, joint task forces, information operations, multinational operations, and IGO/NGO coordination.

III. The Joint Logistics Environment (JLE)

Ref: JP 4-0, *Joint Logistics* (Jul '08), pp. I-4 to I-5.

Political and military leaders conduct operations in a complex, interconnected, and increasingly global operational environment. This environment is characterized by uncertainty and surprise. Operations are also distributed and conducted rapidly and simultaneously across multiple joint operations areas (JOAs) within a single theater or across boundaries of more than one geographic combatant commander (GCC) and can involve a large variety of military forces and multinational and other government organizations. The joint logistics environment (JLE) exists within this operational environment and consists of the conditions, circumstances and influences that affect the employment of logistic capabilities. It exists at the strategic, operational, and tactical levels of war; and includes the full range of logistic capabilities, stakeholders, and end-to-end processes.

Physical Domains

Joint logistics takes place within the physical domains of air, land, maritime, and space. Service components provide the expertise within these domains and the JFC and staff focus on leveraging and integrating those capabilities.

Information Environment

The global dispersion of the joint force and the rapidity with which threats arise have made real-time or near real-time information critical to support military operations. Joint logistic planning, execution, and control depend on continuous access to make effective decisions. Protected access to networks is imperative to sustain joint force readiness and allow rapid and precise response to meet JFC requirements.

Levels of War

Joint logistics spans all levels of war. It is, however, at the tactical level where the principal outcome - sustained logistic readiness - of joint logistics must be measured.

1. Strategic

At the strategic level, joint logistics is characterized by the vast capacity of the Nation's industrial base, both government and commercial. The Nation's ability to project and sustain military power comes from the strategic level; it enables sustained military operations over time and represents one of our Nation's greatest strengths. At this level, modern, clearly defined, well-understood and outcome-focused processes should drive effectiveness across joint, Service, agency, and commercial organizations. These global processes combined with agile force positioning are fundamental to optimizing joint logistics and critical to the Nation's ability to maintain flexibility in the face of constantly changing threats.

2. Operational

At the operational level, joint logistics has its most significant impact. It is at the operational level that strategic and tactical capabilities, processes, and requirements intersect, and it is here where the essence of joint logistics resides. Joint logisticians at this level must integrate or coordinate national, DOD, combatant command, Service and functional components, multinational, interagency and other partner capabilities, and HNS, with the JFC's tactical requirements. Joint and Service logistics fuse at the operational level. Logisticians face their greatest challenge at the operational level because of the difficulty of coordinating and integrating capabilities from many providers to sustain logistically ready forces for the JFC.

3. Tactical

The tactical level represents that part of the operational environment where outcomes are realized. At the tactical level, logistic support is Service-oriented and executed. Organizations operating at the tactical level are focused on planning and executing those operations, engagements, and activities to achieve assigned military objectives. Tactical units require sustained logistic readiness to meet assigned objectives. Sustained logistic readiness results from the cumulative efforts of Service, agency, and other providers across the entire JLE.

Global Relationships

The JLE is bound together by a web of relationships among global logistic providers, supporting and supported organizations and units, and other entities. The key global providers in the JLE are the Services, the Defense Logistics Agency (DLA), and United States Transportation Command (USTRANSCOM).

See JP 4-0, Appendix A, Joint Logistic Roles and Responsibilities, for a listing of logistic-related roles and responsibilities of the Services, CSAs, and commands.

Integrating Functions

Sustained logistic readiness is driven by the effective and efficient delivery of joint logistics through coordinating and integrating Service, agency, and other capabilities to meet the supported commander's requirements. To achieve this level of integration, commanders and their staffs, especially logisticians, must be able to: effectively and efficiently plan, execute, control, and assess joint logistic operations.

1. Planning

Planning joint logistic support links the mission, commander's intent, and operational objectives to core logistic capabilities, procedures and organizations. Joint logistic planning defines joint processes to establish an effective concept for logistic support. Effective planning among the combatant commands, Services, CSAs, and other government and nongovernment agencies is essential to enable integration and visibility across the operational environment. Obtaining and understanding joint requirements for supplies and services is vital to supporting the deployment, employment, and redeployment of forces and equipment.

See pp. 5-7 to 5-12 for further discussion of planning joint logistic support.

2. Executing

Executing joint logistics involves the employment of capabilities and resources to support joint and multinational operations. The joint logistician must be able to assess and respond to requirements by monitoring dynamic situations and providing accurate feedback to subordinates and decision makers. The joint logistician must determine the proper balance of efficiency and effectiveness in processes being executed, and remain flexible to employ new methods as the environment changes.

See pp. 5-13 to 5-16 for further discussion of executing joint logistic operations.

3 Controlling

Effective control of joint logistic operations results from the exercise of authority and direction for the sustained logistic readiness of the joint force. This integrating function includes choosing organizational options to best execute effective joint logistic operations.

See pp. 5-17 to 5-24 for further discussion of controlling joint logistic operations.

IV. Joint Logistics Imperatives

Ref: JP 4-0, *Joint Logistics* (Jul '08), pp. I-7 to I-8.

The value of joint logistics can be determined by how well three imperatives are attained: unity of effort, JLE-wide visibility, and rapid and precise response. These imperatives define the desired attributes of a federation of systems, processes, and organizations that effectively adapt within a constantly changing environment to meet the emerging needs of the supported CCDR.

1. Unity of Effort

In accordance with JP 1, Doctrine for the Armed Forces of the United States, unity of effort is the coordination and cooperation toward common objectives, even if the participants are not necessarily part of the same command or organization - the product of successful unified action. For joint logisticians this is the synchronization and integration of logistic capabilities focused on the commander's intent and is the most critical of all joint logistic outcomes. To achieve unity of effort, joint logisticians must develop a clear understanding of how joint and multinational logistic processes work; know the roles and responsibilities of the providers executing tasks in those processes; build agreement around common measures of performance (MOPs) (process outcomes); and ensure appropriate members of the JLE have visibility into the processes.

2. JLE-Wide Visibility

JLE-wide visibility is having assured access to logistic processes, resources, and requirements to gain the knowledge necessary to make effective decisions. JLE-wide visibility provides the means to optimize logistic capabilities to maximize outcomes, increase readiness, and build confidence in joint logistics. It provides access to authoritative information and enables the user to respond quickly to the CCDR's changing needs. Visibility fundamentally answers the CCDR's questions, "Where is it?" "How will it get there?" and "When will it get there?"

3. Rapid and Precise Response

Rapid and precise response is the ability of the core logistic capabilities, military and commercial, to meet the constantly changing needs of the joint force. The effectiveness of joint logistics can be measured by assessing the following attributes, or key performance indicators:

- **Speed** is at the core of responsiveness. Speed does not mean everything moves at the same rate or fastest rate, but everything moves according to priority at the rate that produces the most effective support to the joint force.
- **Reliability** is reflected in the dependability of the global providers to deliver required support when promised. Reliability is characterized by a high degree of predictability, or time-definite delivery of support. Time-definite delivery is the consistent delivery of requested logistic support at a time and destination specified by the requiring activity.
- **Efficiency** is directly related to the amount of resources required to deliver a specific outcome. In the tactical and operational environments, inefficiency increases the logistic footprint and increases force protection requirements and risk. At the strategic level, inefficiency increases the cost for a unit of process outcome.

The joint logistics imperatives enable the measurement of our ability to provide sustained logistic readiness. The essence of these imperatives guide joint logisticians in the performance of the three integrating functions needed for successful joint logistic operations.

II. Core Logistics Capabilities

Ref: JP 4-0, Joint Logistics (Jul '08), chap. II and pp. I-10 to I-12.

Joint logistics can be described in terms of the capabilities it delivers. These capabilities enable achievement of objectives (ends) through combinations of functions (ways) executed by the people and processes (means) within a broad range of conditions and to a specified set of standards. Joint logistics, in the larger sense, can best be understood as a joint capability area. The ways of joint logistics are its core logistic capabilities: supply, maintenance operations, deployment and distribution, HSS, engineering, logistic services, and operational contract support. Each of these capabilities includes the people, processes, and resources required to conduct joint logistics.

Core Logistic Capabilities

Core Capabilities	Functional Capabilities
Supply	- Manage Supplies and Equipment - Inventory Management - Manage Supplier Networks
Maintenance Operations	- Depot Maintenance Operations - Field Maintenance Operations - Manage Life Cycle Systems Readiness
Deployment and Distribution	- Move the Force - Sustain the Force - Operate the Joint Deployment and Distribution Enterprise
Health Service Support	- Casualty Management - Patient Movement - Medical Logistics - Preventive Medicine and Health Surveillance - Theater Medical Information
Engineering	- Combat Engineering - General Engineering - Geospatial Engineering
Logistic Services	- Food Service - Water and Ice Service - Base Camp Services - Hygiene Services
Operational Contract Support	- Contract Support Integration - Contract Management

Ref: JP 4-0, Joint Logistics, fig. I-3, p. I-10.

Core logistic capabilities provide a framework to facilitate integrated decisionmaking, enable effective synchronization and allocation of resources, and optimize joint logistic processes. The challenges associated with support cut across all core logistic capabilities – especially when multiple joint task forces (JTFs) or multinational partners are involved. The core logistic capabilities are supply, maintenance operations, deployment and distribution, HSS, engineering, logistic services, and operational contract support. The core logistic capabilities must be integrated within a complex operational environment, bridging the strategic sustaining base of the Nation to the tactical environment where outcomes are measured. An important objective for logisticians at the operational level is to set the conditions for tactical level logisticians to achieve success.

Core Logistics Capabilities

Ref: JP 4-0, Joint Logistics (Jul '08), pp. I-10 to I-12.

1. Supply

Operations that include identifying requirements, selecting supply sources, scheduling deliveries, receiving, verifying and transferring product, inspection and acceptance, and authorizing supplier payments. It includes the following functions: management of supply operations, inventory management and the mgmt of DOD's supplier networks.

2. Maintenance Operations

Operations that encompass key functions executed by the Services to deliver systems readiness and enable the JFC's freedom of action. Field maintenance operations are focused on rapidly returning systems to the user. Depot maintenance operations are focused on rebuilding/repairing systems and components to sustain long-term life cycle readiness. Total life cycle systems management is focused on the readiness and the integrated control of systems' long-term health by maximizing availability and reliability of systems at best value to the Military Departments.

3. Deployment and Distribution

Deployment and Distributions operations include planning, coordinating, synchronizing, moving forces, and sustainment, and operating the Joint Deployment and Distribution Enterprise (JDDE) in support of military operations. Distribution capabilities are a part of joint logistics, while the full range of deployment activities are a series of operational events enabled by logistics. The portion of deployment that falls within the logistics capabilities is the movement of forces and materiel.

4. Health Service Support

Services that promote, improve, conserve, or restore the mental or physical well-being of personnel. These services include, but are not limited to, the management of health services resources, such as manpower, monies, and facilities; preventive and curative health measures; evacuation of the wounded, injured, or sick; selection of the medically fit and disposition of the medically unfit; blood management; medical supply, equipment, and maintenance thereof; combat stress control; and medical, dental, veterinary, laboratory, optometry, nutrition therapy, and medical intelligence services.

5. Engineering

Operations that assure mobility, provide the infrastructure necessary to position, project, protect and sustain the joint force, and enhance visualization of the operational area across the full range of military operations. Operational engineering is the integration of combat, general, and geospatial engineering to meet requirements.

6. Logistic Services

Operations that are essential to the technical management and support of the joint force. Logistics Services includes food, water and ice, base camp, and hygiene services in an expeditionary environment.

7. Operational Contract Support

Operations that provide the ability to orchestrate and synchronize the provision of integrated contract support and management of contractor personnel providing that support to the joint force in a designated operational area. As indicated, the major functional capabilities are support integration and contractor (personnel) management. Contract support integration gives the CCDR the ability to synchronize and integrate contract support in support of mission requirements. Contractor management provides the CCDR with the ability to manage and maintain visibility of the associated contractor personnel in the designated operational area.

III. Planning Joint Logistics

Ref: JP 4-0, Joint Logistics (Jul '08), chap. III. See also chap. 4, Sustainment Planning.

The demands and complexities of global operations require that joint logistic planning be an integral part of all planning activities to deliver adaptive, integrated, and synchronized joint logistic support. Effective planning enables logisticians to anticipate requirements, and validate, synchronize and integrate them with available resources to minimize duplication of effort, resolve shortfalls, mitigate risk and ensure effective support of CCDR requirements. Joint logistic planning includes the identification of roles, responsibilities, key tasks and resources, along with the sequencing of logistical capabilities to meet the commander's intent. Effective joint logistics planning identifies future requirements and proposes solutions; it requires joint logisticians to clearly understand the commander's intent and concept of operation. The objective of joint logistic planning is to fully integrate support planning and operations. The more integrated the logistics plan is with the operational concept, the more effective the overall operation will be.

I. Planning Functions

Planning translates strategic guidance and direction into executable OPLANs and operation orders (OPORDs) for contingency or crisis action response. Planning is initiated from a continuous awareness of global events, recognition of the need for a prepared military response to support the National Security Strategy (NSS), and follows a collaborative, iterative planning process. From a logistician's perspective it is important for the operations planners to understand the capabilities and limitations of their apportioned core logistic capabilities. The joint logistician is deeply involved in each of the planning functions and can use the principles of logistics to assist in preparing the logistic plan to support the CCDR's mission.

A. Strategic Guidance

At the CCDR level, planning begins with the receipt of strategic guidance or a planning directive and continues as the CCDR develops a mission statement. This JOPES planning function relates to the first two JOPP steps (Initiation and Mission Analysis). The staff's planning activities initially focus on mission analysis, which develops information to help the commander, staff, and subordinate commanders understand the situation and mission. Planning activities include identifying assumptions, planning forces, mission and desired end state. Logisticians identify critical logistical assumptions. During mission analysis joint logisticians must provide critical information to operations planners on the guidance contained in strategic logistical documents such as the Joint Strategic Capabilities Plan (JSCP) (Mobility and Logistic supplements) and related or supplemental publications. Additionally, detailed information on airfields, seaports, road, rail, and bridging capabilities and other critical infrastructure.

B. Concept Development

This JOPES planning function relates to the following JOPP steps: COA Development, COA Analysis and Wargaming, COA Comparison, and COA Approval. The staff develops, analyzes, and compares valid COAs and develops staff estimates that are coordinated with the CSAs, and JPEC when applicable. The output is an approved COA along with common understanding of the enemy situation, interagency coordination requirements, multinational involvement (if applicable), and capabil-

ity requirements. Logistic planners coordinate and integrate planning efforts with operational planners so that sustainment requirements are an integral part of COA development. The logistician identifies requirements and critical items and services needed and must be fully aware of force structure planning, time-phased force and deployment data (TPFDD) development and joint reception, staging, onward movement, and integration (JRSOI) requirements as they commence development of concepts of support (addressing supply, maintenance operations, deployment and distribution, HSS, engineering, logistic services, and operational contract support) to meet sustainment requirements from theater entry and operations, to redeployment and reset.

C. Plan Development

During the plan development function, the CCDR's staff will create a detailed OPLAN, OPORD, or operation plan in concept format (CONPLAN), with required annexes. The supported CCDR, staff and subordinate commanders, and supporting commanders conduct a number of different planning activities to include: force planning, support planning, nuclear strike, deployment planning, shortfall identification, feasibility analysis, refinement, documentation, plan review and approval, and supporting plan development. A clear understanding of the concept of operations (CONOPS) is essential to the joint logistician's ability to meet joint force requirements. Because logistic support is provided through a variety of different organizations, joint logistic planning must provide the integration mechanism to unify all sources of support. The joint logistic concept of support specifies how capabilities will be delivered over time, it identifies who is responsible for delivering a capability, and it defines the critical logistical tasks necessary to achieve objectives during the phases of the operation. The logistic concept of support coordinates the capabilities of joint, multinational, host nation, interagency, IGO, NGO, plus Active Component and Reserve Component forces.

Two planning activities logisticians are most involved in are:

1. Support Plan Development

The purpose of support planning is to determine the sequence of the personnel, logistics, and other support required to provide supply, maintenance operations, deployment and distribution, HSS, engineering, logistic services and operational contract support in accordance with the CONOPS.

See following pages (pp. 5-10 to 5-11) for discussion of support plan development.

2. Joint Logistic Concept of Support

The deliverable product at the conclusion of plan development is a completed joint logistic concept of support which resides in the base plan and logistic annex to an OPLAN/OPORD.

CCDRs follow the guidelines for contingency planning in Enclosure CJCSM 3122.03C, JOPES, Volume II, Planning Formats.

D. Assessment (Plan Refinement, Adaptation, Termination, or Execution)

The supported commander extends and refines planning while supporting and subordinate commanders complete their plans. Branch plans and other options continue to be developed. The CCDR and staff continue to evaluate the situation for any changes that would trigger plan refinement, adaptation, termination, or execution.

II. Principles of Logistics

Ref: JP 4-0, Joint Logistics (Jul '08), pp. III-3 to III-4. See also p. 1-4.

Logisticians use the principles of logistics as a guide for analytical thinking when assessing COAs or plans/orders. These principles are not a set of rigid rules, nor do they apply in every situation.

1. Responsiveness

Responsiveness is providing the right support when it is needed and where it is needed. Responsiveness is characterized by the reliability of support and the speed of response to needs of the joint force. Responsiveness is enhanced by visibility commanders need to see where their support is and when it will arrive.

2. Simplicity

Simplicity is defined as a minimum of complexity in logistic operations. Complexity introduces confusion into an already chaotic environment. Simplicity fosters efficiency in planning and execution, and allows for more effective control over logistic operations. Clarity of tasks, standardized and interoperable procedures, and clearly defined command relationships contribute to simplicity. Simplicity is a way to reduce the "fog of war" or the friction caused by combat.

3. Flexibility

Flexibility is the ability to improvise and adapt logistic structures and procedures to changing situations, missions, and operational requirements. Flexibility is reflected in how well logistics responds in an environment of unpredictability. Where responsiveness is a commander's view of logistic support, flexibility is a logistician's view of being responsive.

4. Economy

Economy is achieved when support is provided using the fewest resources within acceptable levels of risk. At the tactical and operational levels, economy is reflected in the number of personnel, units and equipment required to deliver support. Among the key elements of the logistic principle of economy is the identification and elimination of unnecessary duplication and redundancy.

5. Attainability

Attainability is the assurance that the minimum essential supplies and services required to execute operations will be available. Attainability is the point at which the CCCR or subordinate JFC judges that sufficient supplies, support, distribution capabilities, and LOC capacity exist to initiate operations at an acceptable level of risk. It is also that point at which logistic capabilities exist at a level that will allow the transition of operations between phases.

6. Sustainability

Sustainability is the ability to maintain the necessary level and duration of operational activity to achieve military objectives. Sustainability is a function of providing for and maintaining those levels of ready forces, materiel, and consumables necessary to support military effort. Sustainability is focused on the long-term objectives and requirements of the supported forces.

7. Survivability

Survivability is the capacity of an organization to prevail in the face of potential threats. To ensure continuity of support critical logistic infrastructure must be identified and plans developed for its protection. Survivability is directly affected by dispersion, design of operational logistic processes and the allocation of forces to protect critical logistic infrastructure.

III. Support Plan Development

Ref: JP 4-0, *Joint Logistics* (Jul '08), pp. III-7 to III-10.

The purpose of support planning is to determine the sequence of the personnel, logistics, and other support required to provide supply, maintenance operations, deployment and distribution, HSS, engineering, logistic services and operational contract support in accordance with the CONOPS. Support planning is conducted in parallel with other planning, and encompasses such essential factors as EA identification; assignment of responsibility for base operating support; airfield operations; HSS; aeromedical evacuation; personnel services; handling of prisoners of war and detainees; theater general engineering policy; logistic-related environmental considerations; support of noncombatant evacuation operations and other retrograde operations; disposal; and nation assistance.

Support planning is primarily the responsibility of the Service component commanders and begins during CONOPS development. Service component commanders identify and update support requirements in coordination with the Services, DLA, and USTRANSCOM. They initiate the procurement of critical and low-density inventory items; determine HNS availability; develop plans for asset visibility; and establish phased delivery plans for sustainment in line with the phases and priorities of the CONOPS. They develop plans for battle damage repair; retrograde of repairables; container management; force and LOC protection; and transportation and support that are aligned with the CONOPS. Service component commanders continue to refine their sustainment and transportation requirements as the force providers identify and source force requirements.

During distribution planning, the supported CCDR and USTRANSCOM resolve gross distribution feasibility questions impacting intertheater and intratheater movement and sustainment delivery. USTRANSCOM and other transportation providers identify air, land, and sea transportation resources to support the approved CONOPS. These resources may include apportioned intertheater transportation, GCC-controlled theater transportation, and transportation organic to the subordinate commands. USTRANSCOM and other transportation providers develop transportation schedules for movement requirements identified by the supported commander. A transportation schedule does not necessarily mean that the supported commander's CONOPS is transportation feasible; rather, the schedules provide the most effective and realistic use of available transportation resources in relation to the phased CONOPS. Mobilization planning includes two processes: the military mobilization process by which the Nation's Armed Forces are brought to an increased state of readiness, and the national mobilization process of mobilizing the national economy to meet non-defense needs as well as sustaining the Armed Forces across the range of military operations.

A. Transportation Feasibility

Transportation refinement simulates the planned movement of resources that require lift support to ensure that the plan is transportation feasible. The supported commander evaluates and adjusts the CONOPS to achieve end-to-end transportation feasibility if possible, or requests additional resources if the level of risk is unacceptable. Transportation feasibility determination will require concurrent analysis and assessment of available strategic and theater lift assets, transportation infrastructure, and competing demands and restrictions.

B. Logistics Supportability Analysis (LSA)

The LSA, as outlined in CJCS Instruction (CJCSI) 3110.03C, Logistics Supplement to the Joint Strategic Capabilities Plan (JSCP), provides a broad assessment of core logistic capabilities required to execute the CCDR plans. The LSA is a critical plan assessment tool that seeks to define the total unconstrained logistical requirement for execution of a CONOPS. The LSA findings should highlight deficiencies and their associated risk to supporting theater operations.

The LSA assesses each core logistic capability, and is usually accomplished as part of plan development and updated during plan assessment:

- **Critical Items.** Critical supplies and materiel must be identified early in the planning process. Critical items are supplies vital to the support of operations that are in short supply or are expected to be in short supply. Critical items may also be selected mission-essential items that are available but require intense management to ensure rapid resupply for mission success.
- **Limitations.** Logistic planners must understand the limiting factors affecting deployment, sustainment, and redeployment degrading the ability to support a campaign or OPLAN. Identifying limitations en route to or within the theater is the first step in coordinating activities to avoid overloading LOCs. Traditionally, limited unloading capacities at ports and airfields, lack of asset visibility, and limited inland transportation have constrained the operational reach of combat forces.
- **Logistic Outsourcing.** Planning for the use of contracted capabilities is a complex undertaking. It must address both contracting capability and the management of contractor personnel. Planning for contract support is complicated by the fact that support flows from inside and outside the theater. Detailed planning should be done for both contracting support (contracting support plan) and contractor (personnel) integration (either integrated into appropriate functional areas of the plan or in a separate contractor integration plan annex). Such plans need to be at a level of detail appropriate to ensure contract support is fully integrated and on par with forces planning (e.g., in TPFDD). Planning should identify sources of supplies and services from civilian sources and integrate them with operational requirements. Contract support in a JOA is provided by theater support, external support (e.g., Navy fleet husbanding support and Defense Energy Support Center [DESC] fuels contracts), and systems support contracts. Note: Refer to JP 4-10, Operational Contract Support, for additional information.
- **Threat.** Logistic units and installations are also high-value assets that must be safeguarded by both active and passive measures. Active measures must include a defense plan for logistics with provisions for reinforcement and fire support. Passive measures include dispersion, physical protection of personnel and equipment, deception, and limiting the size of an installation to what is essential for the mission. Although the physical environment will most often only degrade logistic capabilities rather than destroy them, it must be considered when planning. Logistic operations are particularly vulnerable to weapons of mass destruction (WMD) that deny, temporarily hamper, or restrict the use of critical infrastructure (e.g., aerial ports and seaports of embarkation, APODs/SPODs) and prepositioned assets. Survivability in a CBRN environment presents additional challenges and will dictate planning for dispersion and the allocation of protective forces at critical nodes of the logistic infrastructure – particularly within the theater. Decentralization and redundancy are critical to the safety of the logistic system.

C. Logistics Synchronization Matrix

One product of detailed planning is a synchronization matrix, which allows the CCCR and his staff to display many of the known activities of the operation by phases, functional areas and operating systems. It also allows the CCCR to assign responsibility for task accomplishment and identify metrics for future execution monitoring. The joint logistic concept of support is synchronized with the OPLAN. Particular attention is given to linking critical joint logistical tasks and responsibilities to key operational objectives and vice versa. The joint logistician develops his own logistic synchronization matrix (or decision support tool) as part of joint logistic detailed planning, which can assist in identifying logistical requirements matched to force deployment and sustainment actions, operational phasing, scheme of maneuver, and the generation of logistic theater capabilities.

IV. Joint Logistic Planning Considerations

Ref: JP 4-0, *Joint Logistics* (Jul '08), pp. III-11 to III-14.

Military operations require specific logistical support starting at the strategic level in the national industrial base and ending at the tactical level where required sustainment is delivered on time, at the right place, in the right quantity. The principal focus of joint logistic planning is at the operational level. The challenge for logisticians is to link strategic resources to tactical unit requirements. Joint logistic planning is the accurate identification of future requirements and the development of a scheme or method of meeting those requirements through the synchronization of logistic capabilities and resources in time and space. The objective of joint logistic planning is to fully integrate and coordinate support and operational execution to ensure sustained operational readiness of the joint force.

Organizing for Joint Logistic Planning

Operations and logistics are inseparable. After the execution of a joint operation, the CCCR's planning generally occurs in three distinct but overlapping timeframes and organizational elements: future plans, future operations, and current operations. Logisticians may not be on any planning cell on a full time basis, however, a coordinated staff battle rhythm, information technology, and staff management may facilitate support to the numerous planning or coordination cells. Operations and logistics are most effectively integrated as part of a collaborative planning process that includes subordinate component commands, supporting commands and global providers. Collaborative, inclusive planning helps prevent unnecessary duplication or overlap of logistical functions among the Service component commands, and ensures early identification of risks associated with shortfalls in support capabilities.

Demands of an Expanding Force

Execution of an OPOD or campaign plan or response to a crisis may be accompanied by general expansion of the Armed Forces of factors based on the mission and environment and maintain the flexibility to adjust planning factors and resupply methods as circumstances dictate. Historically, demand for items increases faster than the supply system can provide, and special management actions might become necessary. To anticipate campaign priorities, planners must: provide instructions or guidance for redistributing common-use assets from low to high-priority organizations within the command; obtain assets from external sources with lower priority needs; control the allocation of new assets in short supply; and provide efficient means to retrograde, repair, and then reissue critical items.

Balancing Push and Pull Resupply

Automatic (push) resupply works best for commodities and classes of materiel with constant usage rates (e.g., rations). It is particularly useful for establishing and maintaining the stocks of common-user items, which may then be distributed within the theater. Requisitioning (pull) is preferable for variable usage rate requirements (e.g., repair parts). Properly used and regulated, a combination of push and pull resupply will reduce unused or wasted space by adding predictability as well as combining compatible loads, thus resulting in a more effective as well as more efficient use of transportation assets and the logistic footprint in-theater. Current logistic initiatives are designed to further reduce the logistic footprint, increase the velocity and visibility of resupply, and emphasize pull resupply for maximum efficiency. In this regard, planners must realize that for certain commodities such as repair parts and major end-items, the Services have oriented their logistic system to a pull system, heavily reliant on information systems and a rapid, time-definite distribution system.

IV. Executing Joint Logistics

Ref: JP 4-0, Joint Logistics (Jul '08), chap. IV.

The term "executing joint logistics" is used to describe actions and operations conducted by joint logistic forces in support of the JFC mission. Force reception, theater distribution, and MA are examples of joint logistic operations. Since joint logistic operations span the strategic, operational, and tactical levels, the transition from planning to execution is critical. In today's ever-changing operating environment, planning and executing operations often occur simultaneously. Even though these two functions may be running concurrently, it is critical that planning outputs serve as inputs to the execution function.

I. Joint Logistic Execution

JFCs must be able to adapt to evolving mission requirements and operate effectively across a range of military operations. These operations differ in complexity and duration. The joint logistician must be aware of the characteristics and focus of these operations and tailor logistical support appropriately. This range of military operations extends from shaping activities to major operations and campaigns. Joint logisticians must have a general understanding of the diversity, range, and scope of military operations and understand their role in each type of operation.

A. Military Engagement, Security Cooperation, and Deterrence

Shaping activities include military engagement, security cooperation, and deterrence. Developing mutually supportive relationships to enhance coordination between regional partners and CCDRs is an important enabler for joint logistic operations. The US and multinational partners collaborate in order to expand mutual support and leverage each others' capabilities to quickly respond to future contingencies. Effective joint logistic operations in peacetime provide the foundation for an expanded role in later crisis and provide additional warfighting flexibility. Specific issues that can be addressed in peacetime include:

- Securing interagency approvals and permissions, normally through the country team
- Address partner nation (PN) and regional sensitivities, changing politics, and overall stability
- Determining optimal presence and posture: Persistent DOD presence in other nations is generally less supported by both country teams and partner nation governments. Maintaining a low visibility signature to US DOD presence and activities is often the only way we can secure requisite interagency and PN permissions. In some instances, interagency and/or PN desires/mandates not only limit/restrict US military presence, but also apply to US civilian contractors.
- Developing formal agreements/permissions between the US and many developing nations (e.g., status-of-forces agreements, ACSAs, etc.): US law and military regulations often involve long approval processes and restrictions on the types of funding authorized.

B. Crisis Response and Limited Contingency Operations

Crisis response and limited contingency operations are usually single, small-scale, limited-duration operations. Many of these operations involve a combination of military forces and capabilities in close cooperation with other government agencies, IGO and NGO elements. Logisticians must understand multinational and interagency logistical capabilities and coordinate mutual support, integrating them into the joint operation when appropriate. Efforts during peacetime shaping operations to develop partner capacities can pay dividends in these types of operations. Many crisis response missions, such as foreign humanitarian assistance and disaster relief operations, require time-sensitive sourcing of critical commodities and capabilities, and rapid delivery to the point of need. In these operations, joint logistics is most often the main effort. Civil support refers to the unique DOD ability to provide support to civil authorities. DOD responds to requests for support under the National Response Framework to civilian authorities. Upon approval by the SecDef, or at the direction of the President, DOD resources may be used to support federal, state, local, and tribal authorities. These operations frequently involve supplying food and water, providing medical support, aeromedical evacuation, creating temporary shelter, providing contracting support, conducting distribution operations and assisting in the evacuation of the populace. In the event of an incident involving CBRN or high-yield explosives, joint logistics operations may also involve providing specific consequence management support, such as emergency clearance of debris and restoration of essential public services. For other capabilities, such as MA, state and local medical examiners or coroners normally maintain jurisdiction. When this is the case, DOD should be prepared to support as needed.

C. Major Operations or Campaigns

Major operations or campaigns typically involve the deployment, sustainment, and retrograde of large combat forces. Joint logisticians develop support plans for the duration of the operation, as well as the return of equipment to CONUS or other locations. These plans often leverage contractor support to alleviate logistical capability shortfalls. The primary challenges for logisticians during these types of operations are gaining visibility of the requirements, sensing competing priorities and adjusting continuously as the situation unfolds to ensure sustained readiness over time. A critical planning requirement during major operations is to plan for the transition to phase IV (Stability), and phase V (Enable Civil Authority), where logisticians will have competing requirements to include supporting stability operations, providing basic services and humanitarian relief, and assisting reconstruction efforts, while redeploying a large number of forces and equipment. The retrograde of contaminated materiel will require special handling to control contamination and protect the force and mission resources from CBRN hazards.

D. Concluding Joint Logistic Operations

Joint logistic operations are always ongoing, but it is possible that some logistic operations could be complete before the operation has been completed. For example, force reception operations could be complete when forces have moved to the tactical assembly area, have been placed under the control of the commander for integration and employment, and no other forces are flowing into the JOA. It is important for joint logisticians to monitor these transitional activities and ensure logistical resources used for the completed actions are either given new tasks, or the resources are redeployed back to home station. When operations are complete, joint logisticians should participate in the lessons learned process to review processes, roles, authorities, and the execution of the operation.

II. Framework for Joint Logistics

Ref: JP 4-0, *Joint Logistics* (Jul '08), pp. IV-3 to IV-5.

The CCDR's logistic staff must be able to rapidly and effectively transition from peace-time/planning activities to monitoring, assessing, planning, and directing logistic operations throughout the theater. This transition may occur through the directed expansion of the joint logistics operations center (JLOC) and/or the CCDR's joint deployment and distribution operations center (JDDOC). The CCDR's or JFC's staff is augmented (either physically or virtually) with representatives from Service components, US-TRANSCOM and other supporting CCDRs, CSAs, and other national partners or agencies outside the command's staff. For example, each GCC has established a JDDOC to synchronize and optimize the flow of arriving forces and materiel between the inter-theater and intratheater transportation. As the operational tempo increases during a contingency or crisis, additional joint logisticians and selected subject matter experts (maintenance, ordnance, supply, etc.) can augment JDDOCs and use established networks and command relationships instead of creating new staffs with inherent startup delays and inefficiencies. This expanded organization must be organized and situated to ensure increased coordination and synchronization of requirements in the deployment and distribution process. This organization must have clear roles and responsibilities between the various elements and clearly understood relationships between the logistical elements and the combatant command staff.

- **Technology.** Logisticians use a variety of automated tools to assist in planning and execution.
- **Achieving Situational Awareness.** A role of the joint logistician is to support the CCDR in achieving situational awareness in order to make decisions, and disseminate and execute directives. Maintaining situational awareness requires maintaining visibility over the status and location of resources, over the current and future requirements of the force, and over the joint and component processes that deliver support to the joint force.
- **Battle Rhythm.** The combatant commander will establish a battle rhythm for the operation along with mechanisms for establishing and maintaining visibility for all functional areas, to include logistics. The joint logistician must develop a supporting battle rhythm for the sustainment staff that builds off the JFC battle rhythm.
- **Joint Logistic Boards, Offices, Centers, Cells, and Groups.** See following page (p. 5-16) for further discussion.
- **Synchronization Matrix.** A synchronization matrix or decision support tool/template serves to establish common reference points to help assess the progress of an operation. Joint logisticians may use a matrix to assess expected progress against actual execution and recommend adjustments as needed. A logistic synchronization matrix is built around the concept of the operation, and normally contains the phasing of the operation over time along the horizontal axis. The vertical axis normally contains the functions that the joint logistician is responsible to integrate as part of a concept of support.
- **Commander's Critical Information Requirements (CCIR).** Joint logisticians must ensure that CCIRs are a part of every operational update, and must ensure that functions, resources or processes directly linked to CCIRs are given highest priority. Operational adjustments or branch plans may be necessary if CCIRs cannot be collected to ensure mission success. Joint logisticians will most often use friendly forces information requirements to guide decision making, those requirements are often a direct reflection of resources (force availability, unit readiness, or materiel availability).

III. Joint Logistic Boards, Offices, Centers, Cells, and Groups

Ref: JP 4-0, Joint Logistics (Jul '08), app. C.

There are a number of logistic boards, offices, centers, cells, and groups that reside at the strategic and operational levels that can be used to resolve joint logistic issues during operations. These enduring or temporary organizations may be staffed on a permanent, full time basis, such as the JLOC at the Joint Staff J-4, or on a temporary basis, to resolve specific strategic and operational gaps, shortfalls, or the impact of competition with another supported commander's concurrent operations.

1. Strategic-level Boards, Offices, and Centers

Strategic-level joint logistic boards, offices, and centers provide advice or allocation recommendations to the CJCS concerning prioritizations, allocations, policy modifications or procedural changes.

- Joint Materiel Priorities and Allocation Board (JMPAB)
- Joint Transportation Board (JTB)
- Joint Logistics Operations Center
- Deployment and Distribution Operations Center (DDOC)
- Defense Health Board (DHB)
- Defense Medical Standardization Board (DMSB)
- Global Patient Movement Requirements Center (GPMRC)
- Armed Services Blood Program (ASBP)

2. Operational Joint Logistic Boards, Centers, and Cells

Operational level joint logisticians must provide advice and recommendations to the supported CCDR concerning prioritizations, allocations, or procedural changes based upon the constantly changing operational environment.

- Joint Logistics Operations Center
- Joint Deployment and Distribution Operations Center
- Combatant Commander Logistic Procurement Support Board (CLPSB)
- Joint Acquisition Requirements Board (JARB)
- Joint Civil-Military Engineering Board (JCMEB)
- Joint Environmental Management Board (JEMB)
- Joint Facilities Utilization Board (JFUB)
- Logistics Coordination Board
- Theater - Joint Transportation Board (T-JTB)
- Joint Movement Center (JMC)
- Theater Patient Movement Requirements Center (TPMRC)
- Joint Patient Movement Requirements Center (JPMRC)
- Joint Blood Program Office (JBPO)
- Joint Petroleum Office (JPO)
- Sub-area Petroleum Office
- Joint Mortuary Affairs Office (JMAO)
- Explosive Hazards Coordination Cell (EHCC)

V. Controlling Joint Logistics

Ref: JP 4-0, Joint Logistics (Jul '08), chap. V.

Control of joint logistics involves organizing the joint staff and operational level logistic elements and their capabilities to assist in planning and executing joint logistic support operations, integrating and synchronizing responsibilities, designating lead Service responsibilities and developing procedures to execute the CCDR's directive authority for logistics (DAFL) when required. While logistics remains a Service responsibility, there are processes and tasks that must be considered when developing a concept of support in order to optimize joint logistic outcomes.

Logistic Control Options

The need for rapid and precise response under crisis action, wartime conditions, or where critical situations make diversion of the normal logistic process necessary in the conduct of joint operations, the CCDR's logistic authority enables him to use all logistic capabilities of all forces assigned as necessary for the accomplishment of the mission. The President or SecDef may extend this authority to attached forces when transferring those forces for a specific mission and should specify this authority in the establishing directive or order. The CCDR may elect to control logistics through a tailored and augmented J-4 staff or through a subordinate logistics organization.

I. Authorities and Responsibilities

Title 10, USC, and DODD 5100.1, Functions of the Department of Defense and Its Major Components, describe the statutory requirements for each Military Department to provide logistical support to assigned forces. Title 10, USC, also describes the basic authority to perform the functions of command that include organizing and employing commands and forces, assigning tasks, designating objectives, and "giving authoritative direction to subordinate commands and forces necessary to carry out missions assigned to the command." This authority includes all aspects of military operations, joint training, and logistics.

Combatant Command Authority (COCOM)

COCOM over assigned forces is vested only in the commanders of combatant commands by Title 10, USC, and cannot be delegated or transferred. This authority over assigned forces includes DAFL, which gives the CCDR the authority to organize logistic resources within theater according to the operational needs.

Directive Authority for Logistics (DAFL)

Commanders of combatant commands exercise authoritative direction over logistics, commonly referred to as DAFL, in accordance with Title 10, USC, Section 164. The CCDR may delegate directive authority for as many common support capabilities to a subordinate JFC as required to accomplish the assigned mission. For some commodities or support services common to two or more Services, one provider may be given DOD EA responsibility by the SecDef or the Deputy SecDef. However, the CCDR must formally delineate this delegated authority by function and scope to the subordinate JFC or Service component commander. The exercise of DAFL by a CCDR includes the authority to issue directives to subordinate commanders, including peacetime measures necessary to ensure the following: effective execution of approved OPLANS; effectiveness and economy of operation; and prevention or elimination of unnecessary duplication of facilities and overlapping of functions among the Service component commands.

See p. 1-8 for further discussion.

The President or SecDef may extend this authority to attached forces when transferring forces for a specific mission, and should specify this authority in the establishing directive or order.

A CCCR's directive authority does not: discontinue service responsibility for logistic support; discourage coordination by consultation and agreement; or disrupt effective procedures or efficient use of facilities or organizations. Unless otherwise directed by the SecDef, the Military Departments and Services continue to have responsibility for the logistic support of their forces assigned or attached to joint commands, subject to the following guidance.

- Under peacetime conditions, the scope of the logistic authority exercised by the CCCR will be consistent with the peacetime limitations imposed by legislation, DOD policy or regulations, budgetary considerations, local conditions, and other specific conditions prescribed by SecDef or CJCS.
- Under crisis action, wartime conditions, or where critical situations make diversion of the normal logistic process necessary, the logistic authority of CCCRs enables them to use all facilities and supplies of all forces assigned to their commands as necessary for the accomplishment of their missions. The President or SecDef may extend this authority to attached forces when transferring those forces for a specific mission and should specify this authority in the establishing directive or order.

Administrative Control (ADCON)

Administrative control (ADCON) is the direction or exercise of authority over subordinate or other organizations with respect to administration and support, to include the organization of Service forces and control of resources and equipment. ADCON is synonymous with the administration and support responsibilities identified in Title 10, USC, as previously mentioned.

Executive Agent (EA)

The SecDef or Deputy Secretary of Defense may designate a DOD EA and assign associated responsibilities, functions, and authorities within DOD. The head of a DOD component may be designated as a DOD EA. The DOD EA may delegate to a subordinate designee within that official's component the authority to act on that official's behalf for any or all of those DOD EA responsibilities, functions, and authorities assigned by the SecDef or Deputy SecDef. EA designations are related to, but not the same as, CCCR lead Service designations discussed below.

For additional information on EA, refer to JP1, Doctrine for the Armed Forces of the United States, for supply commodity related EAs, refer to JP 4-0 Appendix B, Supply Commodity Executive Agents, and for logistic-related EAs, refer to JP 4-0 Appendix D, Department of Defense Logistics-Related Executive Agents.

Lead Service

The CCCR may choose to assign specific common user logistic functions, to include both planning and execution to a lead Service. These assignments can be for single or multiple common logistical functions, and may also be based on phases and/or locations within the AOR. GCC lead Service assignments are normally aligned to Office of the Secretary of Defense-level EA designations, but this may not always be the case. For example, in circumstances where one Service is the predominant provider of forces and/or the owner of the preponderance of logistic capability, it may be prudent to designate that Service as the joint logistic lead. It would be rare for one Service logistic organization to have all the capabilities required to support an operation, so the CCCR may augment the lead Service logistic organization with capabilities from another component's logistic organizations as appropriate.

II. Logistics Directorate, J-4

The CCDR must have the right resources to plan, execute, and control logistics within the joint operational area. The J-4 is the CCDR's principal staff organization responsible for integrating logistics planning and execution in support of joint operations. The J-4 staff executes its responsibilities by integrating, coordinating, and synchronizing Service Component logistic capabilities in support of joint force requirements. The J-4 is also responsible for advising the JFC of the logistic support that can be provided, and for optimizing available resources to provide the most effective joint outcomes by fusing information to facilitate integrated, quality decision-making. Although the organizational considerations outlined below could apply to a CCDR's J-4 staff, they will most frequently be applied to subordinate joint force J-4 organizations. In addition, the J-4 and other logisticians support the J-3 lead in the planning and executing of requirements for the JRSOI process and base support installations planning and sustainment.

The J-4 is responsible for executing and controlling joint logistics, and should organize to respond to anticipated or on-going operations:

Joint Logistics Operations Center (JLOC)

The J-4 should establish a JLOC to monitor and control the execution of logistics in support of on-going operations. The JLOC is an integral part of the CCDR's operations element and provides joint logistics expertise to the J-3 operations cell. The JLOC is tailored to the operation and staffed primarily by the J-4 staff.

Joint Deployment Distribution Operations Center (JDDOC)

USTRANSCOM, as the DPO, through its Deployment and Distribution Operations Center (DDOC), collaborates with JDDOCs to link strategic deployment and distribution processes to operational and tactical functions in support of the warfighter. The geographic CCDRs are responsible for implementing their JDDOC core structure. The JDDOC is an integral organization of the GCC's staff, normally under the direction of the J-4 and collocated with the JLOC during operations. However, the GCC can place the JDDOC at any location required or under the operational control of other command or staff organizations. The JDDOC can reach back to the national partners to address and solve deployment and distribution issues for the CCDR and can have the capability to develop deployment and distribution plans, integrate multinational and/or interagency deployment and distribution, and coordinate and synchronize the movement of sustainment in support of the CCDR's priorities.

Fusion Cell

Synchronizing and integrating the many joint logistics functional capabilities, multinational and interagency capabilities and operational contract support may require the J-4 to establish a location or center where the requirements, resources, and processes can come together in a way that provides knowledge to effect quality decision-making. This fusion of information is essential to effective logistics support and critical to enabling the J-4 to "see the logistics battlefield" with clarity.

Joint Logistics Boards, Centers and Offices

The CCDR may also establish boards, centers and offices to meet increased requirements and to coordinate logistic efforts (e.g., subarea petroleum office, joint facilities utilization board, joint mortuary affairs office).

See p. 5-16 for further discussion.

III. Logistics Execution Organizations

The fundamental role of joint logistics is to integrate and coordinate logistic capabilities from Service, agency and other providers of logistic support, and to facilitate execution of the Services' Title 10, USC responsibilities while supporting the ever-changing needs of the JFC.

A. Service Logistic Control Structures

The Services' operational-level logistic control structures form the basis for joint operations, thus it is important understand how each Service and US Special Operations Command (USSOCOM) conducts logistics at the operational level. The following paragraphs briefly describe those logistic C2 capabilities and are fundamental to understanding Service and special operations forces (SOF) logistics capabilities.

See following pages (pp. 5-22 to 5-23) for further discussion.

B. US Transportation Command (USTRANSCOM)

USTRANSCOM serves as the single coordination and synchronization element on behalf of and in coordination with the JDDE community of interest to establish processes to plan, apportion, allocate, route, schedule, validate priorities, track movements, and redirect forces and supplies per the supported commander's intent. This coordination and synchronization does not usurp the supported CCDR's Title 10, USC, responsibilities but drives unity of effort throughout the JDDE to support CCDRs. The supported CCDR is responsible to plan, identify requirements, set priorities, and redirect forces and sustainment as needed to support operations within the respective AOR. USTRANSCOM exercises responsibility for planning, resourcing, and operating a worldwide defense transportation system in support of distribution operations, to include reviewing taskings and analyzing supported CCDR's requirements for transportation feasibility, and advising on changes required to produce a sustainable force deployment. During the deployment, sustainment, and redeployment phases of a joint operation, CCDRs coordinate their movement requirements and required delivery dates with USTRANSCOM, and supported CCDRs are responsible for deployment and distribution operations executed with assigned/attached force in their respective AORs.

C. Defense Logistics Agency (DLA)

DLA manages, integrates and synchronizes suppliers and supply chains to meet the requirements of the Armed Forces of the US, military allies and coalition partners. When directed, DLA also supports interagency and non-DOD organizations by providing humanitarian and natural disaster relief. DLA provides the equipment, supplies and services needed for sustained logistic readiness, and supports major aviation, ground and maritime systems by providing tailored logistic support, by optimizing investment strategies and by capitalizing on commercial business practices. In addition, DLA has EA responsibilities for subsistence, bulk fuel, construction and barrier materiel, and medical materiel. DLA provides a continuous forward presence through its regional commands in the Pacific, Europe, and Southeast Asia, and has liaison officers attached to every combatant command staff to assist with planning, exercises and current operations. DLA's contingency support teams are also deployed to enhance theater distribution to meet the warfighter's needs.

D. Defense Contract Management Agency (DCMA)

DCMA is the combat support agency responsible for ensuring major DOD acquisition programs (systems, supplies, and services) are delivered on time, within projected cost or price, and meet performance requirements. DCMA is a combat support agency whose major role and responsibility in contingency operations is to provide contingency contract administration services for external and theater support contracts and for selected weapons system support contracts with place of performance in the operational area and theater support contracts when contract administration services is delegated by the procuring contracting officers.

E. Defense Security Cooperation Agency (DSCA)

DSCA serves as the DOD focal point and clearinghouse for the development and implementation of security assistance plans and programs. DSCA manages major weapon sales and technology transfer issues, budgetary and financial arrangements, legislative initiatives and activities, and policy and other security assistance matters. DSCA has oversight responsibilities for DOD elements in foreign countries responsible for managing security assistance programs, and oversees the DOD Humanitarian Assistance Program that provides nonlethal property to authorized recipients. DSCA arranges DOD funded and space available transportation for non-governmental organizations for delivery of humanitarian goods to countries in need; coordinates foreign disaster relief missions; and, in concert with DLA, procures, manages, and arranges for delivery of humanitarian daily rations and other humanitarian materiel in support of US policy objectives.

IV. Technology

The rapid advance of technology, if leveraged effectively, can enable the CCDR to effectively control logistics within the operational area. Technology, in the form of information systems, decision support tools and evolving communications capabilities can improve visibility of logistic processes, resources and requirements and provide the information necessary to make effective decisions. These technologies can also contribute to a shared awareness that enables the CCDR to focus capabilities against the joint warfighter's most important requirements, and can be used to more effectively capture source data, make data more accessible within the public domain, and integrate data into tools or applications that enable effective decision-making. Logistics operations rely on a variety of Service and agency information systems to gather the data necessary for planning, decision-making, and assessment.

The Global Combat Support System – Joint (GCSS-J)

GCSS-J is the primary information technology application used to provide automation support to the joint logistician. In order to deliver visibility over resources, requirements and capabilities, GCSS-J uses a services-oriented architecture to link the joint logistician to component, Service, multinational, and other agencies allowing all concerned to use shared data to plan for, execute and control joint logistic operations.

See JP 3-35, Deployment and Redeployment Operations, Appendix A, Enabler Tools, for more information on deployment and redeployment enabler technologies.

A. Service Logistic Control Structures

Ref: JP 4-0, *Joint Logistics* (Jul '08), pp. V-7 to V-9.

The Services' operational-level logistic control structures form the basis for joint operations, thus it is important understand how each Service and US Special Operations Command (USSOCOM) conducts logistics at the operational level. The following paragraphs briefly describe those logistic C2 capabilities and are fundamental to understanding Service and special operations forces (SOF) logistics capabilities.

1. Army

The overarching theater-level headquarters is the Army Service component command (ASCC). The ASCC is responsible for providing support to Army forces and common-user logistics to other Services as directed by the CDDR and other authoritative instructions. The theater sustainment command (TSC) is the logistic C2 element assigned to the ASCC and is the single Army logistic headquarters within a theater of operations. The TSC is responsible for executing port opening, theater opening, theater surface distribution and sustainment functions in support of Army forces, and provides lead Service and EA support for designated common user logistics to other government agencies, multinational forces, and NGOs as directed. Additionally the TSC, working with the JFC's J-4, or as designated or directed, is responsible for establishing and synchronizing the intratheater segment of the surface distribution system in coordination with the JDDOC with the strategic-to-theater segment of the global distribution network. The TSC rapidly establishes C2 of operational level logistics in a specified area of operations/JOA by employing one or more expeditionary sustainment commands (ESCs). The ESC provides a rapidly deployable, regionally focused, forward-based C2 capability that mirrors the organizational structure and functionality of the TSC.

2. Marine Corps

The Marine expeditionary force (MEF) is the largest force the Marine Corps employs at the operational level. The logistics combat element (LCE) that supports the MEF is the Marine logistics group (MLG). The MLG is the principal and largest Marine logistics element. The MLG is organized to provide multifunctional direct support and functional general support to logistic units and combat arms and tactical units. A standing and experienced command and control capability, as well as an operations and planning capability, are organic to the MLG. It can rapidly and seamlessly task organize, and deploy to meet MEF mission requirements. While the Marine Corps does not possess an organic capability to execute operational-level logistics, the Marine component commander may be augmented and/or may task elements of an LCE to perform limited operational-level functions. Integration with strategic level logistical support is coordinated through the operational-level Marine component commander.

3. Navy

Numbered Fleet Commanders (e.g., FIFTH FLEET, SIXTH FLEET, and SEVENTH FLEET) have operational logistics responsibilities within a CDDR's geographic boundaries. Fleet operational forces are normally organized into task forces under the command of a task force commander. The commander, logistics forces, executes tactical logistics based on numbered fleet policy, guidance and direction. The logistics task force commander normally exercises operational control (OPCON) of assigned combat logistics forces and is responsible for coordinating the replenishment of forces at sea.

4. Air Force

The air and space expeditionary task force (AETF) is the organizational structure for deployed US Air Force forces. The AETF presents a scalable, tailorable organization with three elements: a single commander, embodied in the Commander, Air Force Forces

(COMAFFOR); appropriate C2 mechanisms; and tailored and fully supported forces. The Air Force air and space operations center provides operational-level C2 of Air Force forces and is the focal point for planning, executing, and assessing air and space operations. Although the Air Force provides the core manpower capability for the Air Force air and space operations center, other Service component commands contributing air and space forces, as well as any multinational partners, may provide personnel in accordance with the magnitude of their force contribution. The Air Force air and space operations center can perform a wide range of functions that can be tailored and scaled to a specific or changing mission and to the associated task force the COMAFFOR presents to the JFC. The Air Force forces staff is the vehicle through which the COMAFFOR fulfills operational and administrative responsibilities for assigned and attached forces, and is responsible for long-range planning that occurs outside the air tasking cycle. The director of logistics (A-4) is the principal staff assistant to the COMAFFOR for JOA-wide implementation of combat support capabilities and processes, to include the coordination and supervision of force bed-down, transportation, supply, maintenance, logistic plans and programs, and related combat support activities. In general, the A-4 formulates and implements policies and guidance to ensure effective support to all Air Force forces.

5. Coast Guard (USCG)

USCG deployable units are capable of providing combat and combat support forces and as such, must be able to react rapidly to worldwide contingencies. In order to accomplish the many missions, deployable units and assets consist of high endurance cutters, patrol boats, buoy tenders, aircraft, port security units, maritime safety and security teams, maritime security response teams, tactical law enforcement teams, and the National Strike Force. Logistical support is provided through the USCG maintenance and logistic commands and their subordinate elements. When USCG units operate as part of a JTF, Coast Guard units may draw upon the logistic support infrastructure established by/for the JTF. These general support functions normally include but are not limited to the following: berthing, subsistence, ammunition, fuel, and accessibility to the naval supply systems. The Navy logistic task force commander is responsible for coordinating the replenishment, intratheater organic airlift, towing, and salvage, ship maintenance, and material control, as well as commodity management for the task force group.

6. Special Operations Forces

SOF in the US are normally under the COCOM of Commander, US Special Operations Command (CDRUSSOCOM). When directed, CDRUSSOCOM provides US based SOF to a GCC. The GCC normally exercises COCOM of assigned and OPCODE of attached SOF through the commander of a theater special operations command (TSOC), a sub-unified command. When a GCC establishes and employs multiple JTFs and independent task forces, the TSOC commander may establish and employ multiple joint special operations task forces (JSOTFs) to manage SOF assets and accommodate JTF/task force special operations (SO) requirements. Accordingly, the GCC, as the common superior, normally will establish supporting or tactical control command relationships between JSOTF commanders and JTF/task force commanders. When directed, CDRUSSOCOM can establish and employ a JSOTF as a supported commander. The CDRTSOC and JSOTF J-4s are the primary logistic control authorities for SOF. Responsibilities include oversight of the core logistic capabilities. The JSOTF J-4 must ensure that JSOTF forces are supported by the Services, which is required by Title 10, USC. The JSOTF J-4 is dependent on Service and joint logistic support as the primary means of support. For rapid response operations, USSOCOM component commands will maintain the capability to support SOF elements for an initial period of 15 days. Services and/or executive agents should be prepared to support special operations as soon as possible but not later than 15 days after SOF are employed. *For additional guidance on SOF logistic operations, refer to JP 3-05, Doctrine for Joint Special Operations, and JP 3-05.1, Joint Special Operations Task Force Operations.*

V. Multinational & Interagency Arrangements

Multinational and interagency operational arrangements regarding joint logistics are bound together by a web of relationships among global providers. These relationships are critical to joint logistics success because logistical capabilities, resources, and processes are vested in a myriad of organizations which interact across multiple physical domains and the information environment, and span the range of military operations.

Multinational Operations

In today's operational environment, logisticians will likely be working with multinational partners. While the United States maintains the capability to act unilaterally, it is likely that the requirement, and the desire, to operate with multinational partners will continue to increase. Multinational logistics is a challenge; however, leveraging multinational logistical capabilities increases the CCDR's freedom of action. Additionally, many multinational challenges can be resolved or mitigated by having a thorough understanding of the capabilities and procedures of our multinational partners before operations begin. Integrating and synchronizing logistics in a multinational environment requires developing interoperable logistic concepts and doctrine, as well as clearly identifying and integrating the appropriate logistical processes, organizations, and command and control options. Careful consideration should be given to the broad range of multinational logistic support structures.

For further guidance on multinational logistics, refer to JP 4-08, Joint Doctrine for Logistic Support of Multinational Operations.

Other Government Agencies (OGAs), IGO, and NGO Coordination

Integration and coordination among military forces, OGAs, and NGOs and IGOs is different from the coordination requirements of a purely military operation. These differences present significant challenges to coordination. First, the OGA/NGO/IGO culture is different from that of the military. Their operating procedures will undoubtedly differ from one organization to another and with the Department of Defense. Ultimately, some OGAs, NGOs and IGOs may even have policies not in consonance with those of DOD. In the absence of a formal command structure, the joint logistician will need to collaborate and elicit cooperation to accomplish the mission. As in multinational operations, the benefit of leveraging the unique skills and capabilities that NGOs and IGOs possess can serve as a force multiplier in providing the joint warfighter more robust logistics.

For additional guidance on interagency, intergovernmental organization, and nongovernmental organization coordination, refer to JP 3-08, Interagency, Intergovernmental Organization, and Nongovernmental Organization Coordination During Joint Operations, Volumes I and II. For additional guidance on civil-military operations, refer to JP 3-57, Civil-Military Operations.



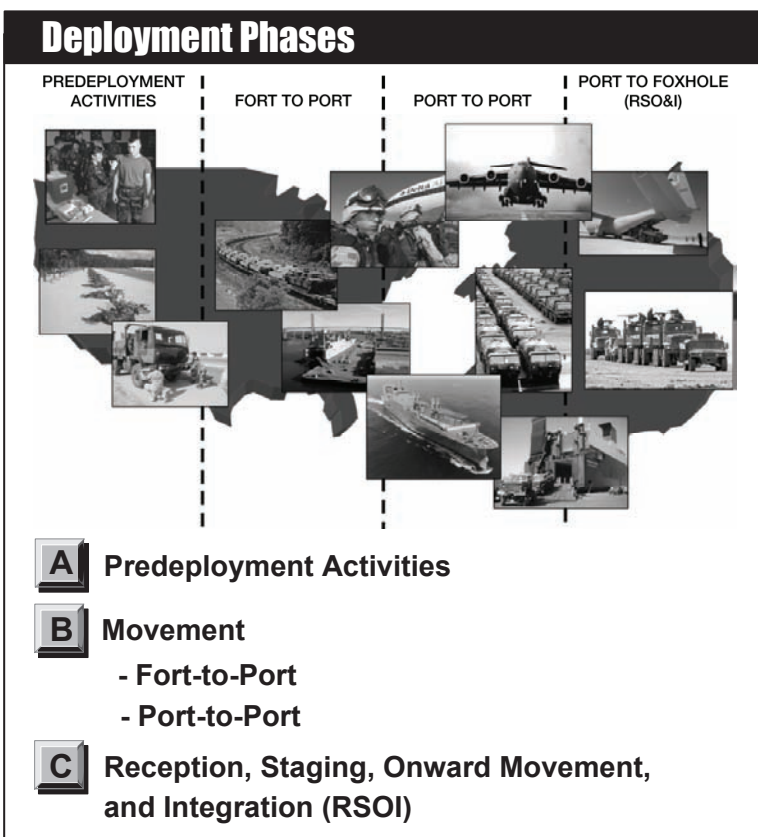
Refer to The Joint Forces Operations & Doctrine SMARTbook (Guide to Joint, Multinational & Interagency Operations) for complete discussion of joint operations. Topics include joint doctrine fundamentals, joint operations, joint operation planning, joint logistics, joint task forces, information operations, multinational operations, and IGO/NGO coordination.

I. Deployment Operations Overview

Ref: FM 3-35 (FMI 3-35 and FM 4-01.011), *Army Deployment and Redeployment* (Apr '10), chap. 1.

Force projection is the military element of national power that systemically and rapidly moves military forces in response to requirements of full spectrum operations. It is a demonstrated ability to alert, mobilize, rapidly deploy, and operate effectively anywhere in the world. The Army, as a key member of the joint team, must be ready for global force projection with an appropriate mix of combat forces together with support and sustainment units. Moreover, the world situation demands that the Army project its power at an unprecedented pace. The flexible and rapidly deployable Army forces with sufficient depth and strength to sustain multiple, simultaneous operations contributes to defusing the crisis. *See p. 6-3 for further discussion.*

Deployment is composed of activities required to prepare and move forces, supplies, and equipment to a theater. This involves the force as it task organizes, tailors itself for movement based on the mission, concept of operations, available lift, and other resources.



Ref: FM 3-35, *Army Deployment and Redeployment*, chap. 1.

The employment concept is the starting point for deployment planning. Proper planning establishes what, where, and when forces are needed and sets the stage for a successful deployment. Consequently, how the combatant commander (CCDR) intends to employ forces is the basis for orchestrating the deployment structure. All deployment possibilities must be examined as they dramatically influence employment planning. Deployment directly impacts the timing and amount of combat power that can be delivered in order to achieve the CCDR's desired effects.

Army Deployment Goals

The Army Campaign Plan identifies the Army's deployment goals as follows—

- Deploy and employ brigade combat team (BCT) capability in 4-7 days
- Deploy and employ 3 BCTs with a division headquarters in 10 days
- Deploy and employ 9 BCTs with multi-division headquarters in 20 days
- Deploy and employ 15 BCTs with multi-division headquarters in 30 days

Supporting metrics are being developed to synchronize these goals with the Army Force Generation (ARFORGEN) model.

See p. 6-7 for further discussion of ARFORGEN.

I. Deployment Planning

The initial activity in planning a development plan using the military decision making process. The objective is to synchronize deployment activities to facilitate execution. The steps used in planning and preparation during predeployment activities include: analyze the mission, structure forces, refine deployment data, prepare the force, and schedule movement. Successful deployment planning requires knowledge of the unit's deployment responsibilities, an understanding of the total deployment process, and an intellectual appreciation of the link between deployment and employment.

1. Analyze the Mission

The mission is examined and courses of action (COA) are developed bearing in mind that the employment considerations are paramount. The primary purpose of a deployment is to provide the right force at the right place and at the right time.

2. Structure Forces

The COAs outline the ways (employment) and the means (forces) to accomplish the mission. Initially, capabilities are identified; however, as the COAs are further defined, the requirements are being translated into type units.

3. Refine Deployment Data

As forces are identified, the development of the time-phased force and deployment data (TPFDD) is begun. The supported combatant commander defines the intent for deployment which may be very specific and direct the sequence of units or just identify a general deployment timeline. In any case, the intent should clearly express how the deployment postures the force for employment.

4. Prepare the Force

Force packages are developed, ensuring the right capabilities are in the proper combinations to meet the intentions of the supported combatant commander.

5. Schedule the Movement

The supporting combatant commands must clearly and completely define their mobility requirements and milestones based on the concept of operations. The right sequencing of forces will provide the commander with the capabilities required to achieve the desired objectives. Once the strategic lift schedule is put in motion, it is difficult to change without losing the identified transportation asset and its position in the lift schedule.

6-2 (Deployment & Redeployment) I. Overview

Force Projection

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), p. 1.

Force projection is the military element of national power that systemically and rapidly moves military forces in response to requirements of full spectrum operations. It is a demonstrated ability to alert, mobilize, rapidly deploy, and operate effectively anywhere in the world. The Army, as a key member of the joint team, must be ready for global force projection with an appropriate mix of combat forces together with support and sustainment units. Moreover, the world situation demands that the Army project its power at an unprecedented pace. The flexible and rapidly deployable Army forces with sufficient depth and strength to sustain multiple, simultaneous operations contributes to defusing the crisis.

Force Projection Processes

Force projection encompasses a range of processes including mobilization, deployment, employment, sustainment, and redeployment. These processes have overlapping timelines, are continuous, and can repeat throughout an operation. Force projection operations are inherently joint and require detailed planning and synchronization. Decisions made early in the process directly impact the success of the campaign.

1. Mobilization

Mobilization is the process of assembling and organizing resources to support national objectives in time of war and other emergencies. Mobilization includes bringing all or part of the industrial base and the Armed Forces of the United States to the necessary state of readiness to meet the requirements of the contingency.

2. Deployment

Deployment is the movement of forces to an operational area in response to an order.

3. Employment

Employment prescribes how to apply force and/or forces to attain specified national strategic objectives. Employment concepts are developed by the combatant commands (COCOM) and their component commands during the planning process. Employment encompasses a wide array of operations—including but not limited to—entry operations, decisive operations, and post-conflict operations.

4. Sustainment

Sustainment is the provision of personnel, logistics, and other support necessary to maintain and prolong operations or combat until successful accomplishment or revision of the mission or national objective.

5. Redeployment

Redeployment involves the return of forces to home station or demobilization station.

Each force projection activity influences the other. Deployment and employment cannot be planned successfully without the others. The operational speed and tempo reflect the ability of the deployment pipeline to deliver combat power where and when the joint force commander requires it. A disruption in the deployment will inevitably affect employment.

II. Deployment Phases

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), pp. 1-2 to 1-4.

The Joint deployment process is divided into four phases -- deployment planning; predeployment activities; movement; and JRSOI. The terminology used to describe the Army deployment phases is in synch with the Joint process. The Joint process includes a planning phase at the outset whereas the Army considers planning to be woven through all the phases. Moreover, the movement phase in the Army process is discussed in two segments -- fort to port and port to port. The Army relies on U.S. Transportation Command (USTRANSCOM) to provide the strategic lift to and from the port of embarkation (POE).

Deployments consist of three distinct but interrelated phases. A successful deployment requires implementation of each phase with seamless transitions and interactions among all of them. The phases are not always sequential and could overlap or occur simultaneously.

Deployment Phases



Predeployment Activities



Movement

- Fort-to-Port

- Port-to-Port



Reception, Staging, Onward Movement, and Integration (RSOI)

Ref: FM 3-35, *Army Deployment and Redeployment*, chap. 1.

A. Predeployment Activities

An expeditionary Army requires that units are prepared for potential deployments consistent with ARFORGEN model. During predeployment units constantly plan for various contingencies and hone their deployment skills. When units train and exercise their predeployment activities, they become second nature and are accomplished efficiently. Not only should units be trained, personnel must be nearly 100 percent compliant with respect to Soldier readiness processing (SRP), encompassing those administrative, medical, and dental checks required to prepare a Soldier for deployment. This level of readiness and training requires school-trained, dedicated mobility officers, UMOs, hazardous cargo certifiers, and load planners. Their requirements are documented in organizational equipment lists (OEL), UDLs, and loaded into the Transportation Coordinators Automated Information for Movements System II (TC-AIMS II). In addition, units must acquire movement expertise, knowledgeable deployment support teams, joint deployment process improvement tools, and an understanding of the Joint Operation Planning and Execution System (JOPES) to enable seamless deployment operations.

Movement requirements developed during deployment planning must be validated prior to deployment execution. Validation confirms the need for the movement requirement, shipment configuration, dimensions, and routing and ensures that all parties, including

the chain of command, are cognizant of the requirement. Movement requirements are validated during execution planning by the supported CCCR who validates all joint force movement requirements for USTRANSCOM movement scheduling.

B. Movement

1. Fort-to-Port

The receipt of the Air Mobility Command (AMC) air tasking order and Surface Deployment and Distribution Command (SDDC) port call message initiates POE operations and specifies the dates on which units must arrive at the POE. At the installation staging areas unit movement data is verified and equipment is inspected and configured for movement. It is then typically moved to the POEs by convoy or commercial surface transport. The installation coordinates and/or provides support to assist the deploying force by using non-deploying units, installation resources, or contracted support. Support may include load teams, materiel handling equipment (MHE), maintenance teams, arrival/departure airfield control groups (A/DACGs), and deployment support teams. Other support should be identified during deployment exercises and then written into installation deployment support plans. The Mission Support Element is a TDA-augmentation capability used by the mission commander to develop and maintain the deployment support plan.

Deploying units immediately configure for deployment, reduce/prepare vehicles and aircraft for movement, properly stow and tie down secondary loads, construct 463L pallets, and prepare the required documentation. The sea and air POEs should quickly initiate operations. MHE must be on hand, and procedures previously established for the joint inspection process at the aerial terminal commences. Units begin assembling equipment for air movement and chalks are staged awaiting sortie allocation. The POE must offer sufficient staging and inclement weather facilities.

2. Port-to-Port

USTRANSCOM operates the Defense Transportation Service (DTS) and provides common user strategic transportation to support the CCCR for deployment. The port to port phase begins with strategic lift departures from POEs and ends with lift assets arrival in the designated theater PODs. Fundamental to the success of the port-to-port movement is the ability of the CCCR to synchronize the arrival of airlift and sealift force packages so that vessels can be brought to a berth or offloaded in-stream with minimal delay. This ensures that cargo can be received and cleared from the port in a timely manner.

C. Reception, Staging, Onward Movement, and Integration

RSOI is the process that delivers combat power to the Joint Force Commander (JFC) in the operational theater. The very nature of seizing the initiative demands expeditious processing of personnel and equipment throughout the deployment pipeline. Consequently, facilities must be available on or near the PODs for personnel reception and equipment staging and preparation (to include refueling). One of the essential requirements at the APOD is adequate parking and operational areas to sustain the required number of aircraft to meet the throughput requirements. RSOI support, whether provided by theater support contracts, external support contracts (primarily the Army Logistics Civil Augmentation Program or LOGCAP), or regionally available commercial host nation support, and/or military assets, must be sufficient to immediately support the arrival of deploying units. Effective RSOI matches personnel with their equipment, minimizes staging and sustainment requirements while transiting the PODs, and begins onward movement as quickly as possible. A plan to accomplish integration and maintain combat readiness must be understood, trained, and ready to implement upon arrival.

III. Deployment Principles

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), p. 1-2.

Four principles apply to the broad range of activities encompassing deployment:

1. Precision

Precision applies to every activity and piece of data. Its effect is far-reaching, and the payoff is speed. For example, precise unit deployment lists (UDLs) ensures that correct lift assets are assigned against the requirement. Precision includes accurate weights, dimensions, and quantities. This degree of precision eases loading requirements and improves departure speed and safety. Precision allows units to meet the CCDR's timeline and supports the concept of employment.

2. Synchronization

Deployment activities must be synchronized to successfully close the force. Effective synchronization of scarce lift assets and other resources maximizes their use. Synchronization normally requires explicit coordination among the deploying units and staffs, supporting units and staffs, a variety of civilian agencies, and other Services. Realistic exercises and demanding training are paramount to successful synchronization.

3. Knowledge

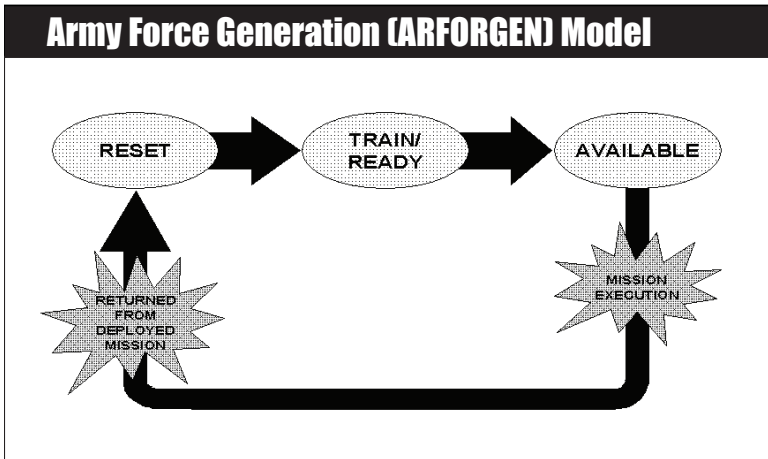
One of the more critical pieces at this stage of deployment is the knowledge upon which decisions are made. There is a short period of time during which the deploying commander must make crucial decisions on employment. These decisions set the tone for the remainder of the deployment. Many decisions are very hard to change and have significant adverse impacts if changed; others are irrevocable.

4. Speed

Speed is more than a miles per hour metric. The proper focus is on the velocity of the entire force projection process, from planning to force closure. Critical elements of speed associated with force projection include agile (state-of-the-art) ports, submission of accurate information, safe and efficient loading, trained unit movement personnel at all levels, timely arrival of throughput enablers, maintaining unit integrity, delivering capability rather than entire units, and force tracking information

IV. Army Force Generation (ARFORGEN)

Army Force Generation (ARFORGEN) is the structured progression of increased unit readiness over time resulting in recurring periods of availability of trained, ready, and cohesive units. ARFORGEN uses personnel, equipment, and training to generate forces to meet current and future requirements of combatant commanders. This cyclical readiness process allows commanders to recognize that not all units have to be ready for war all the time, and units must build their Units progress through the three operational readiness cycles.



Ref: FM 3-35, *Army Deployment and Redeployment*, fig. 1-1, p. 1-5.

1. Reset

Units returning from operations or have experienced significant organizational changes are placed in the reset phase. Active Army units typically stay in the pool for 6 to 9 months, while Reserve Component units will probably stay up to 4 years. It is during this phase that replacement personnel arrive and are assigned additional duties, such as the UMO.

2. Train/Ready

Units determined to be at a ready level are capable of beginning their mission preparation and collective training with other operational headquarters. They are eligible for sourcing; may be mobilized if required; and can be trained, equipped, resourced, and committed to meet operational requirements, if necessary. It is during this phase that the individual training that could not be accomplished during reset is completed and collective training is begun. A critical event that occurs during this phase is the handoff of units from the peacetime mission commander to the wartime commander. The handoff may involve a significant number of changes to deployment data, once the wartime commander outlines the scope of the intended mission and the OEL transitions into the UDL.

3. Available

Units are capable of conducting a mission under any combatant commander. All Active and Reserve Component units pass through a 1-year available force pool window. Generally, Active Army units will rotate through this pool 1 in every 3 years; Active Reserve units 1 in every 5 years; and Army National Guard units 1 in every 6 years.

Hazardous, Classified, and Protected Sensitive Cargo (Special Cargo)

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), app. I (Special Cargo).

1. Hazardous Material (HAZMAT)

Packaging, shipping, handling, and inspecting of HAZMAT is mandated by US and international laws. These laws also apply to the use of intermodal containers and container equipment. This appendix provides an overview of doctrinal guidance and tactics, techniques, and procedures that are common to Department of Defense (DOD) and other US government agencies and organizations. This appendix also applies to the selection of standard American National Standards Institute/International Standards Organization (ANSI/ISO) commercial- or military-owned intermodal containers that meet the standards for shipment of Class I explosives and other HAZMAT. (See MIL-HDBK 138 for compliance with container standards criteria.)

HAZMAT must be properly prepared and documented IAW DOD Regulation 4500.9-R, Volume II and III; TM 38-250; and other service or command regulations. Documentation must include the total HAZMAT quantity and a certification statement stating that the HAZMAT is properly classified, described, packaged, marked, and labeled. Only specially trained individuals have authority to certify HAZMAT for transportation. Contact the Installation Transportation Officer (ITO) or Movement Control Team (MCT) for assistance in determining what certification requirements apply to each HAZMAT item being prepared for shipment.

2. Ammunition

Ammunition shipments are usually scheduled through military ammunition ports. Designated military ammunition ports serve the strategic purpose of routinely handling shipments of ammunition. To meet deployment requirements, ammunition may be moved through a commercial port. If the unit is deployed through a commercial seaport and must carry basic load ammunition with them, the MTMC manager for the port must first be notified of the intent to ship ammunition. The Joint Munitions Transportation Coordinating Activity (JMTCA) consolidates all containerized munitions movement requests for OCONUS shipment aboard common-use sealift.

3. Classified Cargo

Classified cargo is cargo that requires protection in the interest of national security. The nature of classified cargo requires that shippers and transporters handle it in a way that it be identified, accounted for, secured, segregated, or handled in a special way to safeguard it. Detailed instructions are included in DTR 4500.9R. Do not identify classified cargo on the outside of the shipping containers.

When transporting classified material, enclose it in two sealed containers, such as boxes or heavy wrappings. *Detailed instructions for packing classified material are contained in AR 380-5.*

When traveling by motor convoy, escorts must ensure constant surveillance of classified material. Classified material must stay within the escort's personal possession and observation at all times. Larger pieces of secret shipments, such as missiles, may require outside storage. If so, take special protective measures to include constant and continuous surveillance by at least one or more escorts in the area.

4. Sensitive Cargo

Sensitive cargo is cargo that could threaten public safety if compromised. Sensitive cargo must be properly secured and identified to port personnel so sufficient security can be provided. Do not identify security cargo on the outside of the shipping containers. *Detailed instructions are included in DTR 4500.9R.*

II. Predeployment Operations

Ref: FM 3-35 (FMI 3-35 and FM 4-01.011), Army Deployment and Redeployment (Apr '10), chap. 2.

The Army's effort to be more responsive begins at home station. Predeployment activities are actions taken to prepare forces for deployment and are not limited to the deploying unit, but include supporting units and the installation staff. Planning, document preparation, equipment readiness, and training are the foremost predeployment unit activities. This chapter discusses predeployment activities of the deploying unit as well as those in a support role.

I. Planning

The deployment planning process begins with the supported CCDR requesting the force requirements necessary to support the operation/contingency plan. The Secretary of Defense and the joint staff review the requirements before passing them to US Joint Forces Command (USJFCOM)*. USJFCOM* further passes the requirement to one of their three service component commands for sourcing. Forces Command (FORSCOM), the Army service component command to USJFCOM*, analyzes the requirement for conventional forces, coordinates with other Army commands, and recommends a sourcing solution. Unit commanders and staffs analyze the requirement and determine the personnel and equipment necessary to accomplish the stated mission. This deployment planning process may cover a period of several months or be compressed to days or even hours for crisis action planning.

*** U.S. Joint Forces Command (USJFCOM) was disestablished in August 2011. As part of the disestablishment, critical USJFCOM organizations and functions were reassigned to designated combatant commands, military services and the Joint Staff.*

A. Deployment Planning

Contingency planning is typically used in those cases where the deployment and employment of forces is in response to anticipated operations. It is designed to produce a detailed operational plan for a potential event and relies heavily on a number of assumptions ranging from the threat to anticipated host nation support. Conversely, crisis action planning is accomplished in response to a time-sensitive, imminent threat that may result in an actual military operation. The plan is based on circumstances existing at the time planning occurs. In either contingency or crisis planning, prescribed procedures are followed to formulate and implement a response. Deployment planning is a key element of both contingency and crisis action planning and aims at delivering the right force, at the right place, and at the right time.

Planning for deployment is based on mission requirements and time. During deployment operations, supported combatant commanders are responsible for building and validating movement requirements, determining predeployment standards, and balancing, regulating, and effectively managing the transportation flow. Supporting combatant commands and agencies source requirements not available to the geographic combatant commander and are responsible for verifying supporting unit movement data, regulating the support deployment flow, and coordinating during deployment operations. To facilitate these processes, the joint planning and execution community (JPEC) uses a common framework of directives, guidance, and decision support tools within JOPES.

See p. 6-20 for further discussion of JOPES and TPFDD development.

B. Movement Planning

To meet contingency support requirements, units develop movement plans and SOPs. An effective movement plan contains sufficient detail to prepare units to execute strategic deployments while the SOP outlines functions that should occur upon notification of a unit movement. In addition to movement plans and SOPs, units maintain movement binders containing movement information and instructions.

1. Unit Movement Plans

Movement plans define responsibilities, functions, and details for each part of a unit deployment from mobilization station or installation to reception in theater. There may be more than one plan required depending on the number of contingencies/operations plans (OPLANs) the unit must prepare to support. Movement plans are written in a five-paragraph OPLAN format.

Containerization must be addressed during deployment planning. The key to successfully using containerization operations to maximize shipping options is to identify units with high percentages of equipment compatible with containers.

The USTRANSCOM's component commands schedule lift against the unit line number (ULN) to meet the earliest arrival date (EAD)-latest arrival date (LAD) window. AMC publishes airflow schedules to call forward personnel and equipment to the APOE. These schedules are in GCCS. The call forward schedules are movement directives that specify when units must have their equipment at the POE to meet the available-to-load dates (ALD). Based on these schedules, deploying units and their respective commands backward plan movements to the POE to meet the ALD. Movement directives (if published) provide windows by mode for cargo arrival at the POE.

See following pages (6-12 to 6-13) for discussion on developing a deployment movement plan.

2. Unit Movement SOP

The unit movement SOP defines the day-to-day as well as alert functions. The SOP defines the duties of subordinate units/sections that will bring the unit to a higher state of readiness. These duties can be written in separate annexes that can be easily separated and issued to leaders for execution. Functions addressed in the SOP could include unit property disposition, supply draw, equipment maintenance, vehicle and container loading, security, marshalling procedures, purchasing authorities, unit briefings, in-transit visibility (ITV), and other applicable deployment activities.

3. Deployment Binders

Units maintain deployment binders containing the unit movement plan; unit movement SOP; appointment orders; training certificates; recall rosters; a current OEL; copies of load cards and container packing lists; prepared copies of transportation requests; convoy movement requests and special handling permits; and blocking, bracing, packing, crating, tie-down (BBPCT) requirements. The binder also serves as a continuity bridge from one UMO to the next.

II. Training

Individual and unit deployment training are essential in developing the skills required to rapidly project combat power.

A. Collective Training

Companies and battalions train to meet unit and individual training requirements for deployment operations. Deployments can occur at any time leaving the deploying unit with little or no time to correct training deficiencies. The objective of collective deployment training is to implant the knowledge, skills, attitudes, and abilities so it becomes a reflex activity executed with precision. Units must identify deployment as

Unit Movement Dates

Ref: FM 3-35, Army Deployment and Redeployment (Apr '10), p. H-1.

Movement plans define responsibilities, functions, and details for each segment of a unit deployment from origin to reception in theater. There may be more than one movement plan required depending on the number of contingencies/OPLANS the unit must plan to support. Movement plans are written in five paragraph OPLAN format.

GCCS is the system used to manage deployments. Deployment related information is contained in the GCCS database and is accessible through ad hoc queries or via JOPES, a GCCS application. Units deploying under a JOPES OPLAN must increment their movements consistent with OPLAN TPFDD requirements, as delineated by ULNs. A ULN is a seven-character alphanumeric code that defines a unique increment of a unit. For example, it may be used to identify an advance party, the main body, and the equipment sealift and airlift requirements for any specific segment of the move. The Army command or other designated deploying unit higher headquarters assigns ULNs to units. It is essential that deploying units use the correct ULN for equipment to be scheduled for movement at the right time by the correct mode. This is the key to the JOPES database validation process. An incorrect ULN could overstate or understate airlift requirements and delay movements.

Unit line numbers (ULNs) available on JOPES OPLAN reports divide the unit by transportation mode, ports of embarkation or debarkation, and dates. Dates correspond to the established C-day (day on which a deployment operation begins or is scheduled to begin) for the designated plan TPFDD.

The unit movement is phased by the following dates relative to C-day:

1. Ready-to-Load Date (RLD)

The RLD is the date in the TPFDD when the unit will be prepared to depart its origin.

2. Available-to-Load Date (ALD)

The ALD is the TPFDD specified date when the unit will be ready to load on an aircraft or ship at the POE.

3. Earliest Arrival Date (EAD)

The EAD is the date specified by the supported combatant commander that is the earliest that a unit, a resupply shipment or replacement personnel can be accepted at a POD during a deployment. It is used with the latest arrival date to define a delivery window for transportation planning.

4. Latest Arrival Date (LAD)

The LAD at the APOD/SPOD is the date specified by the supported combatant commander that is the latest date when a unit, sustainment, or replacement personnel can be accepted at a POD and support the concept of operations. It is used with the earliest arrival date to define a delivery window for transportation planning.

5. Required Delivery Date (RDD)

The RDD is the date when a unit must arrive at its destination and complete offloading to properly support the concept of operation.

At the predeployment conference the unit requests a ULN for each element and/or separate movement. The Army Command or ASCC assigns ULNs to units. It is essential that deploying units use the correct ULN for equipment scheduled for movement at the right time by the correct mode. Using the correct ULN is key to the JOPES database validation process. An incorrect ULN could overstate or understate strategic and inter-theater lift requirements and delay passenger and cargo movements.

Developing a Unit Movement Plan

Ref: FM 3-35, Army Deployment and Redeployment (June '07), pp. H-2 to H-3. Refer to FM 3-35, pp. H-4 to H-7 for a sample unit movement plan.

The following paragraphs describe a recommended step-by-step process for developing deployment movement plans:

1. Identify what needs to be moved

Based upon mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC) and command guidance, deployment planning must reflect personnel, equipment, supplies, and how the unit will accomplish the move. For planning purposes, units plan to deploy with assigned personnel and on-hand equipment. Upon execution, the plan may need to be modified if additional personnel are assigned or equipment cross-leveled to bring the unit to the required readiness level. Units should plan to move their basic load of supplies to sustain their operations upon arrival in the theater. The quantities to be deployed are normally defined in OPLANs, unit or Army Command SOPs, or ASCC instructions. The UMO must have a detailed listing of each piece of equipment to be deployed based on the automated unit equipment list (AUEL). All outsize, oversize, overweight, or hazardous equipment/cargo must be identified, as it will require special considerations.

2. Identify equipment to accompany troops (TAT)

- **Yellow to accompany troops (TAT)** equipment must accompany troops and be accessible enroute. Examples include Class I basic load items, individual carry-on baggage, and weapons. For personnel traveling via commercial air, this is generally only the baggage that will fit under the seat.
- **Red TAT items** must be available at the destination before or upon unit arrival. This equipment may be sensitive cargo that requires special security or handling at the POE or POD. Red TAT must be unitized/palletized and reported on the AUEL/deployment equipment list (DEL). Not to accompany troops (NTAT) equipment is normally shipped by surface and does not accompany the troops. It consists of all other equipment required by the unit to perform its mission.

3. Identify what needs to move by air

This could include personnel, advance parties, baggage, and some equipment. The balance of equipment normally moves by sea. For deployments supporting combatant commander OPLANs/operation orders (OPORD), the TPFDD will designate the strategic movement mode.

4. Identify hazardous (also sensitive and classified) cargo for packaging

Identify hazardous (also sensitive and classified) cargo for packaging, labeling, segregation, and placarding for movement. Codes of Federal Regulation (CFR) 49 Transportation provides guidance on the packaging, labeling, placarding, and movement of hazardous materials.

5. Identify bulk cargo that needs to be moved and develop packing lists

All consolidated cargo (boxed, crated, etc.) loaded in vehicles, containers, and on 463L pallets must display a separate packing list, DD Form 1750 (Packing List) that shows all contents. Packing lists are not required for items that do not need identification, such as empty vehicles, nested cans, or bundled shovels, however, they must be listed on the load diagram if loaded in a truck or container.

6. Develop vehicle load plans for unit equipment

Equipment that cannot be loaded on organic vehicles should be planned for movement by other means (container, commercial rail or highway, or military assets). Vehicle load plans are recorded on DD Form 1750 (Packing List) for organic vehicles and trailers carrying secondary loads. FORSCOM units may use FORSCOM Form 285-R (Vehicle Load Card) for preparing vehicle load plans. The installation transportation officer (ITO) is the installation point of contact (POC) for obtaining commercial transportation to move equipment to POE that is beyond the unit's organic capability. Unit cargo (vehicles and equipment) is prepared for shipment according to the mode of transportation. Depending on the strategic lift full reduction may or may not be required. Reduction details are normally in the SDDC port call message or the operations order for sealift. For deployment by air, reduction is determined by type of aircraft. Transportation Engineering Agency (TEA) Pamphlet 55-24 provides guidance for preparing vehicles for airlift. Vehicle modifications (that is, shelters, bumper modifications, and so forth) made by the unit which change the vehicle configuration/dimensions/weight normally must be approved by the unit's Army Command/ASCC and ultimately by TEA. Vehicle modifications must be reflected on the AUDEL and DEL. Information on dimensions, weights, and cubes for all Army equipment is in CD-ROM and World Wide Web versions of TB 55-46-1. The hard copy version only contains major end items.

7. Identify Blocking, Bracing, Packing, Crating & Tie-Down (BBPCT) requirements

All crates, containers, boxes, barrels, and loose equipment on a vehicle must be blocked, braced, and tied-down to prevent shifting during transit. The POC for blocking and bracing requirements is normally the UMC.

Chapter 6 of FORSCOM/ARNG Regulation 55-1 describes policy for obtaining and stocking BBPCT materials and related railcar loading equipment for deploying units. Additional tie down guidance is in TEA Pamphlet 55-19 and TEA Pamphlet 55-20.

8. Translate what needs to be moved into transportation terms

Personnel and equipment data are translated into transportation terminology as unit movement data (UMD) and recorded on the OEL. Upon deployment execution, units use TC-AIMS II to update the OEL and create the DEL. The UMC provides assistance to deploying units for OEL updates and DEL development.

9. Determine how the personnel and equipment will move to the POEs

Determine how the personnel and equipment will move to the POEs. In continental United States (CONUS) wheeled vehicles and tracked vehicles move via commercial rail, truck, or barge. Unit personnel usually move to the POE by military or commercial buses. Army rotary wing aircraft normally self-deploy to the POE, where they will be disassembled for shipment.

10. Prepare the unit deployment plan

The administrative, logistical and coordination requirements for the plan must be determined. Items such as enroute medical, messing, and maintenance for movement to POEs must be coordinated and documented.

11. Maintain the movement plan

Update the OEL as changes occur in the OPLAN, equipment, commander's intent, and mission execution. The OEL is used to produce the unit's equipment manifest and MSLs and errors can result in the equipment being lost while in transit.

Unit Movement Officer (UMO)

Ref: FM 4-01.011, *Unit Movement Operations* (Oct '02), app. D.

The UMO is the commander's appointed representative and attends to the details of getting the unit ready for movement. This appendix outlines the responsibilities of the UMO and provides the references for them. Commanders appoint, in writing, an officer or NCO (E6 or above) as a UMO and an alternate (E5 or above). The designated persons will attend an approved school.

The UMO must focus on thorough planning, coordination, training, and execution of unit deployment. Specific responsibilities of the UMO include—

- Preparing and maintaining documentation for unit movement in TC-AIMS II. This includes maintaining the unit movement data, from which the OEL is generated, and creating and processing the UDL.
- Preparing the unit movement plan
- Planning convoy movements
- Requesting commercial and military transportation
- Coordinating with higher headquarters and support activities for unit movements
- Coordinating logistical support for the move
- Coordinating with the A/DACG and CRE at the APOE and APOD
- Coordinating with SDDC representatives at the SPOE and SPOD
- Transporting of the units' organic equipment and cargo
- Establishing and training unit loading teams
- Obtaining 463L pallets, containers; and BBPCT materials
- Ensuring all cargo is properly labeled with MSLs and RF tags when directed
- Ensuring unit personnel are authorized to certify HAZMAT
- Ensuring packing lists are prepared for containers
- Maintaining movement binders or continuity books that include appointment orders, training certificates, recall rosters, OEL, transportation requests, and BBPCT requirements

The UMO will maintain a deployment binder for reference and continuity. The following is a list of recommended contents—

- Unit movement SOP
- Appointment orders and training certificates for UMOs, load teams, and HAZMAT certifiers
- Recall rosters and instructions
- Coordination requirements for plan execution and a list of supporting agencies and POCs
- Major equipment shortage list
- Supply list by supply support activity, coordination requirements, and prepared requisitions
- List of BBPCT on hand and due out
- OEL
- Copies of packing lists
- Prepared copies of transportation requests, convoy movement requests, and special hauling permits

- Strip maps for convoy routes
- Advance party composition and instructions
- Sample forms required for personnel support during deployment
- Transportation requirements
- Rear detachment and family support group operations plans
- Unit-generated checklists or SOPs to assist in deployment planning and execution
- Off-duty hours contact telephone numbers for deployment support organizations

Reference List

The following table identifies the primary references for the functions performed by the UMO.

Function	Reference
Duties of UMO	DTR Part III
Unit movement data	DTR Part III; FORSCOM Reg 55-2
Unit movement plans	FM 3-35 Appendix H; TEA Pam 700-2; FORSCOM Reg 55-1
Transportability of unit equipment	TEA Pam 700-5; TB 55-46-1
Motor transport operations	FM 55-30; TEA Pam 700-2; TEA Pam 55-20
Convoy plan	FM 55-30
Rail operations	FM 4-01.41; TM 55-2220-058-14; TEA Pam 55-19; TEA Pam 700-2
Port operations	FM 55-60
Airlift operations	DTR; TM 38-250; TEA Pam 55-24; TEA Pam 700-2
Sealift operations	DTR; TEA Pam 700-2; TEA Pam 700-4
Vehicle load plans	TEA Pam 55-20
Aircraft load plans	TEA Pam 55-24
Tiedown of equipment in aircraft	TEA Pam 55-24
Containerization	DTR Part IV; FM 55-80; MIL HDBK 138A; TEA Pam 55-23; TEA Pam 700-2
HAZMAT	Title 49 CFR; TM 38-250
AIT/RF tags	DTR; DA Pam 700-85

Ref: FM 3-35, Army Deployment and Reployment, fig. D-1, p. D-2.

a mission essential task, annotate it on their mission essential task list (METL) and gain and maintain proficiency. Many Army training programs offer the opportunity to include deployment training in major training events.

Deployment training begins in the train/ready phase and ideally culminates in a meaningful deployment exercise that challenges all facets of unit deployment in a realistic venue. A well planned deployment exercise includes a process to assess the performance of the Soldiers, units, and support agencies. For the assessment to be effective it must identify the areas needing attention in terms of additional training, revision to a SOP, or coordination with one of the support agencies.

Emergency Deployment Readiness Exercise (EDRE)/ Sealift Emergency Deployment Readiness Exercises (SEDRE)

Units with deployment missions normally participate in periodic Emergency Deployment Readiness Exercise (EDRE)/ Sealift Emergency Deployment Readiness Exercises (SEDRE). These events are designed to exercise unit or command movement plans for overseas deployment. EDREs/SEDREs may involve the unit moving to POEs and loading unit equipment on strategic sealift/airlift assets. Major commands, installation, and brigade level commands normally have SOPs and/or deployment regulations and policies establishing subordinate unit required activities in an hourly deployment sequence. These documents guide unit activities during EDREs/SEDREs.

B. Deployment Training

Units with deployment missions are required to have an appropriate number of personnel trained to perform special deployment duties. These duties include unit movement officer, unit loading teams, hazardous cargo certifying officials, and air load planners. Army Commands and ASCCs have specific policies for appointing and training personnel to assume these positions, and this is a synopsis of the more important ones.

See facing page (p. 6-17) for further discussion.

C. Route and Location Reconnaissance and Rehearsal

Reconnaissance of the route to pre-designated POEs and of the POEs themselves should be an ongoing activity. It may be accomplished through passive means such as map surveillance or, optimally, through site visits. Walking the terrain at the power projection platform and designated port facilities allows commanders to understand space limitation, see choke points, survey facilities, understand the simultaneous nature of the operation, and visualize the deployment operation. Terrain walks can be useful as a unit level activity, but are more beneficial when they involve all participating and supporting units.

Rehearsals validate deployment plans and permit commanders and unit movement officers to see possibilities and limitations. The physics of the operation can become plainly evident. Conducting rehearsals—

- Orients participants
- Defines the standards
- Visualizes and synchronizes the concept of the operation
- Highlights areas that need emphasis or change

Deployment Training

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), pp. 2-4 to 2-5.

Units with deployment missions are required to have an appropriate number of personnel trained to perform special deployment duties. These duties include unit movement officer, unit loading teams, hazardous cargo certifying officials, and air load planners. Some commands and installations maintain a local capability to provide deployment training to ensure the supported units have ready access to the required training.

1. Unit Movement Officer (UMO)

The commander is responsible for all aspects of deployment preparation, training, and execution and appoints the UMO as his designated representative. The UMO must know the unit's mission and the commander's intent for the appropriate coordination, planning, and execution to take place.

FM 3-35, Appendix D provides more detailed information on the UMO.

2. Loading Teams

Units must have personnel trained in vehicle preparation and aircraft and rail loading/unloading techniques. The type and quantity of equipment to be loaded and the time available for loading determines the composition of the team. Training is arranged through the installation unit movement coordinator (UMC) and once completed the load teams are put on unit orders. Load team composition is tailored to the type and quantity of equipment being loaded and time available for loading:

- **For rail movements**, a well trained team of five operators, using prefabricated tiedown devices, can complete loading and lashing of equipment on a chain equipped flatcar. Units are normally provided 72 hours for loading once the cars are spotted.
- **For air movement**, a six person team can provide efficient loading and tie down of equipment. United States Air Force Mobility Command offers the Equipment Preparation Course to train unit load teams to prepare, load and tie down unit equipment on military aircraft.

3. Hazardous Cargo Certification

At least one individual will be on orders and trained to certify hazardous cargo at each unit level. The hazardous cargo certifying official is responsible for ensuring the shipment is properly prepared, packaged, and marked. The certifying official is also responsible for personally inspecting the item being certified and signing the hazardous material (HAZMAT) documentation. Hazardous cargo certifiers must be trained at a Department of Defense (DOD) approved school within the past 24 months and receive refresher training every two years. Upon training completion, they are authorized to certify documentation for commercial and military truck, rail, sea and air. A common mistake occurs when the HAZMAT certifier is sent with the advance party leaving no one to accomplish the HAZMAT inspections during departure operations.

4. Air Load Planning

Air load planners are appointed and trained to prepare, check, and sign unit aircraft load plans and in the planning and execution of airlift operations. The Air Mobility Command offers an Airlift Planners Course to those units aligned under the AMC Affiliation Program. The course is also taught at Fort Eustis, VA; Fort Bragg, NC; and Fort Campbell, KY.

IV. Initial Notification Activities

The CJCS publishes a formal warning order to prepare for possible military response to a crisis situation. The force provider/Army command then alerts the units and installations. Following receipt of a warning order the deploying unit reviews its deployment readiness status and modifies an existing movement plan or develops a new plan. The units next higher headquarters confirms the readiness status and identifies actions needed to raise the deficient unit to standard.

Army Commands normally pass a Joint Chiefs of Staff (JCS) project code to its subordinate elements which allow units to commit resources for deployment preparation. Deploying units receive the project code and funding guidance and use them to begin the supply requisition process.

The installation adjusts its plans and procedures to support the anticipated deployment and notify the elements (personnel, supply, maintenance, transportation, and training) that are required to support the deploying unit. Based upon a SDDC port call message or an AMC airflow message, the installation publishes schedules for movement to POE. Predeployment support from the installation is critical. Installations facilitate the movement of forces from the installation to the POE. Previously installations could call upon a large pool of forces (sometimes called "pusher units") to support deploying units but the availability of those forces has diminished. The challenge is to have the right balance of military from the deploying unit and other non-deploying personnel, government civilian employees, and contractors trained and organized to provide the required support. The U.S. Army Installation Management Command (IMCOM) manages Army installations worldwide. IMCOM and its garrison commanders play a critical role in ensuring successful mobilization, demobilization, and force projection operations in CONUS and OCONUS. Installations should establish and maintain habitual relationships with all deployment support organizations - the USAF contingency response element (CRE) and the deployment and distribution support teams (DDSTs) from SDDC.

Refer to FM 3-35, Appendix F for detailed information about installation support.

The force provider/Army Command passes a detailed alert order to its subordinate elements. If not already provided, the Army Command receives the JCS project code that allows units to commit resources toward the deployment. To improve its readiness posture, the deploying unit cross-levels equipment and submits requisitions for unit basic load and other needed supply classes. The filling and receipt of supplies is dependent upon the deployment timeline and availability of stocks. Some units have been directed to leave equipment behind during rotations; equipment transfer can take time and should be included in the planning time. The unit also requests supplies to support movement operations (BBPCT, dunnage, containers, and 463L pallets). This is a continuing process within the deploying unit based on unit status and changes imposed as a result of force tailoring or higher headquarters guidance. The unit verifies that assigned ULNs are consistent with the unit's movement increments for deployment. The unit also verifies equipment status compared to the UDL and updates load plans, equipment dimensions and weight, and declarations of dangerous goods. Once corrections are made, the unit prints and applies military shipping labels (MSLs) and attaches radio frequency (RF) tags. Additionally, the unit will identify the equipment that will accompany the troops and finalize the UDL as early as possible.

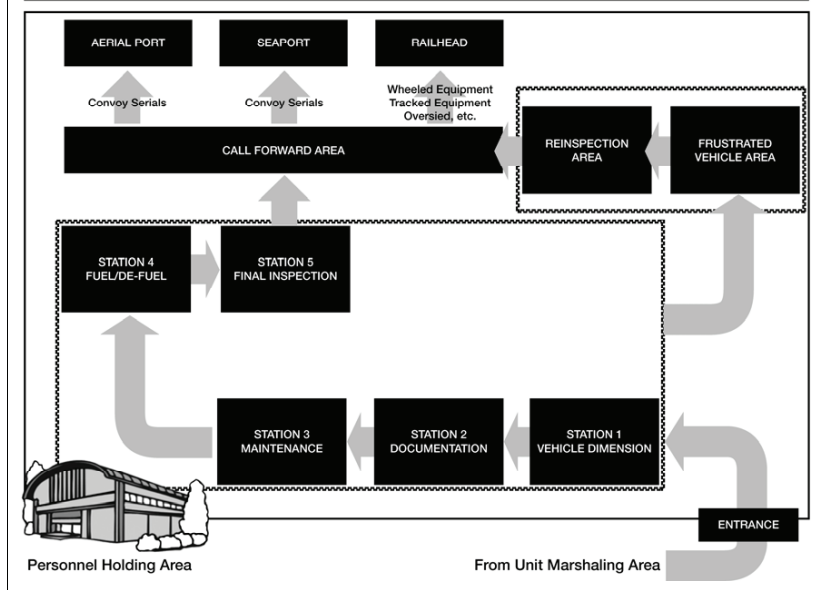
If not previously provided by the Army Command, the deploying unit activates derivative Department of Defense Activity Address Code (DODAAC) and derivative unit identification code (UIC). The UMO finalizes lift and load plans, shipping documentation, and convoy clearances as secondary loads and pallets are built and containers are stuffed.

V. Installation Deployment Support

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), app. F.

The installation deployment support plan (IDSP) defines the concept of support and should include measures to address the quality of its services as it prepares units for deployment. For example, installations should exact quality control measures in each of its deliverables from training to facilities management to the delivery of emergency/medical services. Further, quality control ensures units have the proper HAZMAT certificates, and customs and movement control documents required for all modes of transit. Quality control ensures ITO/UMC reviews movement planning and readiness checklists for completeness to the civilian worker responsible to make certain unit equipment is properly configured, safe and transportable.

Standard Installation Deployment Flow



The garrison is the organization that provides services and resources to their installation customers. The senior commander (SC) is a general officer who is also a corps or division commander; in the capacity of a corps or division commander the focus is on mission. On the other hand the SC focuses on the installation including oversight of IMCOM services provided to all units.

AR 5-9 designates the areas installations must be prepared to support and the units within the boundaries are the responsibility of the installation to support. Certain installations are designated a PPP or a PSP:

- **Power Projection Platform (PPP).** A PPP is an Army installation that strategically deploys one or more BCTs and/or mobilizes and deploys high priority Army reserve component units.
- **Power Support Platform (PSP).** A PSP is an active Army or federally activated state operated installation that strategically deploys individuals from all services, civilians, and mobilized reserve components. PSPs also house training facilities and heavy equipment for reserve component combat units.

Deployment Planning (JOPES & TPFDD)

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), pp. 2-1 to 2-3.

Joint Operational Planning & Execution System (JOPES)

JOPES is the integrated, joint command and control system used to support military operational planning, execution, and monitoring activities. JOPES incorporates policies, procedures, personnel and systems, and underlying Global Command and Control System (GCCS) information technology support to provide senior-level decision-makers and their staffs with enhanced capability to plan and conduct joint operations. JOPES provides the mechanism to submit movement requirements to lift providers in the form of a TPFDD. The TPFDD is both a force and a transportation requirements document.

Refer to The Joint Forces Operations & Doctrine SMARTbook for further discussion of JOPES.

Time-Phased Force and Deployment Data (TPFDD)

TPFDD is the JOPES data-based portion of the operational plan; it contains time-phased force data, non-unit related cargo and personnel data, and movement data for the operational plan including:

- In-place units
- Units to be deployed to operational plan with a priority indicating the desired sequence for their arrival at the POD
- Routing of forces deployed
- Movement data associated with deploying forces
- Estimates of non-unit related cargo and personnel movements to be conducted concurrently with the deployment of forces
- Estimates of transportation requirements, which are fulfilled by common user lift resources, as well as those requirements that can be fulfilled by assigned or attached transportation resources

Flowing forces in accordance with a TPFDD results in the delivery of sequenced force packages to the combatant commander and makes the best use of the apportioned strategic lift, while at the same time providing situational awareness of arriving forces to the CCDR. Operational requirements and force flow decisions resulted in TPFDD sequence adjustments via requests for forces (RFF) during recent operations. In addition, revised or updated deployment orders, commonly referred to as a deployment order, were used to alert and move affected units. The joint staff and services are developing future systems to provide the necessary agility to accomplish such real-time adjustments to the complex problem of revising the TPFDD flow during execution.

USTRANSCOM analyzes TPFDDs for transportation feasibility in conjunction with the supported combatant commander during the planning process. Analysis is conducted using models, simulations, and transportation expertise. Dependable strategic transportation feasibility analysis depends on accurate combatant command analysis of theater transportation infrastructure capacity. The objective of TPFDD maintenance is to systematically incorporate required changes while the plan is active. It is essential that units maintain up-to-date data so the JOPES database is accurate.

Units require extensive support to prepare for deployment. The support can include assistance related to equipment inspection, maintenance, property transfer, and loading. It can also include assistance in the staging areas and help with life support. These support requirements are usually identified in unit standing operating procedures (SOPs) and movement plans and installation SOPs. Installation and nondeploying units are tasked and contractors are hired to provide the support.

III. Movement

Ref: FM 3-35 (FMI 3-35 and FM 4-01.011), Army Deployment and Redeployment (Apr '10), chap. 3.

I. Movement to the Port of Embarkation (POE)

Movement to the POE normally begins with receipt of an execute order from the Army Command; the order, along with any additional guidance is forwarded to the appropriate subordinate commands, deploying units, and installations. SDDC issues a port call message that identifies the date the unit must have their equipment at the seaport of embarkation (SPOE) to meet the ALD. The port call message or the operations order for sealift will also normally include details for vehicle reduction and preparation. AMC enters the aerial port of embarkation (APOE) and airflow scheduling information into Global Transportation Network (GTN). Scheduling information is also available in the JOPES. Based on port call messages and air schedules, the organization backward plans movements to the POEs. Deploying unit equipment normally moves from unit marshalling areas to a central staging area on the installation for further processing. The name, organization and responsibilities for these installation level staging or marshalling areas may differ; however, the functions performed to prepare units for movement are essentially the same.

Each installation has an associated strategic aerial port and/or seaport, but must be prepared to deploy from other ports as necessary. The proximity of the port facilities to the installation determines the type of movement and the numbers and types of assets required to complete the movement to the port. In some cases, the distance to APOE and SPOE is short, allowing units to maximize the use of organic equipment and convoys. In other cases, the distance to the APOE or SPOE is longer; in which case, units may have to rely heavily on commercial road and/or rail transport to complete the move to the port.

Convoy Operations

In some cases, units convoy their vehicles and equipment to the POE. A convoy is a group of vehicles organized for the purpose of control and orderly movement under the control of a single commander. In the absence of policies to the contrary, a convoy consists of six or more vehicles. Vehicles in a convoy are organized into groups to facilitate command, control, and security and normally move at the same rate.

To assist in the centralized convoy management, FORSCOM has implemented a **Mobilization Movement Control Automation System (MOBCON)** in each state. The unit will submit a DD Form 1265 (Request for Convoy Clearance) and/or a DD Form 1266 (Request for Special Hauling Permit) through the installation UMC. MOBCON uses the National Highway Network database to schedule and deconflict convoys within CONUS. The deconfliction process allows only one convoy to operate over a segment of highway at any given time. The program links the Defense Movement Centers and provides visibility of all convoys.

Procedures for processing convoy clearances (including the number of vehicles that constitute a convoy) are established by theater policy, standardization agreement, or the host nation (HN) support agreement.

Refer to FM 4-01.45 for specific guidance on planning and conducting convoy operations. Refer to FORSCOM Regulation 55-1 for specific information regarding MOBCON.

Rail Operations

Responsibility for planning and executing rail movements of vehicles and equipment is split between the deploying units and the installation transportation office (ITO). The deploying unit—

- Determines its movement requirements and submits them to the ITO
- Prepares their equipment for rail loading
- Load railcars and chock, block and tie down equipment under the technical supervision of the ITO, who is ultimately responsible for approving all rail loads

The ITO is responsible to—

- Obtain rail cars based on deploying unit requirements
- Validate railcar requirements based on unit rail load plans
- Maximize the use of the available rail assets
- Serve as the official liaison with SDDC and the railway agent and inspect all railcars for serviceability before units begin loading.

The movement control team (MCT) performs the ITO functions in OCONUS locations and obtains the rail cars, validates railcar requirements, serves as the liaison with the railway agent, and inspects the railcars before the units begin loading.

Movement of Passengers

Once the equipment and material are moved to the POE the movement of troops is addressed. Most troops move long distances by air and are configured as advance party, main body, and trail party. In addition, some troops move with the equipment to provide security, property accountability, and assist in reception activities.

The unit prepares personnel rosters for each chalk or plane load. The UMO requests busses and trucks to move the personnel and their baggage from the unit area to the A/DACG. As the personnel arrive at the A/DACG manifests are prepared by the A/DACG and the personnel information verified by checking the CAC (common access card). The baggage is palletized and moved to the ready line. The Soldiers remain in the sterile area until the chalk is called forward to load and the AF moves the chalk to the aircraft for loading.

In-Transit Visibility (ITV)

The radio frequency identification device (RFID) is a transponder that contains information about the contents of the container or the vehicle to which it is attached. In-transit visibility (ITV) is achieved as the progress of the container or vehicle is recorded as it passes through the network of interrogators. ITV preparation begins during predeployment and continues through the load out of vehicles and equipment. Ensuring the automated identification technology (AIT) storage devices are accurate, properly attached, and readable facilitates ITV throughout the transportation pipeline. AIT readers and interrogators report the movement to automated information systems (AIS) allowing deployment managers to track and control the flow of equipment. Prior to departing their deployment stations units must write RFID and attach them to vehicles and equipment.

Detailed guidance for writing and attaching RFID is outlined in FM 3-35, Appendix J.

II. Movement to the Port of Debarkation (POD)

The combination of strategic airlift, sealift, and prepositioned equipment, referred to as the Strategic Mobility Triad, provides the capability to respond to contingencies. Each element of strategic lift has its own unique advantages and disadvantages. In general, airlift transports light, high priority forces and passengers required to rapidly form units with prepositioned equipment and supplies. Airlift is fast and fairly flexible but has limited capacity; it is also expensive and depends on airfield availability. On the other hand, sealift is slower (compared to airlift) and has limited flexibility; however, it is cheaper and has much greater capacity. Sealift is also dependent on port availability or assets for in-stream discharge. Afloat prepositioning of unit equipment reduces the reaction time required to move the force packages to the JOA. Forward stationing of Army watercraft reduces the sail time required to link up with arriving vessels and begin intra-theater water transportation operations. The disadvantages associated with prepositioning are the high costs associated with the periodic offload of vessels and the maintenance of equipment; also there is a risk that the forward deployed assets may not be close to the contingency.

Strategic Airlift

During the early stages of a deployment strategic airlift is the primary means of moving forces and remains so until the sea line of communication is established. Strategic airlift assets are provided by Air Mobility Command and include both military aircraft and commercial aircraft activated as required under the Civil Reserve Air Fleet program.

Refer to JP 3-17 for more information about air mobility.

Strategic Sealift

Strategic sealift normally moves the majority of unit equipment identified for deployment. Strategic sealift assets are provided by Military Sealift Command and include both military and commercial vessels. Additional capacity can be mobilized under the Voluntary Intermodal Sealift Agreement which is a partnership between government and industry to provide commercial sealift and intermodal shipping services.

Refer to JP 4-01.2 for more information on sealift support.

Commercial Liner Service

In many cases unit equipment is moved by commercial liner service operating over scheduled routes on a regular basis. The carrier often picks up the equipment, moves it to the POE, and loads it aboard the ship, reducing the requirement for DOD transportation assets. In that most liner service vessels are container ships the equipment being moved must be containerized or loaded on flat racks. In-transit visibility of unit equipment moved by liner services is an issue that is being addressed by the Joint Deployment and Distribution Enterprise.

Army Prepositioned Stocks (APS)

If sited appropriately, Army prepositioned stocks reduce the amount of strategic lift required to support a rapid buildup of forces to demonstrate US resolve. Forward stationing of Army watercraft in a combatant command AOR reduces the sailing times required to link up with afloat Army prepositioned stocks (APS). Army watercraft are also co-located with land-based APS to reduce movement times if these stocks need to be shifted in a theater.

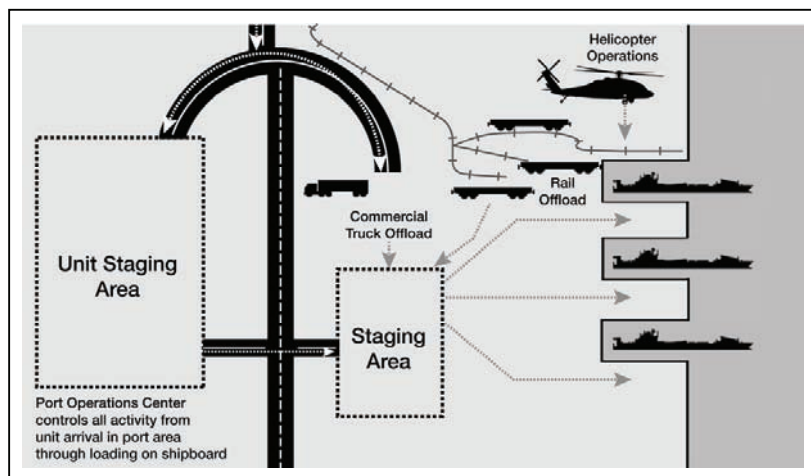
See p. 1-27 for related discussion. Refer to FM 3-35.1 for more information on Army prepositioned operations.

III. Seaport of Embarkation (SPOE)

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), pp. 3-3 to 3-4. See p. 6-28 for discussion of SPOE responsibilities.

A number of essential activities occur at the SPOE during deployment operations as units prepare for shipment by strategic sealift. The tasks are performed by a number of DOD and Army units and ad hoc organizations.

Notional Seaport of Embarkation



Ref: FM 3-35, *Army Deployment and Redeployment*, fig. 3-1, p. 3-3.

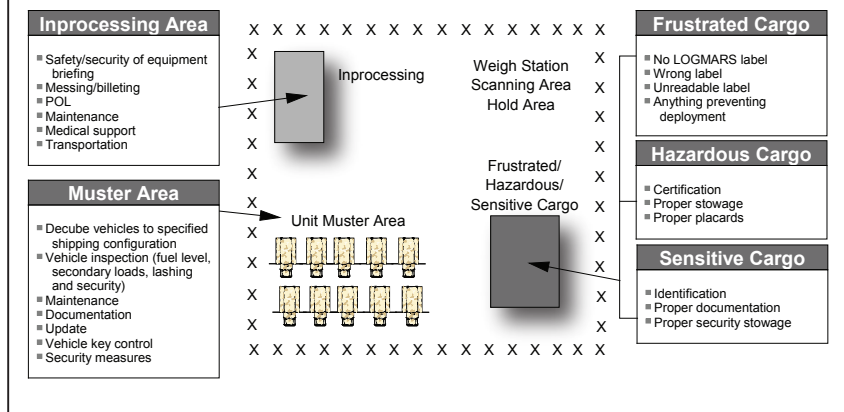
1. Marshalling Area

For movement to SPOEs deploying units and equipment may use an en route marshalling area. These areas are ideally located near the port staging area and in the immediate vicinity of rail and truck discharge sites. The SPOE marshalling area is the final en route location for preparation of unit equipment for overseas movement prior to the equipment entering the port staging area. Establishment of a marshalling area reduces congestion within the terminal area and provides space for sorting vehicles for vessel loading. The layout of a marshalling area is not fixed but is contingent on available space and needs of the unit. Equipment arriving in the marshalling area is normally segregated in accordance with the vessel stow plan.

2. Staging Area

The equipment is moved from the marshalling area to the staging area based on the vessel work plans and as directed by the port commander. The SDDC port commander assumes custody of the cargo at this point. Activities within the area include equipment inspection for serviceability, packing lists/load card, accuracy of dimensions and weights, properly secured secondary loads, and documentation of any cargo requiring special handling. Military shipment labels affixed to equipment will be scanned using bar code readers. The data will then be loaded into the Worldwide Port System (WPS) to produce the ship manifests and serve as the basis for status reports. Additionally, WPS feeds data to GTN.

Marshalling Area



Ref: Adapted from FM 4-01.011, Unit Movement Operations, fig. 4-1, p. 4-4.

The port support activity (PSA) is a flexible support organization designed to assist SDDC with the loading or discharge of cargo, vehicles, and equipment at seaports. The PSA is normally composed of Materiel Command (USAMC) will reimburse SDDC for the support services. In those instances where the contractor cannot provide the required support (aircraft assembly/disassembly, convoy reception) the deploying unit or a designated support unit will be responsible for fulfilling the requirement.

Moreover, the deployment and distribution support battalions and their subordinate teams may be at the SPOE assisting deploying units with documentation, ITV, and vehicle inspection. In a mature OCONUS theater, there is a similar PSA arrangement. Additional manpower may be provided by host nation support.

In some situations, particularly in remote and austere locations, SDDC will not have access to the usual contract or host nation resources to perform the PSA function. In those cases the port operator will request assistance from sustainment forces or the deploying force to satisfy the requirement. The PSA is operationally controlled by the military port or TTB commander.

When processed, equipment may be segregated into different lots within the staging area by type, size, and any other special considerations such as hazardous materials, sensitive and classified items, and containerized equipment. From the staging area, vehicles are called forward to load the ship based on the stow plan and call forward schedules.

3. Supercargo

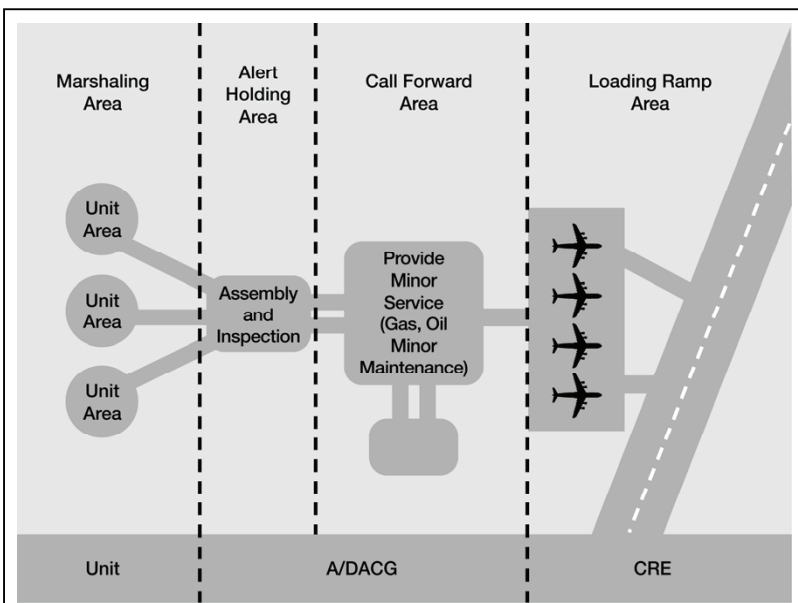
Supercargoes are unit personnel designated on orders to accompany, secure, and maintain unit cargo on board ships. They perform liaison during cargo reception at the SPOE, vessel loading and discharge operations, and SPOD port clearance operations. The supercargoes are attached to the port operator and remain with the port manager at the SPOD until the offload is complete and they are released back to their units. Deploying unit commanders recommend the composition of supercargoes based on several factors including the amount and types of equipment loaded aboard the ship and the number of units with equipment on the ship. Military Sealift Command (MSC) determines the actual number of supercargo personnel permitted onboard, based on the berthing capacity of the ship.

IV. Aerial Port of Embarkation (APOE)

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), pp. 3-4 to 3-6.

The APOE is the transition point for Army units deploying by air. There are four distinct areas—marshalling area, alert holding area, call forward area, and loading ramp area associated with an APOE as shown below.

Notional Aerial Port of Embarkation



Ref: FM 3-35, *Army Deployment and Redeployment*, fig. 3-2, p. 3-5.

Preparation for air movement begins with receipt of the mission directive or order and continues through the planning phase until execution. A series of local joint conferences is required during the planning phase for close coordination and to ensure a clear understanding of responsibilities. As a minimum, a joint planning conference will be held as soon as possible after receipt of the air movement order or directive. A final coordination conference will be held immediately before the move. Participating elements should be represented at these conferences by key personnel who can make decisions for their organization. These conferences do not rule out the need for continuous coordination throughout the planning cycle. The CCDR or representative will conduct a final joint coordination meeting with the representative of the deploying unit, the DACG, and the CRE. The **Contingency Response Element (CRE)** is a deployed Air Mobility Command organization that provides on-site management of airfield operations. At this meeting, the deploying unit, DACG and CRE will present planning status and identify any problems. Air movement requirements will be based upon unit movement data (UMD) and provided IAW FORSCOM Reg 55-1 or as otherwise specified by the movement order or tasking directive.

See following page (p. 6-28) for further discussion of the Contingency Response Element (CRE) and Arrival/Departure Airfield Control Group (A/DACG).

Normally there will be Army and USAF personnel working together to process, inspect, document, and load the personnel and equipment. At some locations, the Army must carry out all of the APOE functions and in those cases the Army personnel are trained and certified to fulfill the USAF roles.

The duties of the departure airfield control group (DACG) and the CRE are discussed in FM 3-35, Appendix G.

1. Marshalling Area

The primary purpose of the marshalling area is to provide a location near the APOE to assemble personnel, supplies, and equipment and make final preparations for air shipment. Unit marshalling areas are used to receive convoys and process vehicles before they are staged for loading. Marshalling areas is the responsibility of the deploying commander, assisted by the ITO, supporting units, or other designated organizations; operations are based on local policy and standing operating procedures.

The deploying unit:

- Establishes liaison with the DACG
- Coordinates a joint planning conference with the DACG and CRG to discuss aircraft allowable cabin load, pallet restrictions, aircraft configuration, equipment preparation requirements, airflow schedule, and any other issues impacting deploying unit preparation and processing
- Prepares vehicles and equipment
- Ensures adequate shoring material is available
- Prepares personnel and cargo manifests
- Assembles personnel, supplies, and equipment into aircraft loads
- Ensures planeload commanders are appointed and briefed
- Provides escorts for sensitive items
- Builds 463L pallets.

2. Alert Holding Area

The alert holding area is the equipment, vehicle, and passenger control area. It is normally located in the vicinity of the departure airfield and is used to assemble, inspect, hold, and service aircraft loads. Control of loads is transferred from the individual unit to the DACG at this point.

The deploying unit:

- Ensures the aircraft loads arrive on time
- Provides manifests to the DACG
- Corrects load discrepancies identified during pre-inspection
- Ensures vehicle drivers remain with the vehicles until released
- Passes control of aircraft loads to DACG

3. Call Forward Area

The call forward area is the joint responsibility of the CRE and the DACG and is the location for the joint inspection of deploying unit equipment and cargo. The DACG, the deploying unit, and the CRE conduct the inspection. They complete a DD Form 2133 (Joint Airlift Inspection Record) to indicate to the loadmaster that it has completed the required inspection. Deficiencies are corrected by the unit and rechecked by the inspection team. Once the inspection sequence is complete, the deploying unit arranges its vehicles, pallets, and equipment into load or chalk sequence. A final briefing is provided to deploying troops and the CRE reviews all manifests for accuracy.

4. Loading Ramp Area

The loading ramp area, including ready line area, is controlled by the CRG. At this point, control of units for movement purposes passes to AMC.

The chalk commander:

- Follows directions of load team chief
- Monitors and controls aircraft passengers; retains copy of the final manifests
- Provides assistance in loading and securing the load as required
- Ensures vehicle/equipment operators follow instructions

The load team:

- Receives loads at the ready line
- Loads and secures vehicles and equipment under supervision of the loadmaster
- Provides the loadmaster with manifests
- Informs CRE of load completion time

V. Arrival/Departure Airfield Control Group (A/DACG) Responsibilities

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), app. G.

Contingency Response Element (CRE)

The USAF normally exercises overall control of airlift and loading/unloading operations at the departure and arrival airfields. Airlift resources will at all times, remain under the operational control of the USAF. The USAF will establish a CRE at both departure and arrival airfields. The CRE provides the commander, command and control staff, and communications required to support AMC's worldwide refueling and airlift operations. The CRE may also include additional contingency support elements such as aircraft maintenance, aerial terminal, weather, intelligence, flight surgeon, etc. These contingency support elements are under the direct command of the CRE commander and are organizationally subordinate to the CRE.

The A/DACG will coordinate and control loading and offloading of units for deployment or redeployment.

Arrival/Departure Airfield Control Group (A/DACG)

The A/DACG is an ad hoc Army organization established to control and support arrival at the APOD and departure from the APOE. Elements of a movement control team and an inland cargo transfer company typically operate the A/DACG however the mission can be performed by almost any unit with the properly trained personnel and equipment. The organizational elements of an A/DACG, command, operations, joint inspection, and loading/unloading, remain constant but the size and capabilities are mission dependent. In CONUS the A/DACG will normally work for the DOL however OCONUS a sustainment brigade may be assigned the responsibility to oversee the establishment and operation of the A/DACG. As a minimum the following steps should take place:

- Exercise overall operational planning, supervision and management of the A/DACG activities within installation as pertains to safety, training and operations
- Develop a SOP outlining safety, training, and operations procedures
- Ensure all civilian personnel involved in A/DACG operations are sufficiently manned, trained and funded for mission accomplishment. Ensure A/DACG personnel receive annual training
- Ensure all A/DACG personnel with a need to drive on the flight line are trained and certified by the appropriate authority. This certification should be annotated on the individual's U.S. Government Motor Vehicle Operator's ID Card, OF 346.
- Establish and provide guidance on security requirements
- Brief all personnel engaged in A/DACG operations
- Establish communications
- Obtain parking and flow plan from the mobility force
- Coordinate MHE with the mobility force
- Ensure sufficient loading team personnel and vehicles are available to accomplish the mission
- Advise the deploying units of the airflow and expected arrival of aircraft
- Receive passenger and cargo manifests from the loadmaster
- Supervise off-loading the aircraft (normally accomplished by the aerial port squadron), including removal of shoring and dunnage
- Ensure communications between CRE and A/DACG and all functional areas of CRE
- Inform unit of any change in operations

IV. Reception, Staging, Onward Mvmt, Integration

Ref: FM 3-35 (FMI 3-35 and FM 4-01.011), *Army Deployment and Redeployment* (Apr '10), chap. 4.

The purpose of RSOI is to build the combat power necessary to support the CCDR's concept of operation. Force closure is that point which the combatant commander determines that an adequate combat-ready force is available. Force closure requires well-defined criteria by which unit commanders can measure their readiness. Assessment of combat power begins with established standards for readiness and is based on unit capability, rather than simple tallies of vehicles and weapon systems on hand. Readiness and report- ing are inherently operational matters, normally handled through operations channels.

RSOI Segments



Reception



Staging



Onward Movement



Integration

Ref: FM 3-35, *Army Deployment and Redeployment*, chap. 4.

Reception is the unloading of personnel and equipment from strategic transport, marshaling them, transporting them to staging areas, and if required, providing life support services. *See pp. 6-33 to 6-36.*

Staging is the assembling, holding, and organizing arriving of personnel, equipment, and basic loads into units; preparing the units for onward movement; and providing life support until the unit becomes self-sustaining. *See pp. 6-36 to 6-38.*

Onward Movement is moving units from reception facilities and staging areas to TAAs or other theater destinations; placing arriving nonunit personnel to gaining commands; and providing sustainment to distribution sites. *See pp. 6-38 to 6-39.*

Integration is the synchronized transfer of authority of units to a designated component or functional commander for employment in the theater of operations. *See pp. 6-39 to 6-40.*

RSOI Infrastructure

RSOI operations are the responsibility of the CCDR and his designated command and control headquarters, normally a theater sustainment command. The TSC controls the physical facilities and collaborates with the advanced echelon of the arriving headquarters to establish the throughput rate it can handle. The deploying forces have a responsibility for their own security, organization, and movement through the RSOI process to the extent possible. The process is supported by outside entities

such as host nation operators and contractors. The complex RSOI system is usually composed of several elements, each contributing to the process—

- In-place command and control forces
- Advanced echelon of the deploying units
- Deploying forces
- Host nation and multinational support elements
- Contractor support
- Army prepositioned stocks

The RSOI infrastructure also includes some of the theater's distribution nodes. Nodes are a location in a distribution system where a movement requirement is originated, processed for onward movement, or terminated.

RSOI Execution

RSOI effectiveness is dependent upon proper TPFDD development. For example, the combatant commander places rapid port clearance capabilities early in the TPFDD and coordinates personnel and equipment flows on the TPFDD so they can be united without delay at ports or staging areas. Decisions on force mix and sequence are critical, because adjustments after deployments begin become difficult to implement. Moreover, changes cause ripple effects and may seriously disrupt the flow of forces into the JOA.

Communication is necessary at all levels, and across all modes and nodes. The communication system must link the combatant commander, the supporting combatant commands, the deploying units, the RSOI providers, and the tactical commanders who will integrate the deploying force into their structures. Mission, enemy, terrain and weather, troops and support available-time available and civilian considerations (METT-TC) may cause certain units to be in high demand or necessary for immediate employment. Critical resources like heavy equipment transporters, fuel support, or buses to move personnel may have to be diverted to rapidly move these units. Secure, assured, compatible, and reliable means of relaying deployment data is essential.

RSOI Coordination

The Army operates in diverse environments and conducts a variety of operations as part of joint, multinational, or interagency teams. This fact increases the difficulty of RSOI and reaffirms the need for established procedures, mutually understood relationships, and robust liaison. Army commanders need to understand how best to integrate their forces into the various organizations under which they will operate.

- **Joint.** Joint integration of planning and execution is key to successful RSOI.
- **Multinational.** Major differences in logistics doctrine, mobility, resources, interoperability, and language create problems in coordinating the use of highways, rail lines, seaports, and airfields, as well as providing support and services for multinational RSOI operations.
- **Host Nation Support.** Host nation support is civil and military assistance rendered by a nation to foreign forces within its territory during peacetime, crises or emergencies, or war. This assistance is normally outlined in host nation support agreements mutually concluded between nations.
- **Interagency.** In the course of joint and multinational operations, the Army operates alongside US and non-US government agencies, non-governmental agencies. To promote unity of effort and assess the impact of these agencies and organizations on the RSOI effort, the JFC can establish a civil-military operations center.
- **Liaison.** Liaison with forces of each Service, nation, and higher and adjacent headquarters is a prerequisite for effective RSOI and timely transfer of critical information.

Principles of RSOI

Ref: FM 3-35 Army Deployment and Redeployment (Apr '10), pp. 4-1 to 4-2.

1. Unity of Command

One commander should control and operate the RSOI process - adjusting resources based upon deployment flows, controlling movements in the area of operations, and providing life support to arriving personnel.

2. Synchronization

Synchronization occurs when the right units, equipment, supplies, and capabilities arrive in the correct order at the appropriate locations, and supporting activities are coordinated to operate with one another to ensure the tempo of deployment is uninterrupted.

3. Unit integrity

Moving unit personnel and equipment on the same strategic lift platform provides distinct advantages for units and the force closure process. It leverages the strength of the chain of command, simplifies force tracking, and increases training opportunities. While it is impossible to put an entire armored battalion on one airplane, the increased sealift of the LMSR allows movement of all the battalion equipment on a single ship. Maintaining unit integrity during strategic lift can simplify the RSOI challenge of incrementally building combat power.

4. Balance

Defining the size of the required support structure required is essential to effectiveness. The goal is to avoid burdening strategic lift, infrastructure, and the commander with more support than is necessary, yet deploy minimum assets necessary to optimize throughput of units and materiel. Supporting assets must be deployed in a properly timed sequence to leverage their capabilities and may be increased to reduce vulnerability of the overall force. Increasing the RSOI capability to clear backlogs in ports and staging areas can be a tool to reduce force vulnerability.

Security

All military operations have some element of risk. To build combat power at an acceptable rate the RSOI process must be protected from enemy threats. The arriving force is most vulnerable when it is closing on the POD and undergoing reception, staging, and onward movement. It is the responsibility of the CDR to protect the arriving force and his staff must coordinate with the inbound unit to mitigate any risk.

Optimization

The commander's planning and operational dilemma is balancing the need for early deployment of combat forces against the requirement to deploy tailored logistical units that maximize throughput of sustainable combat forces. To resolve this dilemma, the commander must have the ability to see, understand, and balance the flow. The combatant commander defines force requirements in terms of size, location, and time while the TPFDD defines the force flow needed to meet these requirements. Knowledge of the RSOI infrastructure present in the theater, coupled with assets arriving via the TPFDD, is critical to understanding the flow.

The relationship between throughput volume and RSOI infrastructure is important to commanders trying to optimize force closure capacity. Accelerating the arrival of combat forces in the TAA requires an increased deployment of RSOI forces. Deploying additional RSOI forces costs space on strategic lift and requires additional positions in the TPFDD. The combatant commander applies the necessary command and control to ensure unity of command, and establishes communications for a seamless flow of information to manage and influence the force buildup.

I. Reception

As the initial step in introducing combat power, reception can determine success or failure of the RSOI operation. Reception from strategic lift is implemented at or near designated air and seaports of debarkation, normally under control of the combatant commander. It must be thoroughly planned and carefully executed. While the reception plan for each theater may vary, reception capacity should at least equal planned strategic lift delivery capability.

The intelligence preparation of the operating environment and analysis of theater reception capability provide an understanding of how competition for reception at airfields and seaports could affect the force flow. It is also possible that Marine forces will arrive in the theater simultaneously with Army forces and compete for the same ports.

For the initial period of deployment, the aerial port is the lifeline to the front-line. All that is not prepositioned or available from the host nation comes through the aerial terminal. Then the first surge sealift ships begin to arrive, dramatically increasing forces. Airlift remains a critical element regarding delivery of personnel, but most unit equipment to build the combat power arrives through seaports.

Functions

Synchronizing transportation reception activities are critical to facilitating throughput at the ports of debarkation. They include command and control, movement control, and port operations.

1. Command and Control

Like any other in-theater activity, reception is under command and control of the combatant commander. However reception planning and execution is the responsibility of the commander assigned the responsibility for RSOI. In most combatant commands the commander will designate a senior leader to command and control RSOI operations.

The arrival of strategic air and sealift will be controlled by the combatant commander through the USTRANSCOM element attached to his staff. The APOD and SPOD will normally be managed by AMC and SDDC respectively, and operated by the designated logistics organization under command and control of the lead Service.

2. Movement Control

Efficient movement control allows commanders to redirect forces and rapidly compensate for disruptions in the LOCs. A movement control element must be positioned at each reception node, and remain in constant communication with USTRANSCOM elements on-site, and with other movement control elements in-theater. A well-disciplined and centralized system must be implemented to control movements along all LOCs. The movement control system is responsible for establishing protocols with host/allied nations concerning use of available transportation nodes and infrastructure.

Two factors determine reception throughput: reception capacity and clearance capability. All ports have finite processing and storage space, and unless personnel and equipment are cleared quickly, the port will become congested, cargo will be frustrated due to inaccurate or lost documentation, and the infrastructure will be unable to receive forces at the required rate of delivery. Factors contributing to efficient port clearance are proper documentation, professional movement control expertise, adequate materiel/container handling equipment, and trained personnel. Port operators need timely and accurate documentation including advance information on forces and equipment arriving in-theater. Efficient movement control assures best use of available infrastructure and proper metered flow of forces and equipment according to operational priorities.

3. Port Operations

The RSOI command and control headquarters must control the deployment flow so that reception capabilities are not overwhelmed. APODs and SPODs should be con-

Port Opening

Ref: FM 3-35 Army Deployment and Redeployment (Apr '10), pp. 4-5 to 4-6.

The planning and execution of rapid port openings are essential for expeditionary operations. The successful opening of multiple ports facilitates expansion into a robust theater deployment and distribution system. The Joint Task Force-Port Opening (JTF-PO) and the Transportation Theater Opening Element (TTOE) are organizations designed to open ports and establish the initial distribution network.

See related discussion on p. 1-30.

Joint Task Force-Port Opening (JTF-PO)

Responding to crisis situations ranging from humanitarian missions to major combat operations requires a capability to rapidly establish initial theater deployment and distribution operations. The joint and expeditionary nature of this requirement demands a joint force structure, comprised of air and surface elements.

The JTF-PO combines USAF, Navy, and Army capabilities to provide USTRANSCOM and the theater commander with a ready-to-deploy, trained force for opening ports and establishing the initial distribution network. In addition, JTF-PO facilitates JRSOI and theater distribution by providing an effective interface with the theater CCDR's Joint Deployment and Distribution Operations Center (JDDOC). Functions that the JTF-PO may perform in the accomplishment of its mission include:

- APOD/SPOD assessment
- Distribution network assessment
- Establishment of command and control (C2) connections with the JDDOC
- APOD/SPOD opening and initial operation
- Distribution node management
- Cargo and passenger transfer operations and cargo movement to distribution nodes
- Movement control including coordination for onward movement of arriving cargo and passengers
- In transit visibility (ITV)

Transportation Theater Opening Element (TTOE)

When the sustainment brigade is given the mission to manage a theater opening operation it is augmented with a mix of functional and multifunctional organizations. The transportation theater opening element provides staff augmentation to a sustainment brigade headquarters engaged in theater opening operations. The TTOE provides transportation functional expertise for staff planning and supervision of units engaged in force reception and distribution operations.

TTOE functions include—

- Monitors movements program, maintains operational status, and commits transportation assets in support of RSOI operations
- Advises on the use of assigned motor, air, and rail transport assets, monitors the status of all mode operations
- Advises on the use of assigned terminal and watercraft operations and provides terminal infrastructure assessments

RSOI Port Selection

Ref: FM 3-35 Army Deployment and Redeployment (Apr '10), pp. 4-7 to 4-8.

Seaport and airfield throughput capacities significantly influence the speed, order, and, to a large extent, the types of units that can deploy through them. Consequently, before thought is given to actual deployment of forces, planners must evaluate available airfield and port facilities within the area of operations, as well as the transportation networks linking them with each other and to the interior. As was the case during Operation Desert Storm, it may be better to use a world class port hundreds of miles away from TAAs rather than conduct an in-stream discharge operation or use a smaller, degraded port facility with limited capacity and throughput. Diplomatic and military contacts should be made at the earliest possible opportunity with the host nation controlling key facilities and rights of way.

The combatant commander in conjunction with USTRANSCOM selects the PODs that will be used for deployment. METT-TC considerations and the theater transportation infrastructure will drive the sequence, type, size of forces, and materiel arriving at ports of debarkation. These decisions impact the speed of combat power buildup and continued development of the theater. Ports of debarkation may need improvement and repair to accommodate high throughput rates required for rapid force closure. Thus, the early entry of units such as cargo transfer companies, Army watercraft, causeway detachments, and engineer assets can be critical to off-loading materiel, clearing ports and consequently speeding deployment.

Aerial Port of Debarkation (APOD)

Deployment by air is often constrained by the capabilities of the arrival airport more often than a shortage of aircraft. Issues such as concurrent civilian use, competition for landing and takeoff slots, ramp space, number of aircraft on the ground at one time, and political restrictions limit its use to military aircraft. Consequently, maximum throughput at limited airports is paramount. The APOD is by its very nature a joint facility and will likely be a multinational facility. It is a POD for deploying forces, and a POE for forces moving to other theaters and noncombatant evacuation. The host nation may limit the APOD to coalition military use, or the military may be sharing the facility with commercial activities. Governmental, non-governmental, and private organizations will likely be competing for use of the APOD along with military forces.

The APOD serves as the primary port of entry for all deploying personnel, as well as for early entry forces normally airlifted into theater together with their equipment. USTRANSCOM through AMC is the DOD-designated single port manager (SPM) for all common user APODs worldwide. The SPM performs those functions necessary to support the strategic flow of forces and sustainment supplies through the APOD. The SPM is responsible for providing deployment status information to the supported CCDR and clearing the airfield in accordance with the CCDR's priorities. Responsibility for APOD functions is divided between the USAF and the Army, with the USAF responsible for airfield operations including air terminal control, loading, unloading, and servicing of aircraft. The Army is responsible for clearing personnel and cargo off the tarmac and for required logistics support for transiting units. USAF/Army interface occurs between the USAF contingency response group (CRG)/CRE and the Army arrival/departure airfield control groups (A/DACG) and MCTs.

Necessary communication, personnel, and cargo handling equipment must be in place to facilitate rapid movement out of the airport. Both the CRE and the A/DACG must be included in the lead elements of the deploying force. The CRE controls all activities at the off-load ramp area and supervises aircraft offloading. The A/DACG escorts loads and personnel to holding areas, thus clearing the airfield and ensures airfield operations and strategic airflow are not obstructed and limited due to the accumulation of cargo.

With responsibility divided between the USAF and the Army, and sometimes multinational forces, multiple chains of command exist within the aerial terminal, which may result in a variety of unforeseen challenges. Given this potential command relationship, potential for conflicting priorities necessitates careful planning and coordination during the reception process. For example, something straightforward as security responsibilities becomes complicated when there are two chains of commands at the same site. Special attention must be paid to ensure that airfield security, the USAF responsibility, and area security, an Army responsibility, are well coordinated among themselves as well as with multinational forces and the host nation.

Seaport of Debarkation (SPOD)

Activities at seaports are normally joint, multinational, and intermixed with commercial operations. Seaports can serve as ports of debarkation for arriving forces and simultaneously as ports of embarkation for forces deploying to other theaters of operations. The CCCR has several options for management of seaport operations in his theater. USTRANSCOM through SDDC is the DOD-designated single port manager (SPM) for all common user ports worldwide. The SPM (normally a transportation terminal group) performs those functions necessary to support the strategic flow of the deploying forces' equipment and sustainment supplies through the SPOD. The SPM is responsible for providing strategic deployment status information to the CCCR and to workload the SPOD port operator based on the CCCR's priorities and guidance. The SPM is responsible through all phases of theater port operational continuum from a logistics over-the-shore (LOTS) operation to a totally commercial contract-supported deployment.

Theater planners must consider several factors when assessing the port's capacity to receive the planned strategic flow. Some of the factors include state of repair, commercial utilization considering not only the port's capability, state of repair, commercial utilization, congestion, and throughput capacity. Throughput capability is based on the port's ability to receive, process, and clear personnel and equipment. The cargo reception function is based on the number and size of the berths, material handling equipment (MHE) and water depth; the cargo process function is based on staging area and the time it takes to marry units with their respective equipment; the cargo clearing function is based on truck and rail out loading facilities; gate capacity, and links to the theater transportation networks.

Seaport operations are similar to airport operations; once the vessels are off-loaded, unit equipment is moved to temporary holding areas within the port to be configured into convoys, rail loads, or watercraft loads. Unit equipment clearing the port moves to an intermediate staging base (ISB), an inland water terminal, or directly to the TAA.

The volume of cargo arriving in the theater in a small window of time can drive the need for multiple seaports to meet deployment timelines. The physical size of roll-on/roll-off ships and depth of water required to bring vessels of this class alongside a pier may also present a challenge. If world-class port facilities are available, off-loading can be rapidly accomplished. If facilities are less than world class or austere, then multiple ports and slower in-stream operations may be required.

The ability to receive forces in an operational area, despite degraded or austere ports is essential to the Army's force projection strategy. Army watercraft is the primary enabler in this process; they allow ships that cannot get to a pier to be off-loaded in-stream. Additional watercraft then moves the cargo to smaller coastal ports or directly over the shore. In-stream discharge operations are sensitive to weather and seas conditions and generally require a protected anchorage.

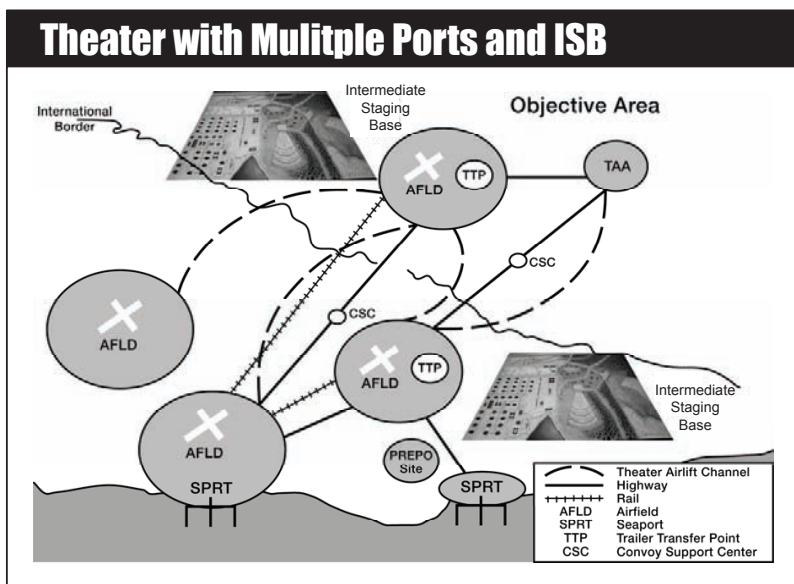
Refer to JP 4-01.6 for additional information on LOTS.

sidered integral parts of a single reception complex, unless the distance separating them precludes mutual support. Reception capacity depends on—

- Port and airfield infrastructure, condition, and characteristics
- Availability of host nation labor and port services
- Off-loading and holding space
- Weather
- Enemy situation

II. Staging

Staging is that part of the RSOI operation that reassembles and reunites unit personnel with their equipment and schedules unit movement to the tactical assembly area, secures or uploads unit basic loads, and provides life support to personnel. These activities occur at multiple sites in controlled areas called ISBs that are required because space limitations normally preclude reassembly of combat units at seaports of debarkation. In general, there will be at least one intermediate staging base (ISB) for each SPOD/APOD pairing.



Ref: FM 3-35, Army Deployment and Reployment, fig. 4-1, p. 4-9.

Intermediate Staging Base (ISB)

An ISB is a secure staging base established near but not in the area of operations. ISBs are temporary staging areas enroute to an operation and also may be used to sustain forces in the area of operations. ISB tasks and capabilities are contingent on the operational situation and are located where they can best support the force.

No two ISBs will be alike; some will be in operation for a few days while others will operate for an extended period. Although we refer to an ISB as if it were a single unit it is in reality a collection of brigade combat teams, sustainment, signal, military police, engineer, and support units brought together for a specific purpose. ISBs must deploy early to be prepared to receive deploying forces and to operate the nodes inherent in the theater distribution plan.

See facing page for discussion of ISB functions. Refer to DA Pamphlet 700-33 for guidance on establishing and operating an ISB.

Intermediate Staging Base (ISB) Functions

Ref: FM 3-35 Army Deployment and Redeployment (Apr '10), pp. 4-9 to 4-10.

An ISB is a secure staging base established near but not in the area of operations. ISBs are temporary staging areas enroute to an operation and also may be used to sustain forces in the area of operations. ISB tasks and capabilities are contingent on the operational situation and are located where they can best support the force.

See related discussion on p. 1-29.

1. Communications

Reliable, secure, and compatible communications are essential to operations in the theater staging base. The CCDR must know when forces are combat-capable and prepared for onward movement to give him the capability to control and employ these forces at the decisive point and time.

Force tracking provides situational awareness of combat-ready units within the operational area. While in transit visibility begins at home station, the process of force tracking begins in the staging area, where equipment and personnel are reassembled into combat-ready units. Staging operations must have the communications, data processing equipment, and personnel assets to provide and manage force tracking data. Efficient movement control can provide force tracking information but it must be able to communicate directly with operational commanders.

ITV acts as a staging enabler by providing commanders with clear pictures of locations of units and materiel in RSOI and deployment. For the ISB commander, ITV provides an awareness of the scheduled arrival of personnel and equipment, so the resources required to support them, as well as time required to assemble the unit in a mission-ready configuration, are available.

2. Life Support

Regardless of time actually spent in the ISB, troops staging through it will require support, including housing, sustenance, sanitation, and health care. RSOI planners must ensure that the force provider units are sequenced early in the TPFDD to be in place and functioning by the time the first units arrive. Even if this requires displacement of some combat capability, it pays dividends later in the operation in the form of higher throughput, faster buildup of combat power, and earlier force closure. The Army Force Provider units, each designed to provide base camp support to 550 people, as well as USAFs Prime Beef and Prime Rib units, are viable options for providing support to transient forces.

3. Arming, Fueling, and Fixing

Equipment arriving at the ISB may require maintenance before it becomes combat ready. This includes calibration of equipment, bore sighting of weapons, replacement of parts damaged in transit, painting, and re-fueling. The ISB should provide adequate facilities to support these activities, including marshalling areas, maintenance shelters, fuel and ammunitions storage, a test-driving loop, and range areas.

4. Preparation of Units for Onward Movement

In addition to preparing equipment, units at the ISB undergo training and reorganization. Communications networks are established, vehicle loads are reconfigured and RFID tags are updated so that tracking systems allow senior commanders to monitor the buildup of combat power. Commanders must participate in planning the onward movement including route planning, unit tracking, and movement control.

5. Security

ISBs are high-value targets. Their destruction or damage results in serious delays in force closure and disruption of the CCDR's concept of operations. Maintaining the flow of forces through the ISB can be the best means of reducing their vulnerability to attack.

Force Closure

In order to meet the force closure requirements, the time that units spend in the ISB must be minimized. Staging should not be a lengthy process, but inefficiencies can cause delays, for example, personnel arriving before their equipment, equipment arriving before its personnel, frustrated cargo, and gaps in matching troops with proper equipment. In fact, a battalion-sized unit should strive to spend no more than two days in the ISB.

ISBs should be located in areas convenient to both the SPOD and APOD, with good lines of communication back to ports of debarkation and forward to designated TAAs. In addition, the ISB should have sufficient space to accommodate the largest force scheduled to stage through it, together with facilities for vehicle marshalling, materiel handling, equipment maintenance and calibration, and possibly bore sighting and test firing of weapons. All of these are needed if the ISB is to fulfill its function of converting personnel and equipment into mission-ready combat units.

Other factors affecting selection of an ISB include geography and terrain and availability of organic and host nation assets. These factors, together with the size of the deploying force, may often necessitate multiple ISBs. The requirement for multiple staging bases is most evident in the urban sprawl of Europe and Korea, particularly around seaport facilities. In many cases, it is tremendously difficult to find even one square mile of open terrain much less the total space requirement for an ISB.

Under normal circumstances, troops deploy by air, while equipment deploys by sea and or rail. The speed differential between air and sea surface transportation is the fundamental cause of complexity and potential difficulties in the staging process. Troops and equipment must be sequenced in the TPFDD so that both arrive (nearly) simultaneously, expeditiously unite, and ready themselves for onward movement.

Troops arriving too early must be provided with meals and quarters while waiting for their equipment to arrive. The TSC or one of its sustainment brigades would be expected to accommodate these needs. Moreover, the mass of immobile, unprotected troops presents an inviting and vulnerable target. On the other hand, if equipment arrives much earlier than the troops, ports of debarkation can become congested, and space management becomes critical.

Early deployment of essential support units at the expense of combat units pays dividends later by speeding the flow of the entire force, enhancing the CCDR's ability to build combat power and increase operational flexibility. Conversely, front loading the TPFDD with combat forces may jeopardize the CCDR's ability to build up forces as rapidly as required and reduce his flexibility.

III. Onward Movement

Personnel and equipment reassembled as combat-ready units must be moved to the TAA based on the CCDR's priorities. Onward movement is a joint/multinational effort using capabilities and organizational structures of other Services, allies, host nation and other governmental entities. It is an iterative activity in which units advance from one LOC node to another. Onward movement occurs when units move from ports to theater staging bases or forward to the TAA. Three primary factors affecting onward movement are movement control, transportation infrastructure, and security.

Movement Control

Movement control is defined as planning, routing, scheduling, and control of forces and sustainment over lines of communication, while maintaining in-transit visibility and force tracking. This is not a passive activity. Successful movement control requires continual analysis of requirements, capabilities, shortfalls, alternatives, and enhancements. Bottlenecks within the theater must be identified and potential interruptions to the flow minimized. One of the biggest challenges of movement control is rapidly adjusting to changes in the operational environment and the commander's priorities. The challenge of a theater movements program is to merge the

CCDR's concept of operations and priorities in a movement plan and execute them. This challenge can be met by employing an adequate number of movement control resources, appropriately enabled by communications, to anticipate and improvise. Efficient movement control enables the commander to redirect forces and rapidly overcome disruptions in the LOC.

Transportation Infrastructure

The transportation infrastructure routes, control factors, host nation support, and specialized handling requirements must be coordinated to maximize speed of movement. Capabilities of the transportation network must be balanced against movement requirements, so that modes and routes are neither saturated nor underused.

The other services and allied forces will be competing for the same networks as the Army and congestion will result if proper coordination is not accomplished. Planners should anticipate simultaneous demands on limited infrastructure, difficulties with communications, and differences in transportation capabilities.

During onward movement, mode selection determines whether the commander of the unit in transit maintains control during the move or whether control of the move is exercised by elements of the TSC. Ideally, tracked vehicles should be moved by rail or heavy equipment transporters and wheeled vehicles should move in a convoy. Inland and coastal waterways should be used when available if they afford useful solutions.

Establishment of convoy support centers and trailer transfer points along main supply routes and other support centers at temporary airfields, rail sites and waterway drop off points, further aids onward movement. These allow units and line haul drivers to rest, eat, perform vehicle maintenance, and contact unit/movement control personnel to receive operational updates, revised priorities, and when necessary diversions.

Security

The onward movement phase can provide the enemy with numerous opportunities to inflict serious losses and delay the build-up of combat power by exploiting vulnerability of units in transit from the ISB to the TAA. Security consists of those actions taken by the unit to protect it against all acts designed to, or may impair its effectiveness.

Enemy interdiction of onward movement presents special challenges that can be partially overcome by using alternative routing and mode substitution when feasible but all units must be prepared to defend themselves. OIF convoys are organized and tightly controlled to afford a higher degree of security. Moreover, hardened gun trucks escort the convoys and additional armed personnel ride in the vehicles to immediately engage insurgents as required.

Security is an important component of warfighting. Security is the responsibility of the moving force itself and forces of the CCDR. Care must be taken to avoid or neutralize explosive devices and attacks on the movement with direct or indirect fires.

IV. Integration

During integration, combat-ready units are transferred to the operational commander and merged into the tactical plan. The transfer may require interaction and familiarization among units and that arriving units meet certain standards before being completely integrated into the combat plan. Consequently, requirements for integration planning and coordination must occur early in the force projection process and modified according to METT-TC until force closure is achieved.

The time required for integration may vary, depending upon the size of the total force, contingency conditions, and amount of predeployment and ongoing planning and coordination. Rapid integration, however, is critical to the success of combat operations, and adequate planning and coordination can reduce integration time.

Thorough integration has to be completed before a unit is operational and can perform its mission. Integration is complete when the CCDR establishes positive command and control over the arriving unit, usually in the TAA, and the unit is capable of performing its assigned mission.

Control measures, such as liaison officers or movement control teams can reduce confusion between integrating units, RSOI forces, and receiving headquarters.

These measures act as guardians of the commander's intent and focus effort on force integration. These measures should be established immediately as part of the planning process and be maintained throughout the RSOI process.

V. Redeployment

Ref: FM 3-35 (FMI 3-35 and FM 4-01.011), Army Deployment and Redeployment (Apr '10), chap. 5.

Redeployment involves the return of personnel, equipment, and materiel to home and/or demobilization stations and is considered as an operational movement critical in reestablishing force readiness. Commanders plan for redeployment within the context of the overall situation in the theater.

I. Redeployment Preparation Activities

When a unit is identified for redeployment, the CCDR issues a redeployment operations order releasing units from their missions and authorizing movement. Redeploying forces move to designated assembly areas. Redeployment operations at the assembly areas are under the control and supervision of the TSC commander and include actions necessary to prepare the unit for movement. In some cases, a FRAGO to a deployment order may be used instead of a separate redeployment order. Redeployment planning by the theater Army, Army Service Component Command (ASCC), or Army Forces (ARFOR) normally precedes the actual issuance of an order and tentatively outlines information about the support network, follow-on operations, security requirements, and movement limitations imposed by infrastructure and resources. Redeployment operations must be conducted at a pace that does not disrupt the ability of the CCDR to execute continuing missions, including deployment of replacement forces.

The redeploying units plan is nested within the plans of their higher headquarters. The redeployment plan conveys the commander's intent and includes responsibilities, priorities, and guidance for movement of forces, individuals, and materiel. Issues that must be addressed in the plan are—

- Scheduling of redeployment activities
- Transfer of equipment (stay behind equipment or equipment designated for depot rebuild)
- Basic load turn-in
- Army pre-positioned stocks (APS) procedures
- Security of the force
- Availability of theater transportation assets
- Availability of strategic lift

Redeployment priorities are outlined in the OPLAN by the supported CCDR. During redeployment preparation units must update movement data to reflect gains and losses to the OEL. The changes are normally attributed to combat losses, maintenance, or supply. Moreover, the redeploying force is directed to leave equipment and materiel behind for use by a follow on force or by host nation or other multinational forces. Subordinate organizations and component commands must verify unit movement data to the supported combatant commander. USTRANSCOM develops the redeployment strategic movement schedule after receiving the validated requirements from the supported combatant commander.

A movement order may be issued sequentially for each movement or may be contained in one movement order designating the timing and means of transport to the POE. The theater movement control element issues movement tables that give detailed movement instructions to redeploying units. The TSC usually manages the redeployment support that can be performed by a subordinate organization.

II. Movement to and Activities at the Point of Embarkation (POE)

Ref: FM 3-35, *Army Deployment and Redeployment* (Apr '10), pp. 5-2 to 5-4.

Redeployment planning results in a network of transit areas designed to efficiently move forces from their area of operations to their final destinations. Use of these areas may vary with the situation.

Assembly Area

Units move to an assembly area to prepare for redeployment after being relieved from their operational mission. The assembly area should be away from the immediate employment area. Movement to, and within, the area is under control of a redeployment coordination cell. Units in the assembly area inventory, inspect and process equipment for turn-in or transfer; load containers; prepare documentation; conduct US Customs inspections; finalize unit movement data; and plan rail loads, bus movements, barge movements, and convoys for movement to a POE or APS turn-in site for movement to the port holding area based on movement instructions. Units update UDLs, generate documentation, RFID tags, and MSLs using TC-AIMS II. Equipment moving from the assembly area to the POE must have RFID tags and MSLs applied prior to loading.

Units wash major end items to satisfy US Department of Agriculture standards. Customs and agricultural inspection standards are based on the destination and types of equipment being redeployed. Units should make plans to perform the activities necessary to meet these standards. The time required to wash vehicles can be considerable and likely will be the overriding factor in redeployment scheduling. For example, a M1098 high mobility multi-purpose wheeled vehicle (HMMWV) can take approximately 12 hours to wash to meet the agricultural standards, and larger equipment can take a day or more to wash. Considerations in computing the estimated time to wash unit equipment should include the equipment density, estimated time for each piece of equipment, the number of wash points, and the staffing at each location. Once the equipment is cleared by customs inspectors it will be held in a secure sterile area until it is moved to the POE.

Customs Procedures

All DOD-sponsored cargo is inspected at the overseas point of origin by customs and border clearance agents. Military equipment is inspected at the time it is placed in boxes, crates, or containers for movement and secured until departure from the overseas area. Vehicles and similar items to be shipped are inspected and secured immediately prior to loading on the departing aircraft or vessel. After the inspection is completed a DD Form 2855 (U.S. Military Agriculture and Customs Preclearance Program) is prepared and securely affixed to the container or vehicle.

Inspectors normally check a minimum of 10 percent of all baggage 24 hours before the departure time. Once inspected, baggage is stored in a sterile area until transported and loaded at the APOE, approximately 4-6 hours prior to the scheduled departure. Soldiers process through customs with their carry-on bags and once cleared remain in the sterile area until they board the aircraft.

Detailed requirements of the military customs preclearance program can be found in Part V of the Defense Travel Regulation.

Activities at the SPOE

Units normally move to the SPOE staging area from assembly areas. Some SPOEs may not have total use of the port area. Port managers and operators must closely coordinate their activities with host nation authorities as well as joint and multinational elements. Joint-use facilities and limited real estate availability may require port authorities and redeploying forces to modify processes to accommodate port capabilities.

SDDC, as the single port manager, directs water terminal operations to include supervising contracts, cargo documentation, security operations, and the overall flow of information. SDDC is responsible for providing strategic redeployment information to the CCCR and to workload the port operator based on the CCCR's priorities and intent.

See pp. 6-24 to 6-25 for discussion of activities associated with moving through SPOEs.

Activities at the APOE

The agencies and processes involved in moving Army units through an APOE during a deployment are similar to those at an APOE during redeployment. Customs and agricultural inspections are based on US standards.

See pp. 6-26 to 6-27 for discussion of activities associated with moving through APOEs.

POE Staging Area

Intratheater transportation assets may move units directly to a POE staging area or to an intermediate staging area. These movements are largely determined by the distance to be traveled, the size of the redeploying force, and theater capabilities. Units that were issued APS equipment usually turn it in at a separate location prior to moving to the POEs. Procedures for return of APS to storage locations are established during redeployment planning.

Refer to FM 3-35.1 for additional information regarding APS.

SPOE staging operations prevent congestion within the terminal area and provide space for segregating vehicles for vessel loading. This is the final en route location for preparation of unit equipment for strategic movement prior to the equipment entering the port holding area. The redeployment coordination cell monitors the flow of vehicles and equipment into the port and notifies the theater movement element when there is a backlog. The TSC establishes and operates the SPOE staging area and assists with opening the staging area at the SPOE.

Movements into the POE staging area must be carefully managed to preclude congestion and to avoid exceeding the capacity of the facility. Early planning in the assembly area ensures that units arrive at the POE on time and fill scheduled modes of transportation. Instructions directing movement to the port will come in the form of a call forward message from SDDC and is based on the availability of space in the port and the TPFDD timelines.

The theater human resources (HR) manager, in coordination with the TSC is responsible for personnel accountability at the theater processing centers. The unit remains responsible for conducting strength accounting through the S-1. The HR element at the processing centers verify unit manifests, coordinate manifest changes with the USAF, and transmit final flight manifests to the appropriate commands, HR agencies, and destination installation commanders.

Movement to POD

The combination of strategic airlift and sealift provides the capability to redeploy forces, albeit in different timeframes and along separate routes. Personnel are transported by strategic airlift to the destination APOD and then moved by bus to the destination installation. Vehicles, unit equipment, and containers are moved by strategic sealift to the designated SPOD, unloaded, and transported by convoy, commercial truck, or rail to the destination installation.

It is extremely important for the redeploying unit, assisted by their home station ITO, to maintain visibility of their vehicles and unit equipment. A small investment in maintaining visibility throughout the redeployment pipeline can be rewarded by having your vehicles equipment delivered to the right place at the right time. Otherwise there may be a delay in beginning the reset phase of ARFORGEN.

III. Mvmt to Home or Demobilization Station

Ref: FM 3-35, Army Deployment and Redeployment (Apr '10), pp. 5-4 to 5-6.

The destination for active component units is normally their home station whereas reserve component units return through a demobilization station. Typically the demobilization station is the same installation that served as the unit's mobilization station.

The supporting installation is responsible to assist returning forces until they reach their destination. The installation coordinates the support for the arrival ports and airfields and establishes en route sites as required by the redeployment plan. Once the unit vehicles and equipment arrive at the SPOD, the destination installation has the primary role of coordinating with SDDC for onward movement. The unit is responsible to provide load/unload teams and drivers at the POD and railhead. The supporting installation has the following responsibilities at the POD—

- Stage equipment for movement to the final destination
- Coordinate for customs clearance inspections
- Complete equipment inspections and process movement documentation

Units returning by air to an APOD are off-loaded under the control of the CRE and moved to the holding area where they are released to the AACG. The unit remains in the holding area briefly to ensure that they have accounted for their personnel and equipment and then moves to the marshalling area where they are loaded on appropriate transportation for movement to home station, demobilization site, or other destination. The installation will—

- Maintain a central control and inspection point
- Provide a security area for sensitive items
- Coordinate life support facilities

The unit will—

- Ensure that all aircraft pallets and nets are returned to the CRE or A/DACG.
- Perform required maintenance checks and refuel equipment.

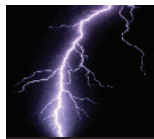
In most instances vehicles and unit equipment are transported to their destination by commercial transportation, contracted by SDDC in coordination with the destination ITO. The ITO receives the movement documents for all equipment flowing through their areas of responsibility. They receive the commercially delivered assets, process all paperwork, and release the equipment to the unit.

The installation coordinates with SDDC and other affected agencies to provide commercial transportation and MHE as needed and monitors operations, resolves problems, and complete reports as required to higher headquarters and other coordinating organizations. Functions of the destination installation include—

- Activating emergency operations center as required
- Notify supporting units/key agencies, including PAO & family readiness groups
- Activating Soldier readiness point
- Billeets, dining halls, and MWR facilities as required
- Conducting reception for returning units
- Processing personnel (health services, legal, finance, and personnel actions)
- Providing maintenance, transportation, and MHE support
- Establishing turn-in of weapons and special equipment

The unit performs the following tasks upon arrival at the destination—

- Download and receive unit equipment
- Report closure of personnel and equipment
- Begins Reset activities



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