FM 100-17-3

RECEPTION, STAGING, ONWARD MOVEMENT, AND INTEGRATION

HEADQUARTERS,
DEPARTMENT OF THE ARMY

Field Manual

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Reception, Staging, Onward Movement, And Integration

Contents

Preface

The fundamental posture of the Army has changed from forward deployment to power projection. The Army must be capable of full spectrum dominance possessing a power projection capability sufficient to ensure everything from humanitarian support to force projection of combat units in a conflict. Power projection presents the Army with a range of problems and challenges, one of which is how to effectively conduct reception, staging, onward movement and integration operations.

The functions of RSO&I apply to the entire spectrum of military operations, at all levels of war– strategic, operational, and tactical. Reception is often the interface between the strategic and the operational levels. Staging and onward movement are normally within the operational level. Integration represents the interface between the operational and tactical levels of war.

This manual establishes the doctrinal framework for RSO&I, the process by which combat power is generated. Often viewed as a logistics problem, it is, in fact, a critical operational challenge that relies on a logistical infrastructure for successful execution. In a power projection environment, the ability to execute any mission largely depends on the speed with which combat power can be assembled at required locations. This involves much more than merely bringing soldiers and equipment into the theater. Rather, these segments must be efficiently received, rapidly formed into units, expeditiously moved to Tactical Assembly Areas, and seamlessly integrated into mission operations. Moreover, numbers, types, and sequencing of these units must support the commander's concept of operations. As a result, RSO&I must be included in the earliest operational planning.

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Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

Introduction

Get there first, with the most men.

Lt. Gen. Nathan Bedford Forrest, CSA (1821-1877)

The end of the Cold War caused fundamental changes in the international security situation and US military strategy, resulting in a profound redirection of our Army's roles and missions. For more than fifty years, the Army was concerned with deterring, and if necessary, defeating Soviet aggression on the NATO Central Front. Forces, equipment, policies and procedures were all directed toward achieving that overriding goal. The Army relied heavily on forward basing of forces, backed up by prepositioned stockpiles of equipment on which roundout and reinforcing units could be assembled. Plans for rapid transfer of forces from the CONUS were directed towards reinforcement of the European theater, with relatively little attention given to other contingency theaters. Even after the establishment of the Rapid Deployment Joint Task Force, and later, US CENTCOM, which focused on Southwest Asia, Europe remained the centerpiece of US Army planning.

Today, the probability of warfare in Central Europe is low. On the other hand, the military situation in the Balkans, Middle East, Central Asia, Africa, and the Asiatic Rim– is extremely unstable and unpredictable. New states and regional powers have emerged to fill the vacuum left by the collapse of the Soviet Union. Some of these have inherited or assembled formidable armed forces, often equipped with the latest generation of weapons. A number of these are openly hostile to the United States, and are positioned to threaten our vital political and economic interests. In place of a single, well-defined enemy limited to a single theater of operations, the Army today must cope with many potential adversaries, of widely divergent capabilities and operational methods, located all over the world.

Further complicating the situation is the reduction of the Army force structure at the end of the Cold War and the bulk of combat forces returning to CONUS. In order for the Army to fulfill its role, it must be capable of rapidly deploying forces to any potential theater of operations and be able to achieve the military objectives set by the NCA. The fundamental posture of the Army has changed from forward deployment to power projection.

Power projection presents the Army with a range of problems and challenges substantially different from those of the Cold War. The Army must be capable of full spectrum dominance possessing a power projection capability sufficient to ensure everything from humanitarian support using military infrastructure to force projection of combat units in a conflict. Power projection is not a new mission, but not since World War II has it reached such prominence. Power projection operations of the recent past, including Grenada, Panama, Somalia, Bosnia, and the Persian Gulf, while successful, were characterized by varying degrees of inefficiency, as measured by time necessary to meet the JFC's requirements for force closure. Reductions in Army force structure, combined with basic changes in the nature of war, make such inefficiencies unacceptable in future power projection operations.

The process of RSO&I of the deploying forces in the theater of operations is often referred to as the "Achilles heel" of deployment. RSO&I is a new term for an old problem: how to receive personnel and equipment into a theater of operations, rejoin these elements into combat ready units, and integrate these units into the theater's command structure. In the Cold War era, reliance on forward basing and prepositioned equipment tended to mask the importance of RSO&I. The main objective was to receive REFORGER units and link them with their POMCUS. It was not until the large-scale deployment of forces to Operation Desert Shield that the Army rediscovered the difficulties inherent in moving large bodies of troops and their

equipment, over intercontinental distances, and reforming them into combat units in-theater. Other operations since then experienced the same problems on a smaller scale.

RSO&I is a process by which combat power is generated. Often viewed as a logistics problem, it is, in fact, a critical operational challenge that relies on a logistical infrastructure for successful execution. In a power projection environment, the ability to execute any mission largely depends on the speed with which combat power can be assembled at required locations. This involves much more than merely bringing soldiers and equipment into the theater. Rather, these segments must be efficiently received, rapidly formed into units, expeditiously moved to Tactical Assembly Areas, and seamlessly integrated into mission operations. Moreover, numbers, types, and sequencing of these units must support the commander's concept of operations. As a result, RSO&I must be included in the earliest operational planning.

In the early stages of planning, there are periods of time– critical windows of opportunity– where commanders make irrevocable decisions concerning deploying units in a time phased sequence. Subsequent changes made will result in disruption to deployment. Most RSO&I inefficiencies result from integrating RSO&I inadequately into operational plans, or commanders changing deployment schedules without considering the impact on either time-sequenced units or RSO&I throughput. Troops unable to join up with equipment, or depart staging area on time, create a lucrative target. Against aggressive adversaries armed with modern weapons or an asymmetric threat capability, such inefficiency reduces force effectiveness and threatens mission success.

To increase force projection effectiveness, the Army is developing improved procedures, processes, and decision tools to provide the commander and his staff with the ability to make RSO&I an integral part of operational planning. The purpose of this manual is to improve deployment by:

- Identifying key RSO&I concepts and issues,
- Providing guidelines for planning at each stage of the process, and
- Identifying the types of tools and decision aids required.

These concepts, properly integrated into deliberate and crisis action planning and executed with appropriate tools, add a world class, full-spectrum deployment capability to the Army's existing world class combat ability.

Chapter 1

RSO&I: An Overview

Force does not exist for mobility but mobility for force. It is of no use to get there first unless, when the enemy arrives, you have also the most men– the greater force.

RADM Alfred Thayer Mahan:
Lessons of the War with Spain (1899)

RSO&I consists of essential and interrelated processes in the AO that transforms arriving personnel and materiel into forces capable of meeting operational requirements.

THE POWER PROJECTION CHALLENGE

1-1. US military strategy rests on the twin concepts of forward presence and power projection to facilitate accomplishment of military objectives. Complementing overseas presence, power projection is the ability of the US to apply all necessary elements of national power (military, economic, diplomatic, and informational) b at the place and time necessary to achieve national security objectives. Credible power projection requires the capability to rapidly deploy military forces sufficiently robust to prosecute and terminate conflicts on terms favorable to the US and its allies. Effective and demonstrable power projection capability can deter potential adversaries, demonstrate US resolve, and enable successful military operations worldwide.

BACKGROUND

1-2. The military element of power projection is force projection, the demonstrated ability to alert, mobilize, deploy rapidly, and operate effectively anywhere in the world. As the nation's strategic land force and the strategic core of US forces for joint or multinational operations, the US Army is required to be ready for global force projection with a mix of Heavy, Light, and Special Operations forces, with appropriate CS and CSS. It must also be capable of executing a wide range of missions spanning the spectrum of military operations, from humanitarian support operations to major theater wars.

1-3. No longer forward deployed at the level maintained during the Cold War, the US Army has become a power projection force. It is smaller than the force that won the Cold War and Desert Storm and based largely in the United States but with a minimal forward presence in Southwest Asia, Korea and Germany. Now and in the future, the Army will deter

aggression primarily through its ability to rapidly project lethal, versatile, expandable, and sustainable forces to accomplish objectives rapidly with minimal casualties.

1-4. Following the Persian Gulf War, Congress mandated a study of strategic mobility requirements for the post-Cold War Army. This Mobility Requirements Study generated a requirement for the Army to deploy a 5-division corps, together with the required support structure, 8,700 miles–from fort to foxhole–in 75 days.

> The Army must provide a Corps of five Divisions that is tailorable, sustainable, and with airborne, vertical insertion capability. The lead Brigade must be on the ground by C+4, the lead Division by C+12. Two heavy Divisions (sealifted) arrive from CONUS by C+30 (Armored, Mechanized, Air Assault, [mix per CINC]). The full Corps (five Divisions and a COSCOM) closes by C+75. A fully supported heavy combat Brigade, with sufficient supplies to sustain the Corps until lines of communication are established, must be prepositioned afloat.
>
> Mobility Requirements Study
> Bottom-Up Review Update

1-5. During major contingencies, forces deploy from power projection platforms within the United States, or from forward bases. The first forces to deploy secure the lodgment for the receipt of follow-on forces. Initial forces generally arrive by air in tactical configuration. They may be followed by personnel transported by air, who draw prepositioned equipment. Most troops are transported by air, but the majority of equipment travels by sea. Historically, 90 percent of all cargo by weight has been transported by sea, with the remaining 10 percent transported by air. These percentages have remained relatively constant in both major and lesser regional contingencies.

DEPLOYMENT SEGMENTS

1-6. Deployments must be planned based on the JFC's requirements. It is the JFC who defines success in deployment, establishing what, where, and when force is needed. The force projection challenge is to balance these requirements with the theater's ability to conduct RSO&I operations by properly scheduling the arrival of RSO&I assets in the TPFDD flow.

1-7. All large-scale deployments consist of three distinct and interrelated deployment segments:

- Fort to port.
- Port to port.
- Port to foxhole.

1-8. Each segment directly affects the others and influences the entire deployment. A successful deployment requires smooth implementation of each segment and seamless transitions between segments. For example:

- Army installations appropriately configured as world class power projection platforms.
- Lift assets in adequate numbers.
- Processes to rapidly assemble, pass forward, and sustain combat power, that is, RSO&I.

1-9. The deployment process is illustrated in Figure 1-1. Army requirements are derived from the national power projection strategy, which in turn determines what RSO&I structure is needed to execute the national strategy.

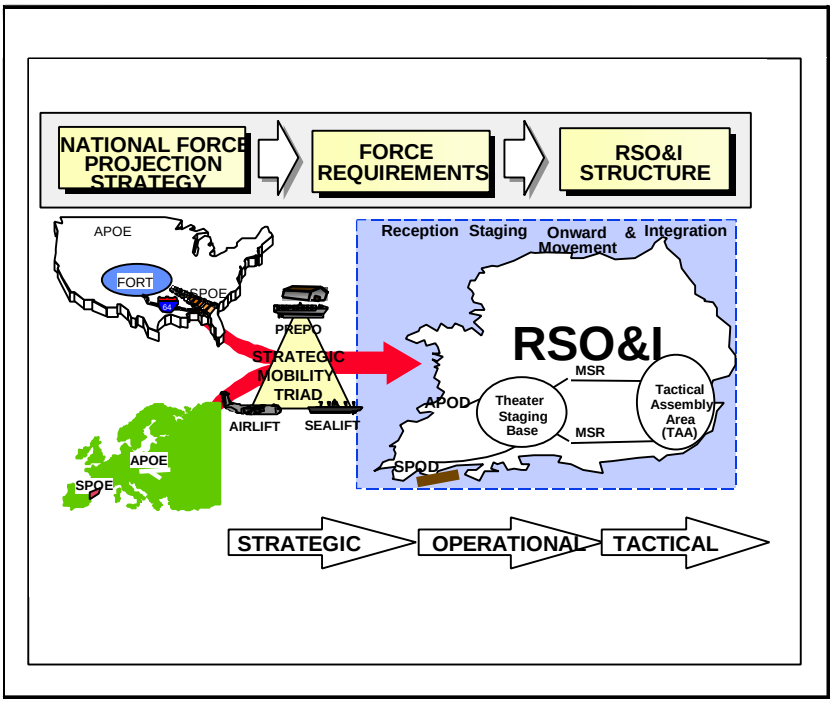


Figure 1-1. Deployment Process

1-10. The functions of RSO&I apply to the entire spectrum of military operations, at all levels of war– strategic, operational, and tactical. (Appendix A contains a notional deployment process action list.) Reception is often the interface between the strategic and the operational levels. Staging and onward movement are normally within the operational level. Integration represents the interface between the operational and tactical levels of war.

1-11. The Army has designated CONUS bases from which earmarked forces deploy as "Power Projection Platforms." These key bases are equipped with expanded and modernized loading and cargo handling

facilities for rapid transport of military forces and equipment to designated ports of embarkation, that is, seaports and airfields. These modern, capable power projection platforms enable our strategic mobility triad– strategic airlift, strategic sealift, and prepositioned equipment to operate at peak efficiency.

1-12. A closer look at each leg of the mobility triad reveals unique advantages and limitations; no one leg can stand on its own. For instance:

- Airlift can move forces rapidly from CONUS to any theater, but is an expensive and inefficient means of moving bulk goods and heavy equipment. It is best suited for the transport of light, early-entry forces, or for the movement of troops falling in on prepositioned stocks or equipment transported by sea.
- Sealift is the most economical means of moving bulk goods and heavy equipment, but in comparison with air transport, it is extremely slow. Even fast transport ships can require two or three weeks to transit from CONUS to conflict sites in Asia or the Middle East.
- There are two types of prepositioning in the triad– prepositioning ashore (APS-2/4/5) and prepositioning afloat (APS-3). Prepositioning ashore allows heavy equipment to be kept in-theater, near the point at which it will be needed. However, the prepositioned stockpiles are expensive to maintain, require host nation cooperation, may generate international tensions, and can be a security risk. Prepositioning afloat also allows for forward prepositioning of sustainment stocks, unit equipment, and port opening capabilities on Military Sealift Command vessels home based in Diego Garcia and Guam. The vessels can be sailed worldwide in response to any contingency. Prepositioning afloat is limited by cost, loss of capability during periodic maintenance, reception port capabilities, and sailing time. Both prepositioning types rely on strategic airlift to rapidly transport troops to the equipment.

1-13. A successful deployment will exploit strengths, and minimize weaknesses of each leg of the triad.

1-14. While inadequate strategic lift has been a constraint on planning and deployment in the past, this is now changing; acquisition of improved airlift and sealift is offsetting this constraint. For example, C-17 Globemaster III aircraft (Figure 1-2, page 1-5) allow direct access to additional airfields worldwide and can carry outsize equipment, thus permitting faster force closure. The addition of LMSRs (Figure 1-3, page 1-5) will more than double sealift capability immediately available to early deploying units (surge sealift).

Figure 1-2. C-17 Globemaster III

Figure 1-3. Large Medium Speed Roll-on/ Roll-off Ship (LMSR)

1-15. The prepositioning leg of the triad includes equipment prepositioned at selected contingency sites worldwide, as well as materiel prepositioned afloat. Together, these assets enhance force projection by allowing CONUS-deployed personnel to be equipped with in-theater stockpiles. This reduces the need for heavy lift assets during the critical "Early Entry" phase. Floating prepositioned assets provide critical sustained combat power in-theaters lacking a forward presence or prepositioned stockpiles ashore. They allow rapid buildup of heavy forces to demonstrate US resolve, reduce risk of open conflict, and counter hostile actions before arrival of the CONUS or OCONUS-based heavy divisions. Assets afloat include TOFMs, which are modular theater-opening packages designed to provide theater commanders the ability to open, operate, and clear sea and air ports; to onward move; to sustain; and to conduct LOTS operation.

1-16. While Power Projection Platforms expedite transfer to operational and strategic mobility assets in order to deliver soldiers and materiel to the area of operations, it is RSO&I that expedites transition of arriving troops and materiel into combat-ready units. In the past, deployment was concerned mainly with movement of forces from ports of embarkation to port of debarkation, where success was measured. This partial look at deployment led to bottlenecks and other inefficiencies that dramatically slowed buildup of combat power in-theater, and hampered the JFC's ability to maintain the operations timetable. Integration of force elements into combat-ready units was delayed by inability to track and combine personnel and equipment as they moved to their final destination, and when procedures to integrate these forces into the theater force were lacking.

1-17. The RSO&I challenge is to ensure incremental buildup of combat power proceeds according to the JFC's plan. RSO&I must be an integral part of any peacetime contingency or wartime operational plan.

REDEPLOYMENT

1-18. Redeployment prepares and implements movement of forces (units), manpower (individuals), and materiel (supplies and equipment) from one AO to a subsequent designated AO or home stations. Redeployment begins after the combatant commander has accomplished the mission or if directed by the NCA. Redeployment includes the categories of theater and strategic movement.

PROCESSES OF RSO&I

1-19. The four processes of RSO&I are listed below.

- **Reception:** The process of unloading personnel and materiel from strategic transport, marshaling the deploying units, transporting them to staging areas, if required, and providing life support to deploying personnel.
- **Staging:** The process of assembling, holding, and organizing arriving personnel and equipment into units and forces, incrementally building combat power and preparing units for onward movement, and providing life support for the personnel until the unit becomes self-sustaining.
- **Onward Movement:** The process of moving units and accompanying materiel from reception facilities and staging areas to TAAs or other theater destinations, moving arriving non-unit personnel to gaining commands, and moving arriving sustainment materiel from reception facilities to distribution sites.
- **Integration:** The synchronized transfer of authority over units and forces to a designated component or functional commander for employment in the theater of operations.

PRINCIPLES OF RSO&I

1-20. Four principles guide the development and execution of RSO&I:

- **Unity of Command**: The employment of military forces in a manner that masses combat power toward a common objective is essential to success at all levels of war. The same principle applies to RSO&I. Only one organization should control and operate the RSO&I process. It must be able to adjust resources based upon deployment flows, control movements in the area of operations, and provide life support to arriving personnel.
- **Unit Integrity**: Moving unit cargo and personnel by the same strategic/operational transportation asset 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 armored battalion's cargo and personnel in one airplane, the

increased sealift of the LMSR allows movement of all battalion equipment on a single ship. Maintaining unit integrity while in strategic transport can simplify the RSO&I challenge of incrementally building combat power.

- **Optimum Logistical Footprint**: Defining the logistic structure required and sizing the logistics footprint to deploying forces are 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. Sizes of logistical footprints may be increased to reduce vulnerability of the overall force. Increasing the RSO&I capability to clear backlogs in ports and staging areas can be a tool to reduce force vulnerability.
- **Unity of Effort:** All RSO&I must be directed towards, and measured against, the degree to which it achieves the JFC's force closure objectives. Each RSO&I process must be orchestrated as part of the whole to achieve this objective.

RSO&I IN A CONTINGENCY ENVIRONMENT

1-21. A contingency environment has two entries– Opposed and Unopposed. Both are discussed as follows.

OPPOSED ENTRY

1-22. Deployments may be either opposed or unopposed. In opposed operations, units must have sufficient combat capability to fight immediately upon arrival in-theater. Units are configured tactically, and are under command and control of the force commander, from origin to destination. In cases where objectives are limited or AO is small, it may be possible for early entry forces to accomplish missions with limited support of follow-on forces. In most cases, the immediate focus of early entry forces will be seizure of a lodgment area to expedite unopposed entry of follow-on forces. Critical planning considerations are the time and force needed to secure lodgment, and the speed of subsequent transition to unopposed entry. The challenge is balancing the competing requirements of force protection and force projection.

UNOPPOSED ENTRY

1-23. In unopposed deployments, personnel routinely move by air, while most unit equipment moves by surface transport. Units are divided into separate groups of passengers and cargo; commanders retain command, but no longer exercise control over multiple parts of units moving by different modes. Various elements of deploying force arriving in-theater must reach specific locations and reassemble into tactical units before unit commanders can reestablish control. RSO&I maximizes this process.

1-24. In contingency operations, early and simultaneous deployment of tactical and operational headquarters, including both combat and logistical command structures, is necessary to meet force closure timelines. Planning and coordination with host nation, allied, and other Service early entry forces ensure adequate allocation of resources to the JFC's priority. Reception and employment of both combat and CSS forces must be monitored to establish and sustain the maximum level of combat power. Throughout deployment, Army forces must maintain flexibility to reconfigure units and adjust deployment sequencing to accommodate the theater commander's requirements.

DEPLOYMENT PLANNING CHALLENGE

1-25. The ultimate measure of success for any deployment is whether the JFC's requirements for combat power at a designated location and time are met; success is force closure, when and where the JFC wants it. This is the major objective of both deliberate and crisis action planning.

No plan survives contact with the enemy.

Helmut von Moltke
Chief of the Prussian General Staff 1800-1891)

Force Closure is the point in time when a supported commander determines that sufficient personnel and equipment are in the assigned area of operations to carry out assigned tasks.

Joint Pub 1-02

1-26. Deliberate planning is a peacetime process that prepares for potential contingencies based on the best available information, using forces and resources earmarked for deliberate planning by the JSCP. The process produces a complete and detailed OPLAN; a CONPLAN– an operational plan in a concept format, with or without a TPFDD; and a functional plan, which involves the conduct of military operations in a peacetime or permissive environment.

1-27. In the plan development phase of the deliberate planning process, the prospective plan is analyzed for transportation feasibility. The analysis studies movement of the units listed in the TPFDD by strategic lift from the port of embarkation to the port of debarkation only. Currently, no feasibility analysis for subsequent movement from the port of debarkation to the ultimate destination is performed (neither is it done for the origin to port of embarkation portion). While theater infrastructure is studied during the concept development phase– before the TPFDD is developed– this is no substitute for a feasibility study of the flow of the TPFDD through the theater. USTRANSCOM and the supported CINCs have recognized this deficiency and are working to

develop a fort to foxhole modeling capability to be used in TPFDD refinement. Intratheater transportation feasibility significantly impacts port-to-port flow, in that it may require changes to use and sequence of strategic lift. It could also reveal whether the number, type, and sequence of units providing throughput are adequate to deliver combat power to the JFC.

1-28. Crisis action planning is used to react to rapid changes in current operational or tactical situations, using assigned, attached, and allocated forces and resources. It may have two products: an OPORD and a campaign plan. Time limits most crisis response operations. Consequently, RSO&I must be defined correctly, and resources and locations required for the operation must be properly sequenced. Failure to do this delays the deployment and buildup of forces, thereby increasing the vulnerability of US forces and reducing the JFC's ability to accomplish missions.

1-29. The critical planning consideration is achievement of sufficient force protection to allow unopposed force projection.

FORCE PROJECTION

> The Purpose of Force Projection is mission accomplishment and not merely entry into the area of operations. The entire flow and commitment of force is focused to that end.
>
> FM 100-5 Operations

1-30. A unit earmarked for deployment in a force projection scenario is subjected to several transformations during the deployment process. First, at its home station, personnel and equipment are separated in preparation for transport to the port of debarkation. The unit, in effect, "dissolves," obscuring its identity as a combat unit, and receiving instead a "ULN." The deploying unit while in transport is most likely tracked by multiple ULNs, each associated with the other in construct of the ULN data field. ULN is defined in the DOD dictionary as an alphanumeric field that uniquely describes a unit entry (line) in a Joint Operation Planning and Execution System time-phased force and deployment data. While in this condition, the unit commander retains command over his personnel, but not control over unit equipment. When the unit arrives in-theater, its personnel and equipment likely arrive at different ports of debarkation. Both personnel and equipment must then move separately to a TSB, where they are reunited and reformed as a combat unit. The combat unit, upon reaching a specified level of combat readiness, is then "moved onward" to a TAA or other designated point, where it is integrated into the joint combat force and becomes available for operational assignments. Success of the RSO&I process is thus measured by the speed with which combat power is built up at the TAA.

1-31. Combat power is built incrementally throughout RSO&I, which often involves multiple iterations of staging and onward movement. Thus, when an armored company is combat ready at the TSB, the ground force commander must have visibility of this potential capability and be able to impact subsequent decisions on onward movement. This visibility requires standing reporting procedures and adequate communication

1-32. Achieving combat power is more than simply joining ULNs at a single location. ULNs represent only pieces of units– personnel, unit equipment or supplies. The assembly of the pieces into units and the commander's determination of combat readiness are critical information for the JFC. This requires:

- Definitions of readiness against which commanders can evaluate unit status.
- Visibility of all assets required by the unit (soldiers, equipment, and supplies).
- Preparations for engagement, for example, boresight, upload, top off and so forth.

1-33. Reporting incremental build of combat power begins with well-understood standards for readiness. Assessments of combat power are based on unit capability, rather than simple tallies of numbers of vehicles and weapon systems on hand. Readiness and reporting are inherently operational matters, normally handled through operational channels; however, the theater movement control organization may be an appropriate channel for readiness reporting until headquarters units become operational in-theater. Appendix B lists deployment/sustainment automation systems available for force projection.

> Brigades must develop a system to define, plan, track, and articulate the incremental generation of combat power and logistical sustainability.
>
> RSO&I Observations, 1996
> National Training Center
> Fort Irwin, California

1-34. Improvements in TAV and information management systems will provide commanders with more information about unit status, location, and capability. The commander's challenge is to use this information to maximize throughput, as measured by the arrival of sustainable combat forces at their designated TAAs.

FORCE PROTECTION

1-35. Enemy forces will take measures to disrupt the buildup of US combat power. While units are in the RSO&I process they become vulnerable. Large concentrations of soldiers and equipment at reception areas or TSBs represent attractive targets, as are units performing onward movement.

1-36. Vulnerability can be reduced by effective execution of RSO&I. Coordinating unit elements arriving by airlift, with unit equipment arriving by sealift, facilitates ensuring that soldiers do not remain static in vulnerable situations.

BUILDING COMBAT POWER

1-37. RSO&I is the means by which commanders shape and expedite force closure in the theater of operations. Effective, well conceived RSO&I operations greatly speed force closure; conversely, ineffective RSO&I delays force closure and compromises the CINC's ability to implement his concept of operations.

1-38. During the Persian Gulf War and other major deployments, RSO&I inefficiencies resulted in substantial bottlenecks in the flow of soldiers and equipment from ports to tactical assembly areas. In future contingency operations, the US may not have the luxury of an extended, unopposed deployment period. (See Figure 1-4, page 1-12.)

1-39. By examining flows of major units into the theater, and the required times of force closure, planners can define the infrastructure required to meet the overall C+75 day force closure requirement. Note that early entry forces and their support all arrive by air (unless forward-based forces and/or equipment prepositioned ashore or afloat are already in-theater).

1-40. The first heavy brigade in-theater is the brigade that draws Prepositioned Ashore stocks if they are available. The next heavy unit to arrive is normally a 2 x 2 brigade (which can be task organized), equipped with APS-3 Prepositioned Afloat stocks, which must close by C+15. One or more seaports of debarkation must be opened, first to receive APS-3, and then the equipment of follow-on forces arriving by surge sealift.

THEATER INFRASTRUCTURE

1-41. Understanding capabilities and limitations of the theater infrastructure, and times at which various infrastructure assets must become available, is essential to developing a successful RSO&I operation.

1-42. Theater RSO&I infrastructure is divided into two general categories– organizational capabilities of the theater, for example, military units, host nation support, and so forth; and physical capabilities of the theater, for example, ports, road networks, inland waterway, and so forth.

1-43. The theater CINC has five sources available to provide RSO&I organizational infrastructure, the relative mix of which will vary according to the operation:

- Forward-Deployed Forces.
- Army Prepositioned Stocks.
- Deploying RSO&I Units.

- Host Nation/Allied Support.
- LOGCAP and other contractor support.

> In operations Desert Shield and Storm it took 44,712 soldiers to close the force. This represented approximately 10 percent of the total deployed force, involved in the RSO&I process.
>
> 22nd SUPCOM AAR

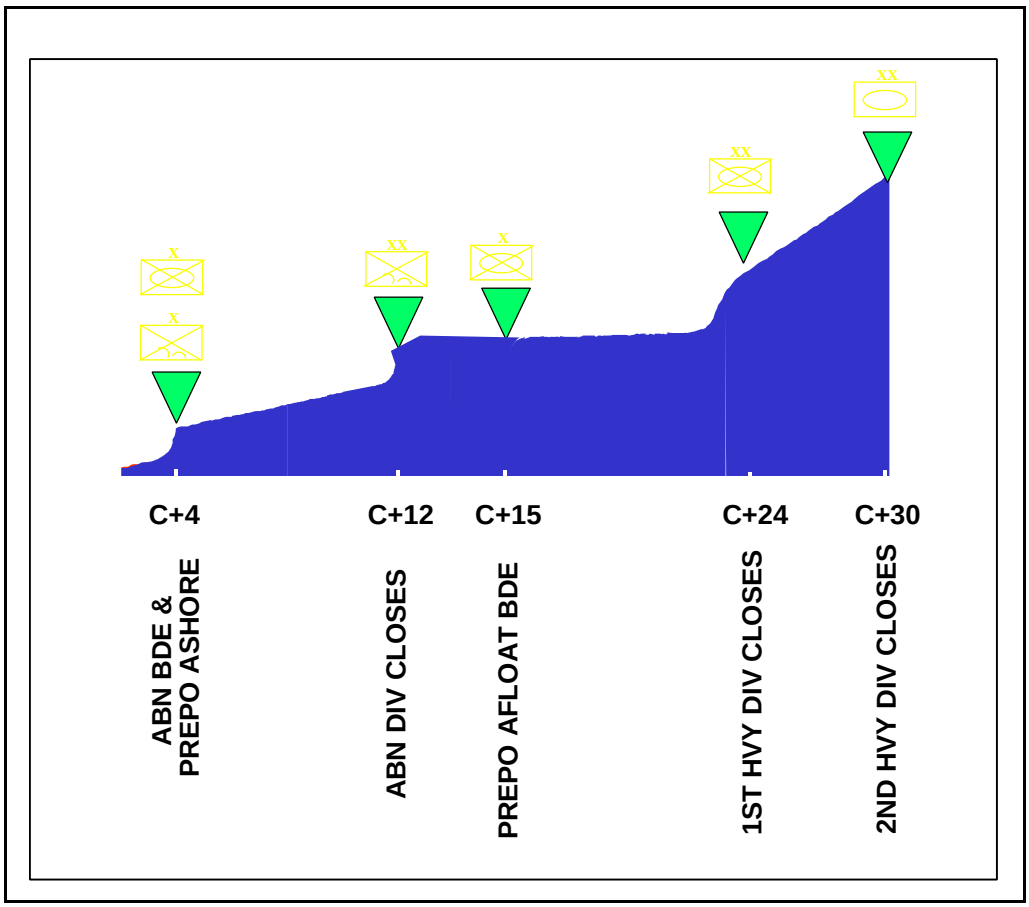


Figure 1-4. TPFDD Flow

1-44. The RSO&I physical infrastructure consists of the theater's nodes and available modes of transportation. The two major modes of transportation are surface and air. Surface is further subdivided into sea, inland waterways, coastal waterways, highway, and rail. (See Figure 1-5, page 1-13.)

Nodes are a location in a mobility system where a movement requirement is originated, processed for onward movement, or terminated.

1-45. During RSO&I operations, nodes form wherever transportation modes are changed; for example, at airports, seaports, and at staging areas. The JFC's operational planner should consider the following possible modes and nodes that can make up the theater physical infrastructure:

NODES	MODES
• Airports • River Terminals • Seaports and in-stream off-load • Railheads • Staging areas	• Air • Sea • Inland Waterway • Coastal Waterways • Highway • Rail • Pipeline

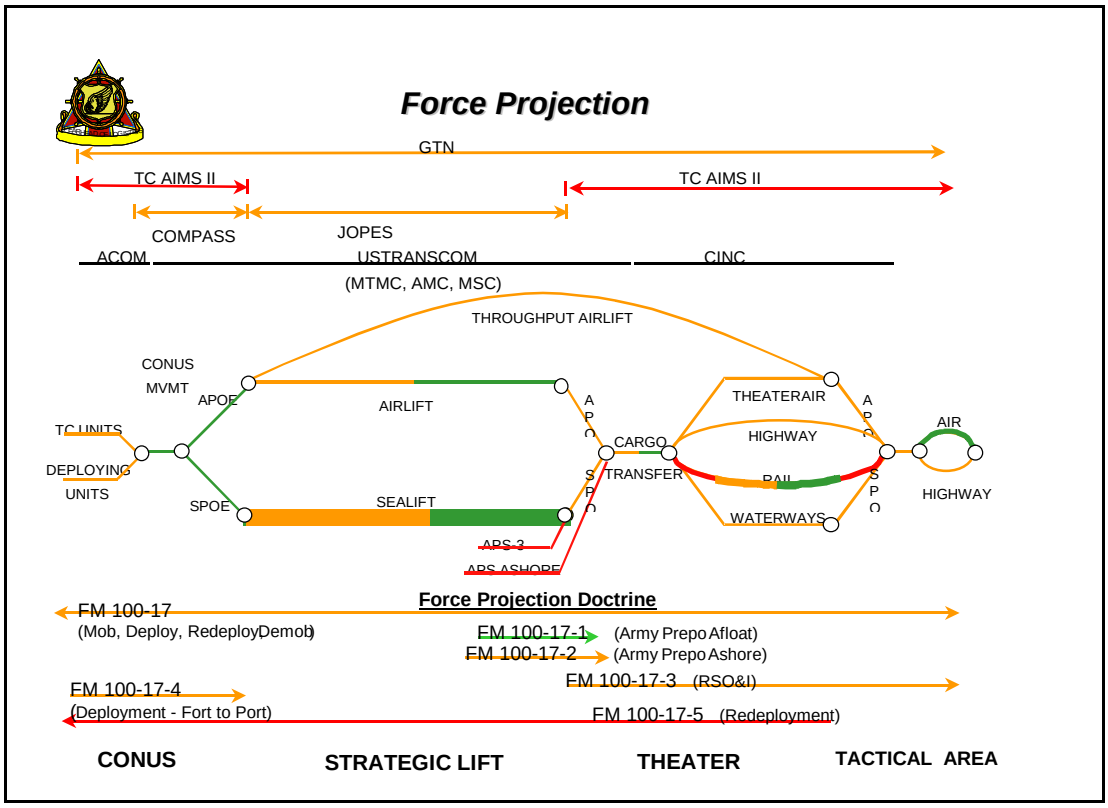


Figure 1-5. Force Projection

OPERATIONAL DILEMMA

1-46. The commander's 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.

SEE THE FLOW

1-47. The JFC's Strategic Concept defines force requirements in terms of size, location, and time. The TPFDD defines the force flow needed to meet these requirements. Building the TPFDD requires reverse planning, with the concept identifying the requirements against which the tactical, operational, and strategic plans are developed. The JFC must see what forces have arrived in the theater, their combat capability, and schedule for integration. In addition to in-theater information, the JFC requires a forecast of units scheduled to arrive in-theater and projected integration dates.

UNDERSTAND THE FLOW

1-48. Knowledge of the RSO&I infrastructure present in the theater, coupled with assets arriving via the TPFDD, is critical to understanding the flow. The IPB process of defining and describing the battlefield, the enemy, and developing enemy courses of action are crucial to understanding the flow. The IPB process provides an awareness of other demands on the infrastructure that may impact our use. Understanding the flow includes the recognition that change is inevitable.

1-49. Unfortunately, the impacts of TPFDD changes are not usually readily apparent; sometimes the effects on the rest of the flow may not be worth the change. Modeling and simulation can provide the means of determining the impact of TPFDD changes.

1.50. Time is also a factor in TPFDD changes. Airlift can respond to short-notice changes, at a cost in efficiency; sealift, on the other hand, requires longer lead times, and cannot respond to change in a short period.

1-51. Regardless of the cause, the commander must understand and anticipate the impact of change. For example, when changes are made to the TPFDD, there is a high potential for a sequential pattern of disruption. A unit displaced by change may not simply move on the next available lift, but may require reprogramming for movement at a later time.

BALANCE THE FLOW

1-52. The relationship between throughput volume and RSO&I 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 RSO&I forces. Deploying additional RSO&I forces costs space on strategic lift and requires additional positions in the TPFDD. Achieving the correct balance will maximize the ability to throughput forces and ultimately improve force closure times. One notable exception to this rule is the self-deploying Army watercraft, which do not cost the JFC strategic lift. If needed, Army watercraft should be considered as part of the JFC's FDO and sailed to the theater prior to the departure of surge sealift.

RSO&I AND SUSTAINMENT

1-53. Force closure is the primary objective of the RSO&I operation. Because force closure has a direct impact on the ability of the commander to implement his concept of operations, the RSO&I operation is characterized by a high degree of involvement by the operational commander in concert with his logistics staff and logistics organizations.

1-54. Although sustainment and supply buildup occur throughout RSO&I, with as much as one quarter of all moved tonnage devoted to it, the focus during RSO&I is projecting and integrating combat units. As force closure is achieved, RSO&I transitions to sustainment operations. During this transition, the operational commander's priorities change from force buildup to combat operations.

Chapter 2

Planning the RSO&I Operation

Successful planning requires an appreciation of the simultaneous nature of operations, an awareness of the total mission, anticipation of future events, and application of the battlefield framework.

FM 100-5, Operations

In all force projection operations, the focus is on bringing the proper force to the right location at the appropriate time. RSO&I is a means by which this is achieved. Successful RSO&I is fully integrated into the campaign plan. This chapter examines general planning considerations and procedures essential to permit a quick transition from RSO&I to combat operations.

THE CAMPAIGN PLAN

2-1. A campaign is a series of related military operations designed to achieve strategic or operational objectives within a given time and space. A campaign plan describes how these operations are connected in time, space, and purpose. While campaign planning is done in crisis or conflict, the framework for a successful campaign is laid in peacetime analysis, planning, and exercises.

2-2. Campaigns consist of major operations; RSO&I is one such major operation within a campaign (see Figure 2-1, page 2-1), and consequently must be as well planned and clearly understood as any other major operation. Moreover, RSO&I must be synchronized with the other phases to achieve designated objectives.

THEATER STRUCTURE

Theater structure is a product of the JFC's strategic objective; the forces allocated for the theater, the strategy for employment, the factors of METT-TC, and the presence of alliance and coalition structures.

2-3. In developing the campaign, the JFC imposes structure on the theater environment and the full range of military operations. Inherent in the structure is a clear picture of the potential theater organization and command relationships– factors that assist the JFC in determining priorities and assigning tasks.

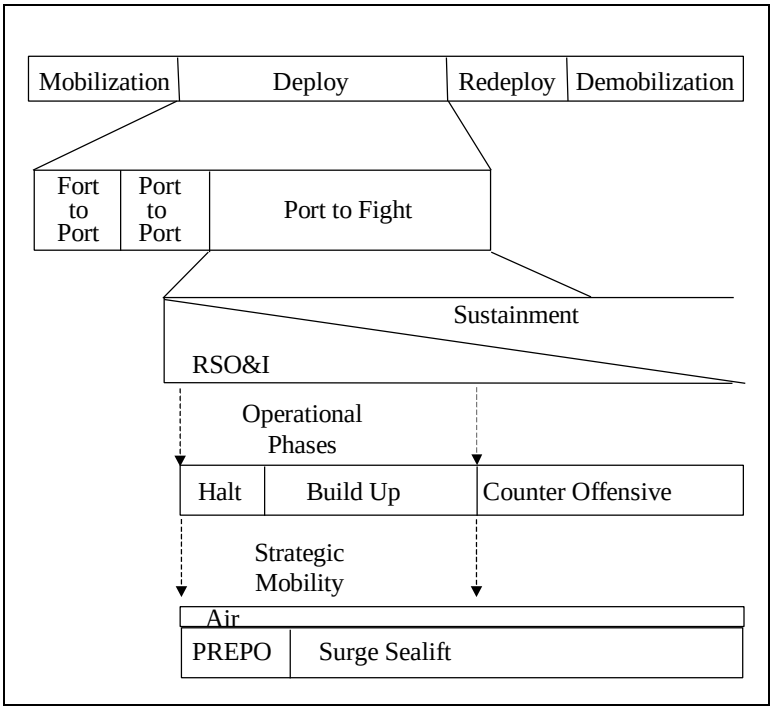


Figure 2-1. RSO&I within the Campaign

2-4. RSO&I is an integral part of the theater structure. Visualizing an RSO&I organization, its tasks, and its place within the theater, helps the JFC prepare phases of the campaign plan and complete sequencing decisions**.** The RSO&I organization then plans and executes the RSO&I operation. Planning includes coordination with:

- Joint Forces.
- United Nations Forces.
- Host Nation Authorities.
- Multinational Forces.
- Non-Governmental Organizations.
- LOGCAP Organizations, CONCAP Organizations, and other Contractor Support

2-5. There are obvious advantages of designating one organization as the RSO&I command and control element. It avoids duplication of effort, waste of resources, and competition for critical facilities. It optimizes use of valuable strategic lift. It allows integrated and specific reporting of activities related to incremental buildup of

combat forces. Although the specific responsible organization may change from one phase to another or between different contingencies, the principle of unity of command must be maintained. One organization needs to be able to control and operate the entire RSO&I process to maximize the throughput of forces and materiel. The organization must be able to adjust resources based upon the deployment flows into the air and seaports, control movements in the area of operations, and provide life support to personnel arriving in-theater.

Joint and Army RSO&I Command and Control Options

- Joint Support Command (ad hoc).
- Dominant User or Most Capable Service (by phase, or in total).
- Combination of Joint and Service by Phase.

2-6. The JFC will routinely designate the ASCC as executive agent for RSO&I. The ASCC will designate the senior support commander to provide unity of command to execute RSO&I and specific units will be assigned or OPCON to the senior support command.

2-7. The largest support command is the TSC. It is a major subordinate command of the ASCC. It may, at the option of the ASCC Commander, centralize control of CSS and some CS functions dependent on theater requirements. It is modularly deployable. Elements can deploy early as part of a Major Theater War to establish the COMMZ or may augment with required functionality the primary logistical organization in smaller operations.

THE RSO&I OPERATION

2-8. Planning for RSO&I operations requires application of operational art– for by its nature, RSO&I helps the commander fight when and where he wants. Properly planned, it ensures the effective use of soldiers, materiel, and time. RSO&I also requires a simultaneous awareness of everything that affects the operation, such as theater infrastructure elements, development of a sequenced TPFDD, and integrated, timely, and reliable communication.

2-9. To develop an effective deployment plan, "reverse planning' techniques are used. First, tactical plans and timetables are developed, and the RSO&I timetable needed to meet force closure objectives is worked out. Next, strategic lift required to move the force is determined, and then timetables needed to move forces from "fort to port" are calculated.

2-10. The JFC commander evaluates the geographical area to determine whether it is adequate for efficient employment of assets, forces, facilities, and supporting systems. In cases where the geographical area is inadequate, the JFC has the following options:

- Increase RSO&I infrastructure.
- Reduce deployment flow.
- Extend allowable force closure times.

2-11. The JFC sees the RSO&I operation– with its availability of ports, roads, host nation support capabilities, in-theater stockage, communications, and so forth– affecting the tempo of his operation, and manages it to build combat power needed to achieve strategic objectives. He 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 incremental buildup of combat power.

> One of the early force tailoring decisions made during Operation Joint Endeavor was the decision to significantly reduce the Reception, Staging, Onward Movement, and Integration forces from the initial flow. This decision, though made to move up the LOC opening package (force protection, Sava Bridge construction, MSR opening equipment), significantly reduced the ability of the Task Force to receive and stage units as they came out of the strategic pipeline in Zupanja. Therefore, it was difficult for the Task Force to initially provide life support and regain unit integrity in TAA Harmon prior to crossing the Sava River into the area of operations.
>
> Operation Joint Endeavor,
> After Action Report
> December 1995

2-12. In a mature theater, RSO&I forces must balance demands for deployment of reinforcement or follow-on forces, with the demands of sustainment flow for the engaged force. In a contingency theater, the focus is on building the necessary force capability while simultaneously building the necessary physical infrastructure.

TIME-PHASED FORCE DEPLOYMENT DATA

2-13. The TPFDD prioritizes arrival of forces in-theater. RSO&I effectiveness is dependent upon proper TPFDD development. For example, the JFC places rapid port clearance capabilities early in the TPFDD, as well as coordinating 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 to the battlefield.

2-14. The JFC also ensures the TPFDD prioritizes joint rather than individual component RSO&I needs. Components normally build their portion of the TPFDD based on their Service requirements, rather than on the needs of the entire force. This results in duplication of capabilities, wastes valuable lift, and siphons support from the main effort. Consequently, the TPFDD must contain the required capability and nothing more.

A crucial CINCCENT decision was made early in the crisis. To ensure the greatest amount of ground combat power was available as soon as possible, CINCCENT accelerated deployment of combat forces and deferred deployment of theater logistics forces. …Although placing arriving units in a somewhat precarious logistics position, the decision to deploy primarily combat forces in August and September let CINCCENT place a capable defensive and deterrent force in-theater rapidly during the crucial weeks when the Iraqis greatly outnumbered the Coalition.

Conduct of the Persian Gulf War, 1992

COMMUNICATION

2-15. Seamless transfer from strategic lift to intratheater onward movement depends on RSO&I providers knowing what is coming and when. The communication system must link the JFC, the supporting CINCs, the deploying units, the RSO&I providers, and the tactical commanders who will integrate the deploying force into their structures.

2-16. Communication is necessary at all levels, and across all modes and nodes. Many organizations within the theater will require data to plan and conduct their assigned part of the RSO&I operation. Assured, compatible, and reliable means of relaying that data are essential for a seamless intratheater flow. Most importantly, the JFC must be able to influence the outcome of the deployment. To do this, he must know what force capabilities he has and what will be available in the near future.

The RSO&I support structure must be responsive to the JFC and his priorities. METT-TC influenced changes may cause certain units to be in high demand or necessary for immediate employment. RSO&I providers must be able to locate these units and coordinate their onward movement. Critical resources like heavy equipment transporters, fuel support, or buses to move personnel may have to be diverted to rapidly move these units. Rapid response missions become the norm during deployments. Communication is the key to managing this type of complex, ever-changing support environment.

PROCEDURES AND RELATIONSHIPS

> Army forces must be prepared to conduct a number of operations that integrate warfighting and operations other than war with a variety of government and non-governmental agencies, other Services, forces from other nations, and international agencies.
>
> FM 100-5, Operations

2-17. 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 RSO&I 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 (for example, joint commands, UN, NATO, and so forth). This understanding, and appropriate planning, can improve the immense RSO&I difficulties inherent in joint and multinational operations, as well as allow the best use of the complementary features of each nation and Service to maximize RSO&I.

JOINT RSO&I

> Whether we have years to plan and rehearse, as for the Normandy invasion, months as for Operation DESERT STORM, or only a few days, the US Armed Forces must always be ready to operate in smoothly functioning joint teams.
>
> Joint Pub 1

2-18. Joint integration of planning and execution is key to successful RSO&I. This, however, does not occur automatically; it requires trained staffs, pre-established procedures, and ongoing coordination.

2-19. Even though logistics is a Service responsibility, the JFC may direct that certain logistics functions be performed by a particular Service, based on the dominant-user or most-capable-Service concept. For example, if the Army provides all transportation and movement control for RSO&I, the Army component commander must be intimately familiar with the total transportation and movement control requirements of the other Services and SOF, to permit optimum resource allocation necessary to address their needs.

2-20. There are two key joint organizations that can be established to assist the JFC in managing RSO&I: the JMC and the JFUB.

- The JMC balances the JFC's movement requirements with capabilities of the military and civilian mode resources and capacities of theater LOC nodes in order to best meet priorities.
- The JFUB evaluates and reconciles component requests for real estate, facilities, inter-Service support, and construction. This is especially critical in the reception and staging areas. Terrain management remains an operational responsibility with the JFC, based on staff recommendation, allocating terrain to the components.

2-21. The same rationale also applies to multinational operations with the functions of movement control and facilities utilization residing at the multinational command level for the entire area of responsibility.

2-22. Logistics responsibilities can be formally assigned to Services through the WEAR process. A listing of Army WEAR responsibilities is in Appendix C.

MULTINATIONAL RSO&I

> In Operation DESERT SHIELD and DESERT STORM, more than 800,000 military personnel from 36 nations combined their will, forces, and resources to oppose the Iraqi military.
>
> FM 100-5, Operations

2-23. As compared with joint operations, multinational RSO&I presents a greater challenge. Major differences in logistics doctrine, mobility, resources, interoperability, and language all create problems in coordinating use of highways, rail lines, seaports, and airfields, as well as providing support and services to RSO&I operations. Considerable planning is required to optimize use of multinational land, naval and air forces, space management, ship berthing and unloading facilities, transportation, labor, and construction materials– all critical elements of RSO&I.

2-24. While logistics is ordinarily a national responsibility, it frequently falls to the United States to provide strategic lift and logistics support. Nonetheless, detailed logistics planning by all coalition forces is essential for successful RSO&I. It is imperative to establish clear responsibilities, and identify support roles early in the planning process. Whenever possible, multinational organizations should be formed to coordinate RSO&I operations. This should allow coalition or alliance members to use common items (for example, POL, medical supplies, tools, and so forth), and to set up commonly understood control measures.

2-25. Plans and operations for multinational RSO&I should be as simple as possible, using common terms and procedures, and clear and concise language.

2-26. Where appropriate and possible, coalition commanders may combine staffs of two or more nations to better coordinate complementary RSO&I capabilities, facilitate exchange of vital information, and reduce friction, congestion, and duplication associated with multiple use of limited assets and capacities.

HOST NATION SUPPORT

2-27. 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 based on agreements mutually concluded between nations. In many cases, US forces must rely on host nation support to supplement or provide services, supplies, and facilities. This is especially significant when the JFC tries to minimize the number of CS/CSS forces and equipment early in the TPFDD.

2-28. It is beneficial to establish host nation agreements beforehand, when possible. Where no agreements are in place, the JFC's staff and RSO&I manager should understand the RSO&I capabilities or resources of prospective host nations and the contractual procedures necessary to obtain them. It is also important that the host nation understand overall US requirements. Moreover, as early as possible, representatives, with interpreters, must be sent to negotiate the acquisition of host nation services. Appendix D describes financial management operations during RSO&I.

2-29. Host nation support, by providing a variety of services and facilities, relieves US forces from the task of establishing and maintaining equivalent capabilities, thereby reducing the US logistical footprint and RSO&I "overhead." Additional lift becomes available for transport of combat forces, expediting force closure. Among specific services and facilities that can be partially delegated to host nation support are as follows:

- Life Support.
- Medical Facilities.
- Construction and Engineering.
- Police and Paramilitary Organizations.
- Transportation Assets and Infrastructure.
- Labor Force.
- Emergency Services.
- Fuel and Power Facilities.
- Communications Facilities.

LIAISON

> Recalling Clausewitz' analogy of a military force as an intricate machine, ample liaison parties, properly manned and equipped, may be viewed as a lubricant that helps keep that machine working smoothly. The Gulf War vividly demonstrated the role of effective liaison in both the joint and combined contexts.
>
> Joint Pub 1

2-30. Liaison with forces of each Service, nation, and the next higher headquarters is a prerequisite for smooth operation of RSO&I. It is indispensable for understanding each participant's operating procedures, and for timely transfer of critical information. Whenever possible, liaison personnel should be familiar with operational organizations, doctrine, and procedures of the force with which they will work. For multinational operations, they should either speak the language of the force they are with or use qualified interpreters.

2-31. RSO&I liaison personnel need to be familiar with the overall RSO&I plan. They must understand how their Service fits into the overall design and best supports the JFC's plan for the incremental build of combat power. It is helpful if the liaison members are experienced in joint/multinational operations.

INTERAGENCY SUPPORT

> Through a structure such as a civil-military operations center, the Joint Force Commander can gain a greater understanding of the roles of the non-governmental organizations and private voluntary organizations and how they influence mission accomplishment.
>
> Joint Pub 3-07

2-32. In the course of joint and multinational operations, the Army operates alongside US and non-US government agencies, non-governmental agencies, and private voluntary organizations. In most cases, these organizations and agencies will compete for space at ports, airfields, and facilities used for military operations. They will travel over the same LOCs and require a variety of support from the military. They may disrupt RSO&I and siphon resources away from military tasks.

2-33. To build unity of effort and consequently gauge impact of these agencies and organizations on the RSO&I effort, the commander should establish a CMOS. In addition, it may be necessary to develop formal agreements between the military and civilian organizations to improve coordination and effectiveness.

RSO&I RESOURCES

2-34. The RSO&I planner has access to a number of RSO&I resources or enablers. They include organizations, personnel and equipment supporting these organizations, contract or based support, and the information management systems used by these organizations. Appendix E lists key Army units and their functions that support RSO&I operations. Examples are as follows:

- **LOGCAP:** is contractor based support arrangement made in peacetime designed to support Army forces in contingency operations worldwide. The concept is to maintain, based on regional needs, a worldwide umbrella contract. The program includes the contracting equivalent of contingency plans for various regions. It allows for the swift acquisition of contract logistic support required in crisis. The JTF commander may choose to execute elements of the plan to increase flexibility and to fill shortfalls in the force as he evaluates the TPFDD. He must decide where to use force structure to accomplish the mission and where contract support can be used.
- **CTG:** is able to operate all theater ports (aerial and sea), other nodes (railheads, trailer transfer points, and so forth), inland transportation (road and water), and assorted life support. It can perform harbor operations, terminal and terminal service operations, cargo transfer operations, cargo documentation, A/DACG and railhead operations, movements control and surface transportation operations (truck). The CTG is assigned Army watercraft and lighterage and is capable of conducting instream off-load operations. The CTG provides the supported JFC with RSO&I capability throughout the theater of operations.
- **CTC:** are units within the CTG and are able to load, discharge, and transload cargo at air, rail, truck terminals, and water terminals located in fixed ports or LOTS operations. They also supplement cargo/supply-handling operations at corps and division areas to alleviate cargo backlogs.
- **CSG:** provides command and control, CSS functional support, and life support capabilities. Specific capabilities are tailored to the commander's needs. It provides the logistics resources to support corps soldiers and to arm, fuel, fix, and move the corps force. Whether CONUS based or part of a forward presence force, it must be prepared to deploy on short notice for contingency operations in support of joint or combined operations. See FM 54-30 for more information on the Corps Support Group.

- **ASG:** provides support to forces in power projection roles. Selected ASG elements may augment the COSCOM or DISCOM when support requirements exceed their support capabilities. They may deploy from a forward presence site in response to a crisis or remain at that forward site to receive and process follow-on forces. ASGs may tailor a slice of support to set up a forward support base or provide support at a staging area. An ASG is a tailored CSS organization in the COMMZ. It has area responsibility for supply (including petroleum support), field service support (including water purification and mortuary affairs), and maintenance (including aviation intermediate maintenance). It may also have area responsibility for real property maintenance activity. It provides NBC warning and reporting and controls rear operations in its assigned area. The ASG may include other capabilities to fulfill designated theater support responsibilities. Though it has no fixed structure, it may include civil affairs, supply and service, petroleum supply, and maintenance battalions. The ASG commander may also choose to task multifunctional organizations to provide support for specific missions or organizations. See FM 54-40 for more information on ASGs.
- **MTMC Advance Party:** is the MTMC port manager's advance party and provides technical support to the port operator and the CTG. The advance party's mission includes liaison with port authorities, assessment of port capabilities, initial recommendations for size and type port operations required, assessment of contracting capabilities, and initial contract coordination. The advance party provides the automated link to the IBS and the Worldwide Port System, and supplies the JFC with visibility over inbound ocean cargo.
- **MTMC Port Management Cell:** provides a port management cell or reinforces an existing cell to support the JFC. The cell will workload the port operator based on the theater commander's priorities and intent. The cell will assist with OPLAN development and analysis, conduct assessment of ports, and recommend the size and type of port operations required. The cell will establish liaison with host nation port authorities and develop statements of work for contracting facilities and stevedore labor, if available. The cell will provide ADP and communication capabilities in support of water terminal operations. It will provide common-user container management services.
- **Army Movement Control Organizations:** contribute to the joint theater movement control plan. In the COMMZ, the MCA supports echelons above corps; in the corps AOR, MCBs provide support; and in division AORs, the DTO is responsible for movement control.

- **Allied and HNS:** provide civil and/or military assistance to US forces during peacetime, crises or emergencies, or war based on mutual agreements. If available, Allied and HNS can be a significant military force multiplier. Properly planned for and utilized, it can augment deployment shortfalls or requirements and assist deploying and deployed units and, therefore, reduce the requirement for strategic lift assets.
- **Local Contracting:** provides use of local resources, such as truck drivers, warehousing, stevedores, and so forth, which can reduce the RSO&I footprint by offsetting the requirement for US forces.
- **TSC:** is a major subordinate command of the ASCC. It may, at the option of the ASCC Commander, centralize control of CSS and some CS functions dependent on theater requirements. It is modularly deployable. Elements can deploy early as part of a Major Theater War to establish the COMMZ or may augment with required functionality the primary logistical organization in smaller operations. Additional information on the Theater Support Command will be available in FM 100-10-1, *Theater Distribution,* when published.
- **MEDCOM:** is the single medical manager for combat health support in the theater. Appendix F describes in better detail the various medical functions during RSO&I.

2-35. Equipment needed for RSO&I operations is either organic to enabling organizations, or included in the following:

- **APS Afloat (APS-3):** allows the early deployment of Army heavy brigade forces, theater-opening CS/CSS forces, force provider, port-opening capability, and sustainment stocks in order to minimize initial requirement for strategic lift. The sustainment stocks, unit equipment, and port opening packages are prepositioned on Military Sealift Command vessels that are home based in Diego Garcia and Guam. The vessels and the prepositioned equipment are both subject to cyclic maintenance schedules. The schedules are coordinated by the Army Materiel Command. The vessels can be sailed worldwide in response to any contingency. Additional information on the ASP-3 program is available in FM 100-17-1, *Army Pre-positioned Afloat Operations.*
- **APS Ashore (APS-2 Europe), (APS-4 Korea), (APS-5 SWA):** allow early deployment of a heavy brigade in Korea and a heavy division plus in both Europe and SWA by C+4. These prepositioned sets of equipment are essential for timely support of US national military strategy in areas of US national interests and treaty obligations. Fixed land based sites store Army War Reserve Prepositioned Sets of combat

and CS/CSS equipment, Army War Reserve Operational Project stocks (for example, chemical defense equipment, cold weather clothing, petroleum distribution equipment, and so forth) and Army War Reserves Sustainment. Land based sets can be used to support a theater lodgment to allow off-load of APS-3 equipment, and can be shipped to support any theater worldwide.

- Appendix G contains additional information on RSO&I enabling teams, and Appendix H contains information on the US Army Materiel Command Logistics Support Element..
- **TOFM:** are modules of selected logistics functions designed to provide the deploying force the capability to open air and seaports and establish RSO&I capability in-theater. They are available for employment across the full spectrum of military operations. Additional information on the TOFMs is available in FM 100-17-1, *Army Pre-positioned Afloat Operations.*

2-36. Several information management systems presently support RSO&I operations, among these are as follows:

- Knowledge Based Logistics Planning Shell.
- JTAV.
- GTN.
- TC-AIMS II.
- AALPS (will be included in TC-AIMS II).
- GCCS/GCCS-A.
- Global Combat Support System.
- WPS.
- IBS.

2-37. See Appendix I, Movement Control Operations, and Appendix J, Deployment Planning Tools, for a more detailed discussion of some of these information management systems and planning tools.

INTERMEDIATE STAGING BASES

> The intermediate staging base is a temporary location used to stage forces prior to inserting the forces into the host nation.
>
> Joint Pub 1-02

2-38. In an ideal situation, secure bases are available in the AO for RSO&I and continued support of the deploying force. Unfortunately, the very situation that compels deployment of US forces may negate the advantage of basing within the AO. The JFC weighs requirements against the risk of basing within the AO. The theater operational situation may constrain the joint commander to select and prepare an ISB. The ISB is located within the theater of operations and outside of the combat zone and area of operations. (See Figure 2-2, page 2-14.) In cases where the joint force must secure a lodgment in order to project the force, an ISB may be critical to success.

2-39. If established, the ISB may be the initial theater reception and staging facility. Deploying forces debark from strategic lift, reassemble, and prepare for missions in the AO.

2-40. Onward movement from the ISB to the combat zone may be multimodal and require some level of reassembly in the AO. Transportation assets employed in onward movement will normally include strategic and theater assets including truck, rail, sea, and airlift. These movements are a part of deployment and should be included in the TPFDD.

2-41. The location of the ISB is dependent on a number of variables including distance to combat zone, host nation access, ports, and tempo of operations. Coordination with the host nation for use of an ISB is a State Department responsibility.

2-42. The selection of an ISB is a JFC decision. However, if the Army is tasked to operate the ISB, it should have a primary role in the selection process. The ISB should include properly sequenced and sufficient Army C2, CS, CSS, and joint support to enable projecting the force into the combat zone. The ISB should be shielded from long-range engagement systems, including missile, SOF, and terrorists.

2-43. The ISB may serve as the principle staging base for entry operations, which allows the joint commander to project the maximum number of forces into the combat zone. For example, armored forces arrive at the ISB by strategic air and sealift. They reassemble, prepare for combat operations, and conduct a joint entry operation using Army watercraft.

2-44. The longevity of the ISB varies according to the circumstance. The ISB may function throughout the operation serving as a secure facility for split-based operations which include selected logistic management functions that can be accomplished from home station or from a forward based location, deploying only those functional capabilities absolutely necessary into the AO. The ISB may continue to function because of superior air and sea bases. In an austere unstable area, it may also continue to serve as a rest and relaxation

site. However, if the ISB is a great distance from the AO, its usefulness diminishes. As soon as the lodgment has been expanded and the tactical situation permits, the JFC normally establishes a theater staging base within the AO as part of the RSO&I process.

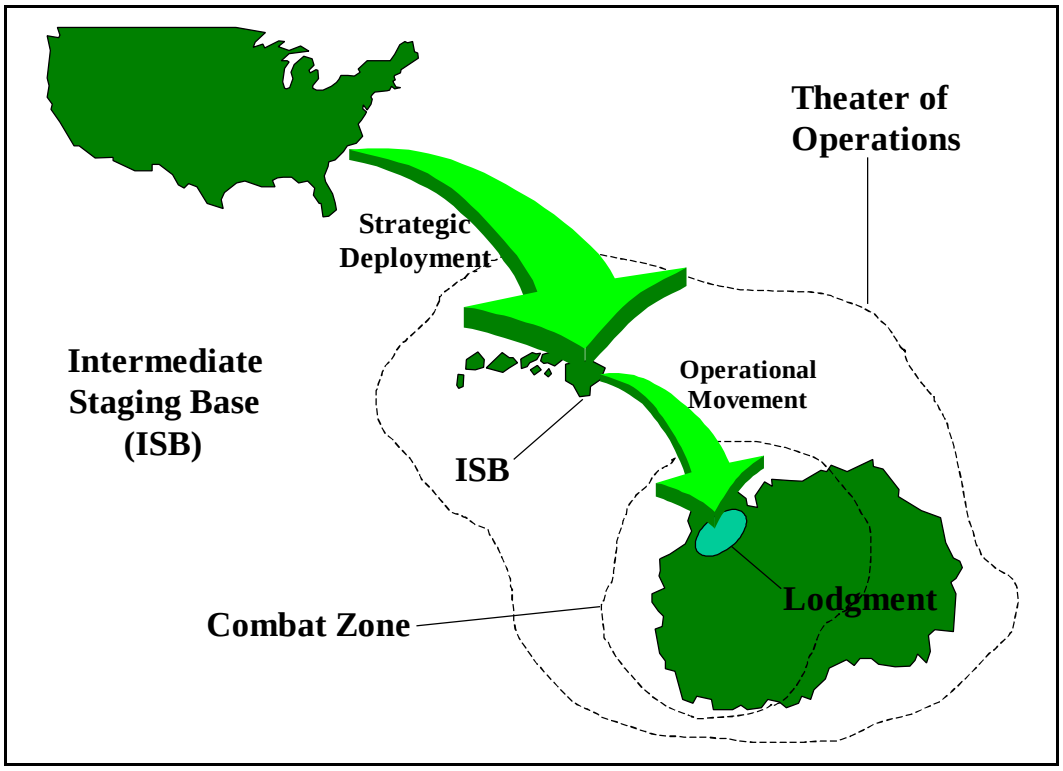


Figure 2-2. Intermediate Staging Base

Chapter 3

Reception

Even as the commander begins entry operations, his main focus shifts to building up his capabilities in preparation for operations.

FM 100-5, Operations

As the initial step in introducing combat power, reception can determine success or failure of an entire operation. It must be thoroughly planned and carefully executed. Reception from strategic lift is implemented at or near designated air and seaports of debarkation (under some circumstances, for example, Operation Joint Endeavor, it can also occur at rail facilities), under control of the JTF commander. While the reception plan for each theater may vary, reception capacity should, at a minimum, equal planned strategic lift delivery capability.

Reception is the process of unloading personnel and materiel from strategic transport, marshaling the deploying units, transporting them to staging areas if required, and providing life support to deploying personnel.

GENERAL

3-1. The IPB and analysis of theater reception capability provide an understanding of impacts the host nation, other Services, other nations' forces, and governmental and non-governmental agencies have when competing for reception at airfields and seaports. For example, in Desert Storm at the Port of Dammam, 33 total berths were available, yet no more than 17 were used because the remaining berths were dedicated to domestic Saudi commerce. It is also possible a USMC MEF may arrive in the theater simultaneously with APS-3 afloat. In some geographic areas, both could be going through the same port.

3-2. For the first three weeks of strategic 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 port. After three weeks, the first surge sealift ships arrive to begin a dramatic increase of forces. Airlift remains a critical element, but most combat power of the multiple heavy divisions arrives through seaports.

> The early deployment of combat power accomplished the desired effect on the Former Warring Factions. The cost was the limited early ability to arm, fix, fuel, and move forces. The majority of the Task Force arrived in the Area of Responsibility without its organic Main Support Battalion, division Class IX Authorized Stockage List, and Forward Support Battalions. Without these capabilities, the Task Force was severely limited to logistically support itself. Had the Task Force been required to transition to combat operations, the absence of these key capabilities would have severely reduced its combat effectiveness.
>
> Operation Joint Endeavor
> Draft After Action Report

FORCE FLOW

3-3. Combat operations generally have three distinctive phases. Initial forces are deployed to the theater to conduct a halt operation. They secure an area to conduct buildup operations in preparation for a counterattack. As depicted in Figure 3-1, reception occurs during the halt, buildup and counterattack phases of a force flow. The force flow is initially light in the halt phase and dramatically increases to a peak during the buildup phase.

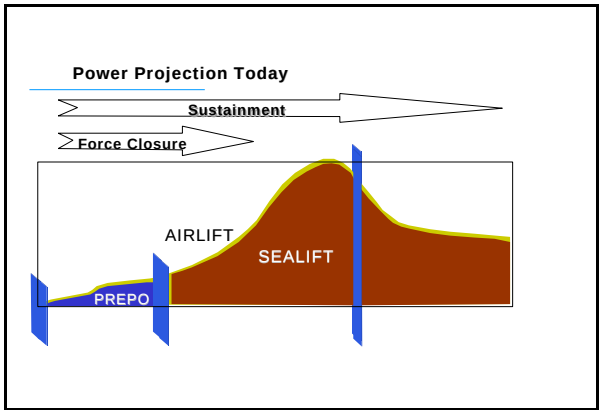


Figure 3-1. Halt, Buildup, and Counterattack

HALT

3-4. During the halt phase the lodgment is secured and expanded in preparation for the increase of the force flow. At this time, reception assets required for meeting crucial increases in force flow for the buildup phase must arrive in-theater. The first ship arriving from the US begins closing the heavy force in-theater. This event is called

"Sea LOC closure," and it starts a dramatic increase in the amount of tonnage flowing into the theater. Although airlift continues to be a critical element of the force flow, the volume of tonnage is shifted to sealift. While the reception of sustainment stocks begins during the halt phase and continues throughout the deployment, the peak for the sustainment flow normally occurs after force closure is achieved.

SECURE THE LODGMENT

3-5. If the tactical situation dictates, airborne or light forces arrive and secure an aerial port so that the brigade drawing the land prepositioned equipment can arrive into the theater. Prior to the arrival of this brigade the selected theater opening force module arrives and becomes operational. This module includes elements of the composite transportation group and the supporting headquarters. Force projection timeline requirements call for the initial brigade to be in-theater at C+4, draw the prepositioned equipment, and be operational within 96 hours. (See Figure 3-2, page 3-4.)

EXPAND THE LODGMENT

3-6. By C+8, Army Prepositioned Stocks-3 vessels arrive. Concurrently, troops fly in, draw the equipment, become operational, and move to the TAA by C+15.

3-7. During this time, they expand the lodgment to ensure sufficient capability to receive the massive flow of equipment and personnel. These flows generate a requirement for multiple seaports. Arriving personnel depart the airfield for the theater staging base rather than the seaport to marry-up with their equipment because of insufficient physical space in the seaport to accommodate them.

3-8. The first heavy division must be operational by C+24. To meet this timeline, equipment or personnel must clear the aerial port in 2 hours after arrival, while ships must be discharged in 2 or 3 days. (See Figure 3-2, page 3-4.)

> The weakest segment is in the theater of operations. Specifically, the hand-off of personnel, equipment and materiel from USTRANSCOM to the CINC at the ports of debarkation appears to be the "critical seam" where disruption of the deployment flow is most likely to occur.
>
> Report of the Defense Science Board
> Task Force on Strategic Mobility
> August 1996

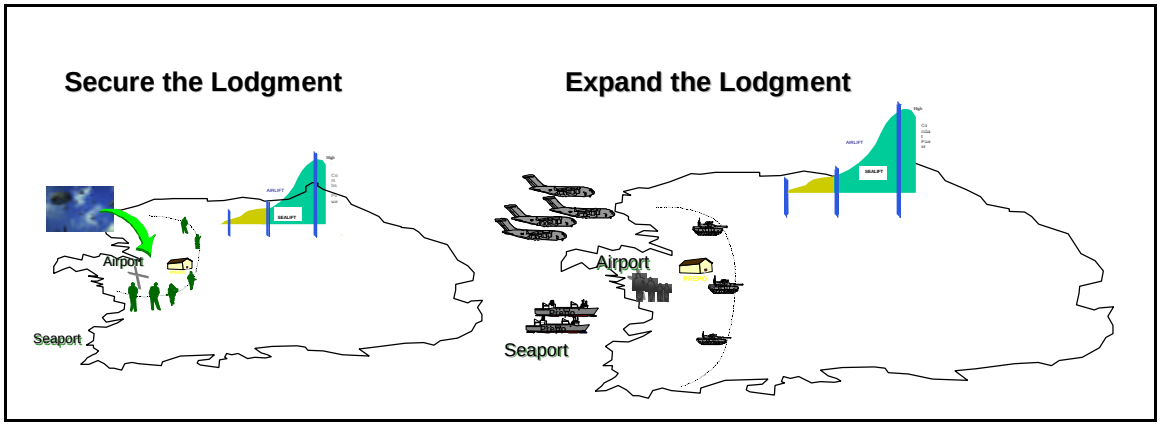


Figure 3-2. Secure and Expand the Lodgment

BUILDUP

3-9. Experience in Operation Desert Storm and lesser contingency operations has shown the need to rapidly expand and improve port reception capability, regardless of the nature of ports being used.

3-10. As the buildup of combat forces begins, capability for rapid expansion depends on well-synchronized arrival of personnel and equipment. The JFC must, therefore, control the deployment flow. Communication between supported and supporting commanders is key to adjusting priorities so that reception capabilities are not overwhelmed.

3-11. APOD and SPODs should, in most cases, be considered integral parts of a single reception complex, unless the distance separating them precludes mutual support. Reception capacity depends on:

- Harbor, port, and airfield characteristics.
- Availability of labor and port services.
- Off-loading and holding space.
- Condition and capacity of exit routes.
- Efficiency of movement control systems.

PORT CLEARANCE

3-12. 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 and unable to receive forces at the required rate of delivery. Three factors contributing to efficient port clearance are documentation, movement control, and adequate container handling equipment and personnel. Port

operators need timely and accurate documentation including information on forces and equipment arriving in-theater. Efficient movement control assures smooth flow of those forces and equipment according to operational priorities.

AIRPORTS AND SEAPORTS OF DEBARKATION

3-13. The three operations: APOD, MOG, and SPOD are discussed below. Also discussed are the types of seaports and the port selection. A detailed description of units and functions performed at the Airports and Seaports is found in Appendix K.

AERIAL PORT OF DEBARKATION

3-14. The primary airlift challenge is lack of airports not the lack of aircraft. Consequently, maximum throughput at limited airports is paramount. The APOD is by its very nature a joint facility and will likely also be a multinational facility. It is a port of debarkation for deploying forces, and a port of embarkation for forces moving to other theaters and noncombatant evacuation. The host nation may limit the APOD to military use or the military may be sharing the facility with commercial activities. The military will most likely be competing for use of the APOD with other governmental and non-governmental agencies.

3-15. 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. Responsibility for APOD operations is divided between the Army and USAF, with the Air Force responsible for airfield including air terminal control, loading unloading, and servicing of aircraft (see Figure 3-3, page 3-6). The Army is responsible for clearing personnel and cargo and for life support as required. Air Force/Army interface occurs between the Air Force TALCE and the Army A/DACG and Port Movement Control Detachments. Their respective functions are described below:

- TALCE– USTRANSCOM TALCE operates the airfield. It is responsible for ramp operations, aircraft parking, and supervising off-load operations. The TALCE releases planeloads to the A/DACG for airfield clearance.
- A/DACG– The Army Cargo Transfer Company is assigned the A/DACG mission. The A/DACG conducts airfield clearance operations by receiving and processing planeloads for release and onward movement.
- Port Movement Control Detachment– It is an Army movement control team assigned to an air terminal to coordinate onward movement of personnel, unit equipment, and cargo.

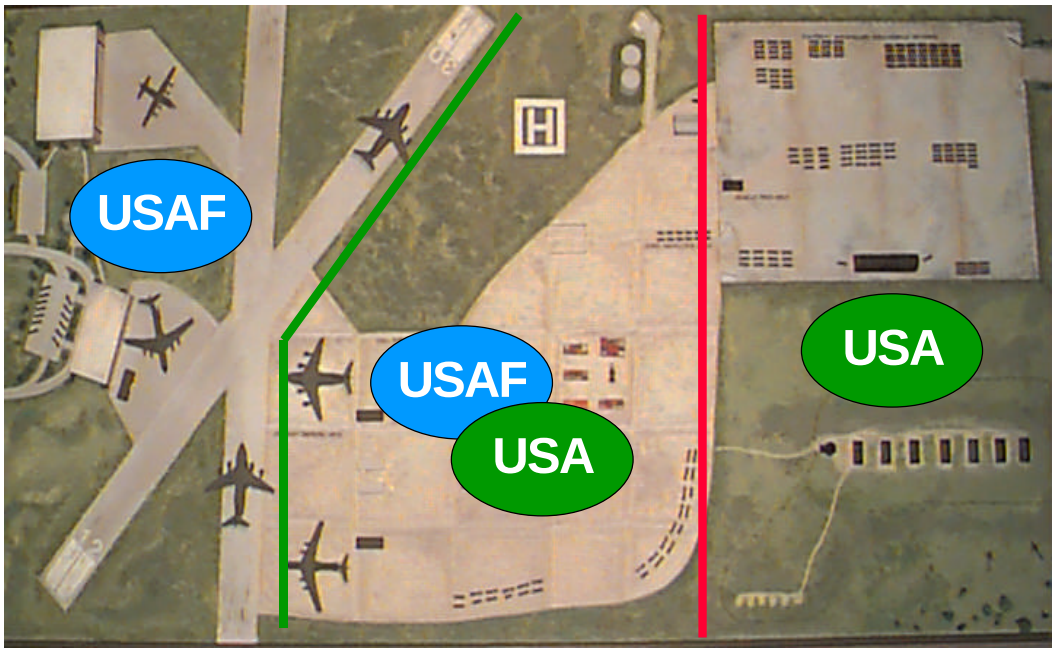


Figure 3-3. Division of Responsibilities in the APOD

3-16. Necessary communication, personnel, and cargo handling equipment must be in place to facilitate rapid movement out of the airport. Both the TALCE and the A/DACG should be included in the lead elements of the deploying force. The TALCE controls all activities at the off-load ramp area and supervises aircraft off-loading. An element of the senior logistics command, the A/DACG escorts loads and personnel to holding areas, that is, it clears the airfield and ensures airfield operations and strategic airflow are not limited because of the accumulation of cargo.

3-17. With responsibility divided between the Army and the Air Force, two chains of command exist within the aerial port, which can result in confusion and a variety of other problems. Given this 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 Air Force responsibility, and area security, an Army responsibility is well coordinated.

MAXIMUM ON GROUND

3-18. There are two constraining factors for airfields. The first is the parking MOG, the number of aircraft that can fit on the ground. The second constraining factor is the working MOG, how many of the parked aircraft can be worked simultaneously. Optimally, working MOG should equal parking MOG. In Dhahran there were 114 acres of 463L pallets on the ground when the ground war kicked off. The inability to clear the pallets reduced the working MOG and, therefore, reduced the throughput capability of the airfield.

> In Operation Joint Endeavor, the Army established a heliport to reassemble helicopters that were shipped via air. The heliport occupied a portion of an airfield, which affected the number of aircraft that could be parked on the field (MOG). This reduced the throughput of the airfield and consequently slowed the deployment. An Army decision that impacted the strategic flow.
>
> Operation Joint Endeavor
> Draft Lessons Learned

SEAPORT OF DEBARKATION

3-19. Activities at seaports are normally joint, multinational, and commercial operations. Seaports serve as ports of debarkation for arriving forces and simultaneously as ports of embarkation for forces deploying to other theaters of operations. Supported combatant commanders have several options for management of seaport operations in their theater. These options include the use of deployable active component transportation groups, reserve component transportation terminal groups, or MTMC under a CAA to operate some or all of the theater water terminals USTRANSCOM through MTMC is the DOD-designated Single Port Manager for all common user ports worldwide. The SPM performs those functions necessary to support the strategic flow of the deploying forces' equipment and sustainment supply in the SPOE and hand-off to the theater JFC in the SPOD. The SPM is responsible for providing strategic deployment status information to the JFC and to workload the SPOD port operator based on the JFC's priorities and guidance. The SPM is responsible through all phases of theater port operational continuum from bare beach deployments (LOTS operations) to a totally commercial contract supported deployment. (Respective functions of port operation are discussed in Chapter 2.)

TYPES OF SEAPORTS

3-20. There are three categories of ports that commanders must plan for: improved, world class ports; unimproved or degraded ports; and bare beach or no port environment, LOTS operations are necessary (see Figure 3-4). World class ports are like those found in Dammam, Saudi Arabia and Pusan, Korea. Unimproved ports are like the ones in Somalia and Haiti or an improved port that was purposely degraded like the Port of Kuwait during Desert Storm.

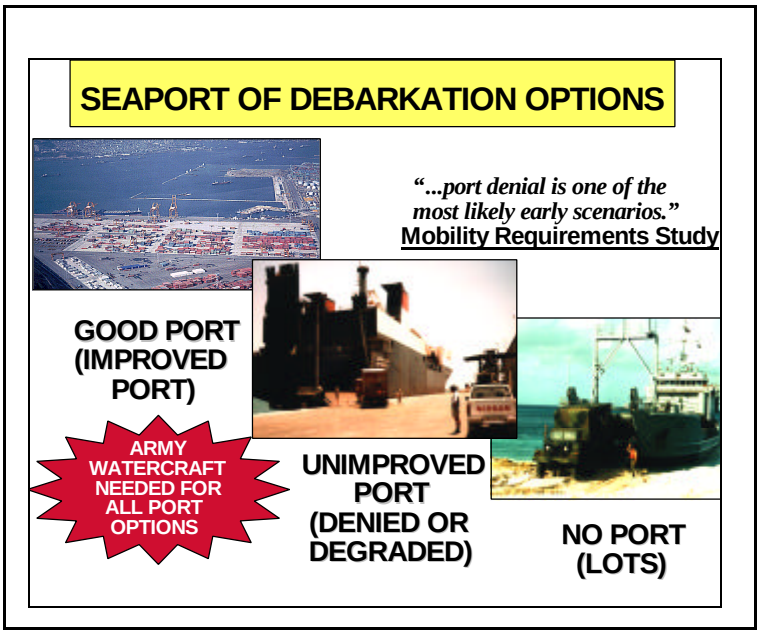


Figure 3-4. Seaport of Debarkation Options

3-21. The Mobility Requirement Study found that port denial is one of the most likely early scenarios in deployment. An enemy studying past US military operations would quickly deduce that the place to stop the Army is at the port. The least desirable option is bare beach because of the time required to move cargo across the beach. Army watercraft are required for operations in most ports. The volume of shipping will require an in-stream off-loading capability in most scenarios.

3-22. Vulnerability of the force during discharge operations is a significant concern. 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 the LMSR and the draft requirement to bring the vessel pier side 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 limited, then multiple ports and slower in-stream operations may be required.

3-23. The ability to project forces into an AOR despite ports that have been rendered unusable or are inaccessible to deep draft vessels is essential to the Army's force projection strategy. Army watercraft provides this capability through in-stream discharge. They allow the ship awaiting berthing space because of congestion or port denial to be off-loaded in-stream. In situations where world class ports are not available, Army watercraft can discharge the LMSRs in-stream and transship the cargo on smaller Army ships to either smaller ports or directly over the shore. Appendix L gives the characteristics of some of the Army's watercraft.

3-24. The ability of a port to receive, process, and clear personnel and equipment, or its throughput capability, is a critical planning factor. The planner must check that the port is capable of receiving the planned strategic flow, considering not only the port's capability, state of repair, and congestion, but its throughput capability. Ability to conduct in-stream (that is, offshore) unloading operations expands a port's reception capability. A smaller port without capability to receive large vessels can use in-stream unloading to increase the overall theater throughput. However, ability to perform in-stream off-loading is largely contingent on availability of Army watercraft and other assets required to move cargo from ship to shore. In-stream off-load operations are sensitive to weather and sea conditions, and generally require a protected anchorage or artificial breakwater.

3-25. Research and developmental work are underway to increase the range of sea states (sea states define the water conditions from calm to hurricane) in which in-stream off-loading is feasible. Presently, in-stream off-loads at sea state 3 and above are extremely limited. New technologies such as the RIB system, ICLF, modular causeway upgrade, and vessel discharge enabler will extend the operational possibilities of in-stream off-loading in higher sea states.

3-26. Seaport operations are similar to airport operations– vessels are off-loaded, cargo moved to a holding area, and then the port cleared. Unit cargo clearing the port moves to TSB or directly to the TAA. Movement out of the port is controlled by movement control elements and must be integrated into the theater movement plan. Port clearance operations can involve one or more of the following transportation modes: highway, rail, and coastal/inland waterways.

PORT SELECTION

3-27. 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 capacity of available airfields and ports within the area of operations, as well as the transportation networks linking them

with each other and the interior. Moreover, diplomatic and military contacts should be made at the earliest possible opportunity with the host nations controlling key facilities and rights of way.

3-28. METT-TC considerations and the theater transportation infrastructure must guide the sequence, type, size of forces and materiel arriving at ports of debarkation. These decisions impact speed of combat buildup and development of the theater. For example, when opposed entry is likely, commanders may have to seize and secure airfields and seaports to permit insertion of follow-on forces. Afterwards, it will be necessary to repair damaged facilities in order to process arriving units at the required rate. Even in the event of unopposed entry, ports of debarkation will undoubtedly still require improvement and repair to accommodate high throughput rates required for force closure. Thus, the early entry of units such as cargo transfer companies, composite transportation groups, and Army watercraft is critical to off-loading materiel, clearing ports and consequently speeding deployment.

RECEPTION FUNCTIONS

3-29. Reception functions are activities facilitating throughput at the ports of debarkation. They include C2, movement control, and port operations.

COMMAND AND CONTROL

3-30. Like any other in-theater activity, reception is under command and control of the JFC. Reception planning and execution, however, is the responsibility of the commander assigned the overall RSO&I mission. This designation can require an augmentation of functional units capable of conducting RSO&I and an early presence on the TPFDD.

3-31. The TSC is organized to conduct RSO&I for large deployments while the TOFM are designed specifically to perform RSO&I for smaller deployments. If the JFC determines a TSC or TOFM is needed, it should be positioned early in the TPFDD flow. TOFMs are configured according to the size of the deploying force.

3-32. The arrival of strategic air and sealift will be controlled by the JFC through the USTRANSCOM element attached to his staff. Strategic lift assets remain under command of USTRANSCOM and cannot be retained or diverted by the JFC without concurrence of USTRANSCOM. The APOD and SPOD will normally be managed by AMC and MTMC respectively, and operated by the designated logistics command under C2 of the JFC. Movement control in-theater is the responsibility of the JFC, and should not be delegated below that level.

3-33. It should be noted that reception activities continue after force closure is achieved, in order to facilitate arrival and processing of sustainment stocks and unit replacements. These sustainment activities do not have as strong operational emphasis (hands-on participation of the operational commander) as do RSO&I.

MOVEMENT CONTROL

3-34. Movement control is a subset of command and control. Efficient movement control allows commanders to redirect forces and rapidly compensate for disruptions in the LOC. 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 links.

PORT OPERATIONS

3-35. As outlined in the Unified Command Plan, USTRANSCOM has the mission to provide worldwide common-user air and seaport terminal services. To ensure consistency in common user ports worldwide, USTRANSCOM, through its components AMC and MTMC, will normally manage common-user air and sea POEs and PODs and workload the port operator based on the JFC's priorities and intent. The port management function remains a military responsibility through all phases of a theater port operation continuum. Conversely, the port operator can be military, host nation, contractor, or a combination thereof.

PORT SECURITY

3-36. Seaports represent lucrative targets and must be secured. Efficiency of operations can reduce the threat to forces and equipment being processed through the port but the port's physical facilities remain vulnerable. Security for the port complex is normally provided pier side and waterside. The naval component is normally responsible for the waterside of the port, with the USCG providing that security. Pier side security is provided through port security units and their linkage to the rear area protection organization and the base cluster defense plan.

NODE RELATIONSHIPS

3-37. An effective and efficient reception process requires synchronization, communication, and transportation among reception nodes. It permits reassembly of units and equipment at Theater Staging Bases as required by the JFC.

3-38. Appropriate throughput capabilities must be available at each node so that unit personnel and their equipment do not become unduly vulnerable because of prolonged waiting for reassembly. Personnel must arrive at the APOD to coincide with equipment draw. This degree of coordination is best accomplished through the agency of a single commander responsible for RSO&I.

Chapter 4

Staging

In order to make assured conquests it is necessary always to proceed within the rules: to advance, to establish yourself solidly, to advance and establish yourself again, and always prepared to have within reach of your Army resources and your requirements.

Frederick the Great
Instructions for His Generals, 1747

Staging is the process of assembling, holding, and organizing arriving personnel and equipment into units and forces, incrementally building combat power and preparing units for onward movement; providing life support for the personnel until the unit becomes self-sustaining.

GENERAL

4-1. Staging is that part of the RSO&I operation which:

- Reassembles and reunites units with their equipment and schedules their movement to the TAA.
- Uploads unit basic loads.
- Provides life support to personnel.

4-2. These activities occur at multiple sites in controlled areas called TSBs. TSBs are required because space limitations normally preclude reassembly of combat units at seaports of debarkation. In general, there will be at least one TSB for each SPOD/APOD pairing. In Desert Storm battalion sized units averaged 9-17 days to stage and 20,000 soldiers were awaiting equipment when the ground war began (see Figure 4-1, page 4-2).

THE IMPACT OF STAGING ON FORCE CLOSURE

4-3. In order to meet the force closure requirements, time units spend staging through the TSB must be minimized. In Desert Storm, staging was extended by inefficiencies such as: personnel arriving before their equipment, equipment arriving before its personnel, and delays in matching troops with proper equipment. As a result, time required to reach force closure exceeded 200 days. Units were still staging through TSBs even after the ground campaign commenced. Now, the Army standard for force closure of a similar size force is only 75 days. To achieve this objective, a battalion-sized unit should spend no more than two days staging in the TSB.

Figure 4-1. Desert Storm Staging

Lines of Communications

All routes, land, water, and air, which connect an operating military force with a base of operations and along which supplies and military forces move.

Joint Pub 1-02

4-4. TSBs 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 TSB should have sufficient space to accommodate the largest force scheduled to stage through it, together with facilities for vehicle marshaling, materiel handling, equipment maintenance and calibration, and possibly boresighting and test firing weapons. All of these are needed if the TSB is to fulfill its function of converting personnel and equipment into mission-ready combat units.

CONUS and USAREUR units were deployed to Taszar, staged, and either loaded on railcars or prepared for onward movement for a 12-hour convoy to Staging Area Harmon. At the height of the operation, the main staging base covered an area of some 35 square kilometers, and was processing 200 containers per day.

Operation Joint Endeavor
Draft Lessons Learned

4-5. Other factors affecting selection of a TSB include geography and terrain (for example, water supply may be a factor in desert operations, land space in urban setting), and availability of organic and host nation assets. These factors, together with the size of the deploying force, may often necessitate multiple TSBs. 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 a TSB. Appendix M describes unit staging requirements.

4-6. The requirement for multiple theater staging bases, in turn, multiplies support requirements. Movement control and communication are especially important, due to the increased complexity of synchronization between the ports of debarkation and the theater staging bases, between the theater staging bases themselves, and between the theater staging bases and the tactical assembly areas.

The Army Prepositioned Stocks Afloat equipment (APS-3), which supports a 2x2 heavy brigade, requires 47 acres of staging area for its cyclic maintenance, as well as two million square feet of storage on ships.

4-7. Figure 4-2 is a schematic representation of how a theater may look with multiple reception ports and TSBs.

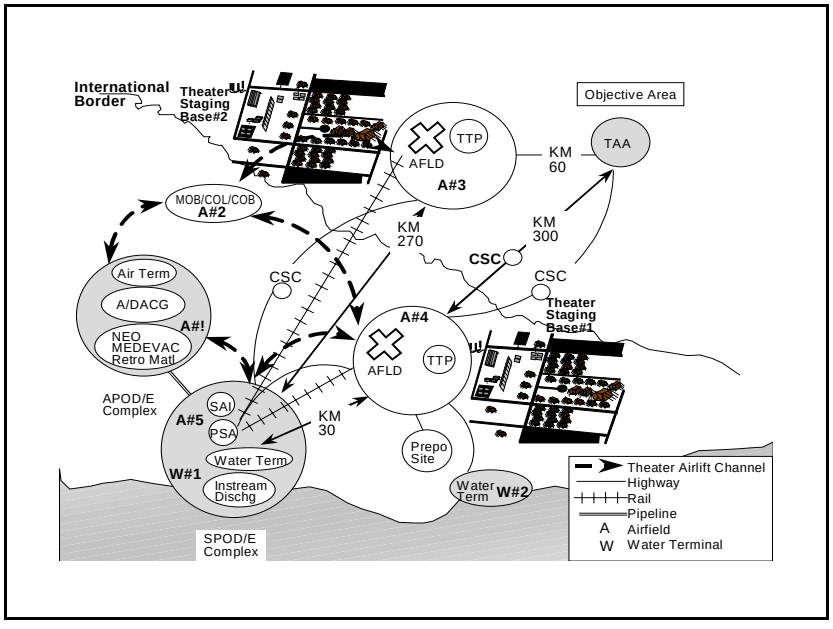


Figure 4-2. Theater with Multiple Reception Ports and TSBs

TPFDD CONSIDERATIONS

4-8. Under normal circumstances, troops deploy by air, while equipment deploys by sea. The speed differential between air and sea 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.

4-9. Troops arriving too early must wait an extended time for their equipment to arrive. Sustenance, housing, and sanitation then become serious problems. 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.

4-10. Notwithstanding the duration of a unit's stay in the staging area, support remains a necessity. Units and supplies required to support the troops and equipment in the staging area must be sequenced early in the TPFDD flow. The commander must ensure availability of rations, billeting, showers, toilets, medical care, and so forth, in addition to materiel handling equipment.

4-11. METT-TC considerations may effect the location of TSBs. In Desert Storm the original TSB was augmented with another TSB much farther forward. Soldiers were flown to the forward TSB, while theater assets transported their equipment from the seaport to the forward TSB.

4-12. Early deployment of essential support units may reduce the number of early-entry combat units in-theater, but pays dividends later by speeding the flow of the entire force, enhancing the JFC's operational flexibility. Conversely, front loading the TPFDD with combat forces may hurt the JFC's ability to build up forces as rapidly as required and thus reduce flexibility.

TSB FUNCTIONS

4-13. The key to success in staging is understanding the role of the TSB in the RSO&I process, and of functions performed at the TSB to support force closure.

COMMUNICATION

4-14. Reliable and compatible communications are essential to operations in the theater staging base(s). The JFC must know when forces are combat capable and prepared for onward movement, and have the capability to control and employ these forces at the decisive point and time.

4-15. The theater staging base must be able to communicate with ports of debarkation. Without two-way communication, managing staging activities becomes impossible. The staging base must know what is arriving, and when it will arrive. Synchronization between the theater staging bases and ports enables the efficient flow and reassembly of troops and equipment, as well as for the management of life support.

COMMAND AND CONTROL

4-16. Unity of command and a clearly understood chain of command reduce confusion, duplication, and delay. Two command structures normally operate at the TSB:

- Command and control of forces operating the TSB; and
- The chain of command for combat units forming in the staging base.

FORCE TRACKING

> The identification of units and their specific modes of transport during movement to an objective area.
>
> Joint Pub 1-02

4-17. Force tracking provides situational awareness of combat-ready units within the AOR. While in transit visibility begins at home station, the process 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.

4-18. Efficient movement control can provide force tracking information. Movement control must be able to communicate directly with operational commanders. Alternatively, movement control can be maintained using the established chain of command.

4-19. ITV acts as a staging enabler, by providing commanders with clear pictures of locations of units and materiel in RSO&I and deployment. For the TSB 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.

4-20. At present, there are a number of joint and multinational systems in various stages of development that provide visibility of force deployment and sustainment. Unfortunately, present systems do not completely satisfy the requirements of force tracking.

LIFE SUPPORT

4-21. Regardless of time actually spent in the TSB, troops staging through it will require support, including housing, sustenance, sanitation and health care. RSO&I planners must ensure that these are in place and functioning by the time the first units arrive. This requires proper early sequencing of engineer, water purification, combat health support, and field kitchen units in the TPFDD. Even if this requires displacement of some combat capability, it pays dividends later in the operation in the form of higher throughput, faster incremental buildup of combat power, and earlier force closure. The Army's Force Provider modules, each designed to provide base camp support to 550 people, as well as the Air Forces Prime Beef and Prime Rib programs, are viable options for providing field services to transient and permanent parties.

ARMING, FUELING, AND FIXING

4-22. Equipment arriving at the TSB may require maintenance before it becomes combat ready. This includes calibration of equipment, boresighting of weaponry, replacement of parts damaged in transit, painting, fueling, and loading. The TSB should provide adequate facilities to support these activities, including marshaling areas, maintenance shelters, fuel and ammunitions storage, a test driving loop, range areas. Figure 4-3, below, shows the layout of a notional theater staging base.

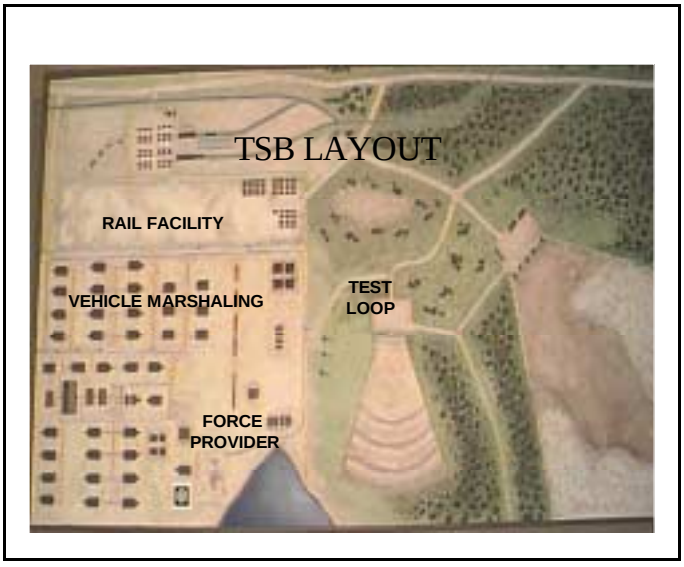


Figure 4-3. TSB Layout

PREPARATION OF UNITS FOR ONWARD MOVEMENT

4-23. In addition to preparing equipment, units at the TSB undergo training and reorganization. The unit commander re-establishes command and control over the unit. Communications networks are established and tracking systems allow senior commanders to monitor incremental buildup of combat power. Commanders must participate in planning the onward movement including route planning, unit tracking, and movement control.

SECURITY

4-24. Theater staging bases are high-value targets, destruction or damage of which results in serious delays in force closure and disruption of the JFC's concept of operations. Units in the TSB are vulnerable to attack by enemy air, missile, and ground forces. Being immobile and only partially combat ready, they possess limited capability for self-defense. Moreover, with many troops and their equipment concentrated into a relatively compact area, there is great potential for massive casualties, which could result in serious strategic consequences; for example, undermining public support for the military operation, and loss of US prestige.

CONVERSION TO SUSTAINMENT OPERATIONS

4-25. Theater distribution, as a sustainment operation, begins with arrival of the first two heavy divisions by surge sealift. Since sustainment stockpiles in APS-3 are limited to supplies needed to support the first 30 days of operations, establishment of sustainment operations may compete with RSO&I for port space, infrastructure, and materiel handling equipment. TSBs may be converted into distribution sites after the onward movement of the last units. However, arrival of the two additional heavy divisions in the second wave of surge sealift could delay this transition unless the divisions stage through different ports of debarkation and use different TSBs. Whether it is more advantageous to establish new TSBs, or to establish independent distribution sites, must be determined on a case-by-case basis.

Chapter 5

Onward Movement

Overwhelming combat power is achieved when all combat elements are violently brought to bear quickly, giving the enemy no opportunity to respond with coordinated or effective opposition.

FM 100-5, Operations

Onward movement is the process of moving units and accompanying materiels from reception facilities and staging areas to the TAA or other theater destinations; moving arriving non-unit personnel to gaining commands and moving sustainment materiel from reception facilities to distribution sites.

GENERAL

5-1. Personnel and equipment reassembled as combat-ready units must be onward moved to TAAs based on the JFC'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 TAAs. There are three primary factors affecting onward movement:

- Movement Control.
- Transportation Infrastructure.
- Security and Enemy Interdiction.

MOVEMENT CONTROL

> Inadequate control of movement, whether into or within the theater, results in waste, reduced logistic efficiency and consequently, a loss of potential combat power.
>
> Joint Pub 4-0

5-2. Movement control is defined as planning, routing, scheduling, and control of personnel (units) and cargo 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 possible interruptions to the flow minimized. One of the biggest challenges of movement control is rapidly adjusting to changes in battlefield conditions and the commander's priorities. The challenge of a theater movements program is to merge the JFC's concept of operations and priorities in a movements plan and execute them. This challenge can be met by employing an adequate number of movement control resources to anticipate and improvise. Efficient movement control enables the commander to redirect forces and rapidly overcome disruptions in the LOC. Movement control is discussed in detail in Appendix I.

TRANSPORTATION INFRASTRUCTURE

5-3. The total transportation infrastructure–modes, routes, control factors, host nation assistance, 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.

5-4. In most cases, other Services and allied forces will use the same networks as Army units. Invariably, there will be areas of congestion, some of which cannot (or will not) be overcome. Planners should expect simultaneous demands on limited infrastructure, difficulties in communications, and differences in transportation capabilities.

5-5. During onward movement, mode selection (rail, HET, barge, and so forth) is an operational issue, as it determines whether the commander of the unit in transit maintains control or whether control is lost and further staging required. Ideally, rail HET should transport tracked vehicles and wheeled vehicles should convoy.

5-6. Operation Joint Endeavor illustrates problems arising from reliance on a single mode for onward movement.

Operation Joint Endeavor

At the time of execution, the rail deployment plan was based on an unvalidated deployment rate (20 trains per day). At the planned rate of movement, the division could deploy the bridge opening package, open the ground lines of communications, accomplish the transfer of authority, and begin enforcement of the Zone of Separation by D+30. As the deployment began, it rapidly became apparent that the rail LOC would only throughput about half of the planned deployment rate. As a result, ad-hoc force tailoring decisions had to be made to compensate for the reduced rail lift capacity.

Initial Impressions Report
Operation Joint Endeavor

5-7. Establishment of CSC and TTP along MSRs 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 updates in operational priorities and diversions.

5-8. Loading unit containers and other sustainment cargo on theater trailers for movement into corps and division areas is an efficient method of onward movement. There is, however, a twofold challenge: have MHE forward to download containers and getting the trailers back into the transportation system.

SECURITY AND ENEMY INTERDICTION

5-9. 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 TSB to the TAA. Planners should assume that interdiction of lines of communication will form an integral part of enemy strategy.

5-10. Enemy interdiction of onward movement, with an asymmetrical threat or with weapons of mass destruction, presents special challenges to the commander. To minimize disruption, commanders should plan using multiple LOCs. Alternative routing and mode substitution must be integrated into operational plans; air, sea, and inland waterway LOCs may supplement ground LOCs.

5-11. Security of all LOCs should be established at a minimum cost to committed combat units, through exploitation of geography, host nation and allied civil and military security forces, uncommitted combat units, as well as assets of other Services. It may be necessary to conduct a major operation to secure the LOCs over which onward movement is conducted, to guarantee incremental build of combat power.

5-12. Due to proliferation of ballistic and cruise missiles among potential US adversaries, it may be necessary to establish air defense sites around critical choke points, such as bridges, tunnels, ferries, and rail yards. Because these missiles may be armed with weapons of mass destruction, they represent a potential source of massive casualties. Moreover, nuclear and chemical warheads have potential to disrupt or interdict a LOC for extended periods. Mobile, en route air defenses may also be required in cases where the enemy has a significant force of attack helicopters, or in the event that air superiority is contested.

5-13. Enemy special operations forces represent yet another threat to onward movement. The ability of small forces exploiting surprise along extended lines of communication cannot be underestimated. Convoy escort may be required whenever the enemy has a credible special operations capability, especially if the units must travel on transporters (or by rail), rather than in a tactical mode. This may, in turn, require the commitment of other combat units, thereby delaying the build-up of combat power at the TAAs. Tradeoff analyses must be conducted to determine the appropriate size of the security force, given the potential for long-term disruption of LOCs.

During the 1973 Arab-Israeli War, an Israeli commando team of 12 men and a jeep-mounted recoilless rifle (RCL) were inserted at 2,400 hours along the Baghdad-Damascus Highway about 100 km north of Damascus, near a bridge crossing a steep ravine. The bridge was rigged for demolition, ambush positions were laid out covering the bridge approaches, with hasty minefields covering the ambush positions. At dawn, an Iraqi tank brigade, moving on transporters, began crossing the bridge. After several vehicles had crossed, the bridge was destroyed, and the exits from the bridge approaches interdicted by the RCL, thus isolating the convoy on the road. The immobilized vehicles were then destroyed by aircraft on-call, and by commandos using satchel charges. In this manner, approximately 50 Iraqi tanks were destroyed, and the road remained closed for several days (during a critical period in the war), due to fear of additional ambushes.

1973 War Lessons Learned

5-14. Korea provides an excellent example of the onward movement challenge (see Figure 5-1, page 5-4). It is approximately 180 miles from the major fixed port facility at Pusan to TAAs around Seoul.

5-15. The primary MSR from Pusan to Seoul features 176 bridges and 11 tunnels, many of which cannot be bypassed. During an attack, North Korean forces will attempt to interdict many of these choke points, in order to delay or disrupt the flow of reinforcements northward from Pusan. Ensuring uninterrupted flow of forces requires a multi-modal approach to onward movement. Army watercraft, for example, could augment the surface transportation capability in Korea, maximizing use of small ports, while concurrently reducing the demand for road space on the primary MSR.

5-16. Security measures such as minesweeping and clearing (tasks requiring cooperation with US and allied naval forces) may be needed before smaller ports can open.

IMPROVING ONWARD MOVEMENT

5-17. Enhancing speed and efficiency of onward movement requires development of three capabilities:

- Robust communications sufficient to allow ITV and communications with units in transit.
- Joint/Multinational procedures to ensure unity of effort and uninterrupted flow.
- Movement control to allow the most effective routes and modes.

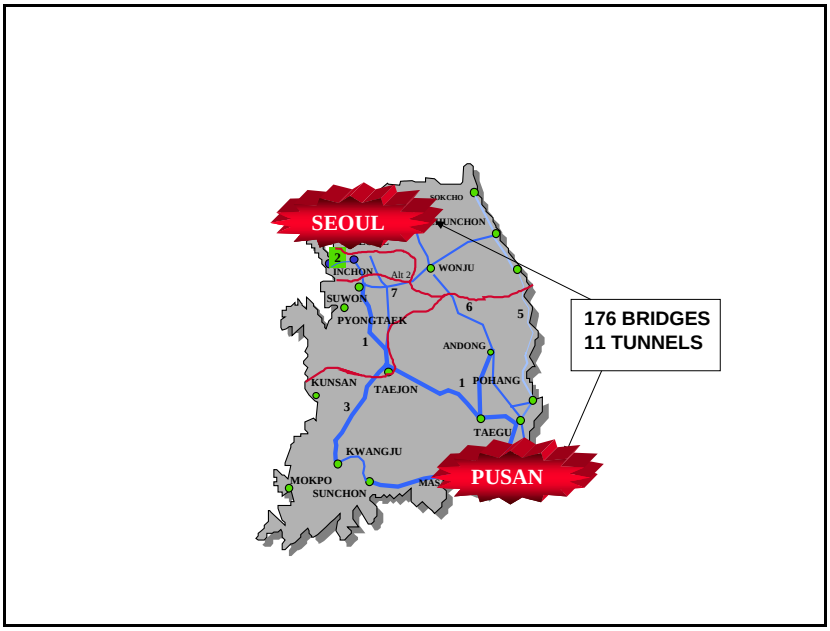


Figure 5-1. Onward Movement Challenges

Chapter 6

Integration

The more I see of war, the more I realize how it all depends on administration and transportation...It takes little skill or imagination to see where you would like your army to be and when; it takes much knowledge and hard work to know where you can place your forces and whether you can maintain them there.

Field Marshall A. C. P. Wavell (1883-1950

Integration is the synchronized transfer of authority over units and forces to a designated component or functional commander for employment in the theater of operations

GENERAL

6-1. During integration combat-ready units are merged into the operational plan. Consequently, integration planning and coordination must occur early in the force projection process, continuing until force closure. Integration is complete when the receiving commander establishes positive command and control over the arriving unit, usually in the tactical assembly area.

INTEGRATION PROCESS

6-2. There are two prerequisites for unit integration:

- The unit must become operational and mission-ready. It must be able to move, fight and communicate at nominal levels of capability. Internal command and control must be re-established, and the unit must meet the readiness standard formulated by the tactical commander.
- The unit must be absorbed into the joint force, be able to communicate, and receive command and control from its higher headquarters.

6-3. 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.

6-4. Accurate prediction of the time of unit integration is critical to the commander's ability to operate in accordance with the five basic tenets of Army operations. In order to accomplish this, the JFC and component staffs must be able to build a TPFDD which meets the commander's intent, usually expressed in the unit's CINC's required date or required delivery date. Transportation feasibility is conducted throughout the military decision making process as a means of checking course of action feasibility. Once the TPFDD is executed, the JFC, through subordinate and its links to the ITV system, monitors the TPFDD. Changes are analyzed for their impact on integration of mission essential capabilities and the TPFDD revalidated by the JFC to adjust these changes.

- Initiative
- Agility
- Synchronization
- Versatility
- Depth

FM 100-5, Operations

COORDINATION AND PLANNING

6-5. Predeployment planning establishes force structure for the contingency, and identifies units that must integrate. Once identified, units establish predeployment liaison and plan for theater integration. Coordination measures, ITV, and force tracking are used to predict the start of force integration, and the time required for its completion. Unit mission readiness criteria are an essential element of integration and must be included in the integration plan. Integration requirements are best defined using end-state analyses based on the JFC's force requirements. The analysis identifies milestones for deploying units.

6-6. No plan survives first contact with the enemy. Plans must be open and flexible enough to adapt to reality on the ground. Technical problems, natural conditions, land space constraints, and enemy action all conspire to alter the commander's initial plan. The concept of operations should be broad enough to accommodate changes in strategic, operational, and tactical situations as they occur.

COMMAND AND CONTROL

Battle command is the art of battle decision making, leading, and motivating soldiers and their organizations into action… battle command represents a refinement and maturation from the old concept of command and control to one that focuses on the exercise of command and considers control as the subordinate means. Battle command is the natural expansion of C2 brought on by changes in the scope, intensity, and tempo of current and future operations.

FM 100-15

6-7. Battle command is a combination of equipment (mainly communications, but also information management), organizations (unit staff) and procedures (SOP, OPLANs, and so forth). Each command echelon will have its own unique battle command structure, but all battle command systems must be compatible with the theater command.

6-8. Problems of battle command are exacerbated by the non-linear nature of the future combat environment. As opposed to past operations, with well-defined front lines and areas of responsibility, future Army forces may deploy into fluid, non-contiguous battle spaces. Relative positions of friendly and enemy forces may change on a daily or hourly basis, requiring a high degree of coordination and situational awareness. This applies as much to deployment activities as actual combat operations.

6-9. Deployment operations are time sensitive; compressed planning timelines and furious activity are the norm. Commanders need timely, accurate information to execute or modify initial plans in response to rapidly changing operational and tactical conditions. Confusion inherent to deployment often results in conflicting guidance, frequent planning changes, and inefficient task execution, all of which delay the build-up of combat power and the force closure.

6-10. Control measures, such as LOs or movement control teams can reduce confusion by coordinating between integrating units, RSO&I 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 RSO&I process.

FORCE CLOSURE

6-11. The objective of RSO&I operations is force closure, the point at which the JFC determines that adequate, combat-ready force is available to implement the concept of operations. Force closure requires well-defined criteria by which unit commanders can judge readiness.

6-12. Thus, RSO&I operations must also be particularly flexible regarding force closure. Commander's may accelerate rates of force integration or change the sequence of unit integration.

6-13. Due to both limitations of strategic lift, and time delays inherent in intercontinental deployments, many decisions made at the beginning of the deployment process are practically irrevocable. Initial deployment plans should be flexible enough to ensure that unit integration is able to meet "real," as opposed to "planned" force closure requirements.

IMPROVING INTEGRATION

6-14. Integration flexibility depends on three specific capabilities:

- Standardized procedures for transfer of authority.
- Standardized reporting.
- Nonlinear decision support tools.

6-15. Appendix N is an example of a unit reporting status used at the NTC.

Appendix A

Process

The process of deploying from installation into theater involves a series of interrelated actions beginning with predeployment activities, and continuing through RSO&I and arrival into the TAA. These actions can affect the conduct of RSO&I.

NOTIONAL DEPLOYMENT PROCESS

A-1. The following is a notional deployment process action list for use in planning.

Note: Bold type indicates division and below unit activity.

	PROCESS TASKINGS
1	**Predeployment Activities**
2	**EOC begins stand up**
3	MTMC Tiger Team arrives at SPOE
4	**DTO/brigade movement officers arranges movements requirements with ITO**
5	**DTO/ITO Coordinate with appropriate Air Force elements**
6	MTMC goes to TRANSCOM for MSC vessels scheduled
7	ITO orders rail cars for installation based on unit requirements
8	ITO orders commercial containers
9	**Coordinating meeting with DTO, TT BRIGADE, DS BRIGADE and Tiger Team**
10	Deployment Support Brigade Advance Party arrives at deploying unit installation
11	DOL food service notified/contingency stocks verified
12	**G4 computes release of DRB zero balance munitions/confirms bulk POL**
13	**DRB submits initial LOGSUM to G4 including: vehicle paint requirements/MEE shortfalls**
14	**Quality control personnel check tie downs and conduct 626 pre-inspections**
15	**DRB prepares requisitions for class VIII items/identifies block and brace items for containers**
16	**DRB schedules issue of special clothing items and delivers DA Form 581 to DAO**
17	**DRB coordinates with DISCOM MCO for on site container deliveries**
18	**DRB verifies SRP certifications/begins identifying non-deployables**
19	**Division staff conducts mission briefing for CG/DRB1 CDR (N+8 hours)**
20	**DRB S1 schedules SRP for deploying forces/critical MOS shortage**
21	**DRB S2 picks up maps**

22	**DRB S3 issues deployment FRAGO (N+10 hours)**
23	**DRB begins troop and equipment preparation for units identified at N+8 brief**
24	**Railhead orientation/safety brief**
25	**A/DACG orientation/safety brief**
26	**Conduct POM**
27	**Revise unit movement plan**
28	**Roster personnel by echelon**
29	**APS draw team list**
30	**Supercargo list**
31	**Advance party list**
32	**Security team list**
33	**Rear detachment list**
34	**Revise equipment information**
35	**Unit equipment list**
36	**HAZMAT data**
37	**Over-dimensional data**
38	**Container load plan**
39	**Packing list**
40	**Identify equipment to accompany troops**
41	**Revise Red TAT list (Equip with troops on aircraft)**
42	**Revise Yellow TAT list (Equip on ground when troops arrive)**
43	**Revise TAT list**
44	**Revise load plans**
45	**Revise air movement plans**
46	**Revise rail movement plans**
47	**Revise convoy movement plans**
48	**Revise commercial movements requirements**
49	**Submit DA Form 1265**
50	**Submit DA Form 1266**
51	**Revise strip maps**
52	**Submit request for blocking and bracing material**
53	**Prepare transportation documentation**
54	**Prepare DA Form 5748-R packing list**
55	**Prepare DA Form 5748-R vehicle load diagrams**
56	**Prepare Air Document DD Form 2327**
57	**Prepare TCMD DD Form 1384**
58	**Review/Update unit movement data**
59	**Conduct unit movement training**
60	MTMC receives AUEL
61	MTMC contacts MSC For vessel schedule at SPOE
62	MTMC Develops staging area/pre-stow plans
63	**Coordinate out load priorities between MTMC, DS Brigade and DISCOM S3/4 and DTO**
64	**Unit moves to SPOE**
65	**UMO monitor move**
66	**Submit UMD to installation**
67	**Prepare equipment for movement**
68	**Pack box/warehouse pallets**
69	**Prepare passenger movement**
70	**Rear detachment operations**
71	**Turn-in non-deployable equipment**

72	**Turn-in excess POL/PLL**
73	**Turn-in installation and real property**
74	**Turn-in personal property**
75	**Turn-in files**
76	**Destroy unneeded files**
77	**Load vehicle/containers**
78	**Prepare load diagrams**
79	**Load 463L pallets**
80	**Configure vehicles for shipment**
81	**Marshaling area operations**
82	**Assembly into chalks**
83	**Initial inspection of equipment**
84	**Execute air movement plan**
85	**Weigh/mark vehicle/cargo**
86	**Arrive alert holding area**
87	**Documentation for air transport**
88	**Correct inspection discrepancies**
89	**Correct call forward inspection discrepancies**
90	**Identify air load teams**
91	**Execute rail movement plan**
92	Receive commercial rail cars
93	**Load rail cars and tie down**
94	Inspect train segments
95	Train departs (N+13/1st train departs 50-75 cars per train)
96	Notify trains departed
97	**Execute convoy movement plan**
98	**Convoy formations prepared**
99	**Convoy briefings and vehicle checks**
100	**Convoys depart**
101	**Notify convoys departed**
102	ITO Phase II Activities
103	Conduct installation movement plan
104	Receive port call forward
105	Coordinate issue/receipt of military shipments
106	Provide MSLs
107	Monitor loading sites
108	Support mobilized of USAR units
109	Submit UMD to appropriate authority
110	Coordinate shipment with POE
111	**Submit movement reports to appropriate authority**
112	**PSA element deploys to port**
113	SPOE Phase II/Pre-arrival Activities
114	**Provide staging area security**
115	**Receive TCMD information**
116	**Prepare cargo documentation**
117	Prepare vessel manifest documents
118	Amend/modify pre-stow plan
119	Prepare required documents incident to loading
120	Manifest blocking and bracing
121	Establish/prepare cargo staging area
122	Prepare portable bar code readers
123	Coordinate berths for floating craft

124	Coordinate receiving support equipment and shoring lumber
125	Schedule discharge of commercial trucks and rail cars
126	Receive and berth vessel
127	Coordinate vessel berthing requirements
128	Coordinate with stevedores
129	Prepare vessel for loading
130	Inspect ship for loading equipment
131	Perform cargo reception function
132	**Unload commercial trucks and rail cars**
133	**Receive and stage trucks/rail cars**
134	**Receive/stage convoy equipment**
135	**Receive/stage deploying unit aircraft**
136	**Perform cargo documentation activities**
137	TTBrigade meeting with CAPT and First Mate
138	Record receipt information on shipment documents or scan
139	**Inspect cargo for loss/damage**
140	Process improperly documented and label cargo
141	Complete shipping documents with MILSTAMP data
142	Process hazardous dangerous cargo
143	Process classified/protected cargo
144	Process frustrated cargo
145	Perform staging area tasks
146	**Perform maintenance on unit equipment**
147	Provide staging area security
148	Perform IAW terminal MOU
149	Inspect ship loading
150	Perform cargo loading activities
151	**Call forward equipment for loading**
152	Scan equipment
153	Load according to stow plan
154	Inspect stowage of equipment
155	**Load super cargoes**
156	Prepares ship for sailing
157	Provide First Mate with vessel papers
158	Ship departs
159	Perform sealift
160	APOE Phase II Activities
161	**Conduct unit marshaling area tasks**
162	**Assembly into chalks**
163	**Inspect equipment by unit**
164	**Prepare equipment for air movement**
165	Provide TALCE assistance at marshaling Area
166	**Conduct unit alert holding area tasks**
167	**Add passenger and cargo reception**
168	**Conduct DACG/TALCE inspection**
169	**Stage unit equipment**
170	**Stage equipment according to instructions**
171	Scan MSL to record equipment location
172	Verify staging area inventory
173	**Conduct alert area holding operations**
174	**Arrive alert holding area**
175	**Provide documents for air transport**
176	**Correct call forward joint inspection discrepancies**

177	**Provide air load teams**
178	Perform TALCE air movement tasks
179	Perform TALCE alert holding area tasks
180	Conduct TALCE call forward area tasks
181	**Load unit equipment on aircraft (IRC Package Only)**
182	Aircraft departs (first aircraft departs NLT N+18)
183	Conduct strategic lift (IRC-Advance party)
184	Perform lift of PSA
185	Perform airlift of main body
186	Transfer command of departing force to supported CINC
187	Receive Army units in-theater
188	Plan air terminal operations
189	Receive unit through APOD and conduct activities
190	Conduct TALCE APOD activities
191	Coordinate with TALCE and Army unit for IRC Arrival
192	**Provide teams for off-loading aircraft**
193	Supervise off-loading of aircraft
194	Release cargo and passengers to AACG
195	Supervise loading aircraft for transshipment
196	Conduct AACG APOD Activities
197	Receive cargo and passengers from TALCE
198	**Assess status of weapons and classified material**
199	Ensure return of equipment to TALCE
200	**Release cargo and passengers to Army unit**
201	**Provide limited supply and services to Army units**
202	**Release cargo and passengers to Army unit**
203	Movement control coordinate onward movement from APOD
204	**Brief units on status and procedures to clear APOD**
205	Call forward transportation
206	Transfer and reconfigure cargo for onward movement
207	**Coordinate with ASG**
208	**Coordinate for onward movements**
209	**Coordinate with TALCE and Army unit for fly away package arrival**
210	**Provide teams for off-loading and loading aircraft**
211	Supervise off-loading of aircraft
212	Release cargo and passengers to AACG
213	Supervise loading aircraft for transshipment
214	Conduct AACG APOD activities
215	Receive cargo and passengers from TALCE
216	**Assess status of weapons and classified material**
217	Ensure return of equipment to TALCE
218	**Release cargo and passengers to Army unit**
219	**Provide limited supply and services to Army units**
220	**Release cargo and passengers to Army unit**
221	Movement control coordinate onward movement from APOD
222	**Brief units on status and procedures to clear APOD**
223	Call forward transportation
224	Transfer and reconfigure cargo for onward movement
225	**Coordinate with ASG**
226	**Coordinate for onward movements**
227	**Main body arrives**
228	Coordinate with TALCE and Army unit for main body arrival

229	**Provide teams for off-loading and loading aircraft**
230	Supervise off-loading of aircraft
231	Release cargo and passengers to AACG
232	Supervise loading aircraft for transshipment
233	Conduct AACG APOD activities
234	Receive cargo and passengers from TALCE
235	**Assess status of weapons and classified material**
236	Ensure return of equipment to TALCE
237	**Release cargo and passengers to Army unit**
238	**Provide limited supply and services to Army units**
239	Movement control coordinate onward movement from APOD
240	**Brief units on status and procedures to clear APOD**
241	Call forward transportation
242	Transfer and reconfigure cargo for onward movement
243	**Coordinate with ASG**
244	Coordinate for onward movements
245	**Conduct unit activities at SPOD**
246	TTBrigade arrives/opens port
247	TTBrigade establishes C2 of port activities
248	Arrange for port security
249	Plan ocean terminal operation
250	Coordination meeting with host nation support activities
251	Provide supply and service support
252	Advise terminal how to sort discharged equipment
253	Brief units on current situation and procedures to clear SPOD
254	Conduct surface-to-air interface operation
255	Finish vessel reception and cargo movement plans
256	Ship arrives/prepare for unloading operations
257	Unload vessel
258	Move equipment to marshaling/staging area
259	Reconfigure equipment for onward movement
260	**Coordinate onward movement of Army unit from SPOD**
261	Clear cargo and passengers through ocean terminal
262	Operate temporary in-transit storage area
263	Interface with transporters, shippers, and receivers
264	Coordinate transportation for onward movement
265	**Coordinate with MCT**
266	**Move to staging area**
267	Release cargo and passengers to MCT
268	Conduct movement control team SPOD activities
269	Conduct MCA activities to clear Army units through port
270	Provide highway regulation
271	Coordinate holding and marshaling area requirements
272	**Provide movement schedule**
273	Provide ITV of units in AOR
274	Move Army unit to gaining command
275	MCA Activities
276	Gaining command activities
277	Designate TAAs
278	**Receive arriving forces**
279	MCT activities
280	Act as MCA field representative for inland movement
281	**Arrange inland movement of Army unit to TAA**

282	Interface with transport, shipping and request for inland movements
283	**Unit activities**
284	**Draw APS**
285	**Coordinate inland movement with MCT**
286	**Conduct unit movement to TAA**

Appendix B

Deployment Operating Tools

This Appendix discusses the many different systems used as deployment operating tools.

OPERATING TOOLS

B-1. The different systems listed below are, in fact, operating tools used for deployment.

GLOBAL COMMAND AND CONTROL SYSTEM-ARMY

B-2. GCCS-A provides a single seamless command and control system built around a common operating environment and is being integrated with the GCCS. Integration will be partially achieved from the "best of breed" process as GCCS-A and GCCS share and reuse software modules. The Joint Service/Agency GCCS engineering team, sponsored by the Defense Information Systems Agency is identifying these software modules. GCCS-A is fundamentally GCCS with additional Army functionality.

JOINT OPERATIONS PLANNING AND EXECUTION SYSTEM

B-3. JOPES is the integrated, joint, conventional command and control system used by JPEC to conduct joint planning, execution and monitoring activities. JOPES supports senior-level decision-makers and their staffs at the NCA level and throughout the JPEC. It is a combination of joint policies, procedures, personnel, training and a reporting structure supported by automated data processing systems, reporting systems, and the GCCS. JOPES is a GCCS application.

ARMY MOBILIZATION AND OPERATIONS PLANNING AND EXECUTION SYSTEM

B-4. AMOPES is the Army supplement to JOPES. Army components plan Army forces and resources to meet combatant commanders' needs using JOPES. AMOPES provides the interface between unified plans for deployment and Army plans for mobilizing forces and resources. AMOPES identifies active and reserve component major Army combat forces available to execute operational plans. It sets priorities for the apportionment of CS and CSS units in conjunction with OPLANs. AMOPES provides mobilization and deployment definitions and guidance for planning and execution along with a detailed description of the Army's Crisis-Action System.

COMPUTERIZED MOVEMENT PLANNING AND STATUS SYSTEM

B-5. COMPASS is a FORSCOM system that provides deployment planning systems with accurate Army unit movement requirements. COMPASS describes unit property and equipment in transportation terms. It converts UMD into a COMPASS AUEL and maintains UMD for use in mobilization and deployment planning. This data originates from the UMD provided by Army units. The preferred system to transmit UMD to COMPASS is TC-ACCIS. ITOs (UMCs) validate and transmit the data to FORSCOM COMPASS. COMPASS then reformats the data and updates JOPES. Detailed guidance on how to prepare and submit UMD is in FORSCOM Regulation 55-2.

TRANSPORTATION COORDINATOR-AUTOMATED COMMAND AND CONTROL INFORMATION SYSTEM

B-6. The TC-ACCIS is an information management and data communications system that Army units (active and reserve) use to plan and execute deployments. System capability includes the ability to create and maintain unit movement data, prepare convoy requests, create military shipping labels and other movement documentation, and prepare vehicle load cards and vehicle/container packing lists. Principal system users within division and installation are the UMOs, ITO, UMCs, ICUMOs, and DTO. Selected TC-ACCIS functionality will migrate to TC-AIMS II.

B-7. Units maintain their AUEL and develop their DEL using TC-ACCIS. TC-ACCIS software resides on computers at the ITOs of CONUS installations and ITOs or movement control units in overseas theaters. The ITO, using the central computer, will consolidate requirements and transmit equipment lists and transportation requests to systems outside TC-ACCIS. For example, CONUS ITOs transmit AUEL and DEL to FORSCOM's COMPASS database. The information can then be used to update JOPES. Through TC-ACCIS, the ITO also provides MTMC the deployment requirements (such as DEL), domestic routing requests, export traffic release requests, and passenger transportation requirements.

DEPARTMENT OF THE ARMY MOVEMENTS MANAGEMENT SYSTEM-REDESIGNED

B-8. DAMMS-R provides an automated movement information management capability to movement managers involved in providing movement control and allocation of common user land transportation in a theater. It also provides theater mode operators with a tool to assist in the management of their assets, including personnel, equipment, and terminal/trailer transfer points. The system has a financial management capability to assist in maintaining records and payment for commercial movements. DAMMS-R consists of six separate but interrelated subsystems used

by transportation planners, movement managers, mode operators, traffic controllers, transshippers, and unit movement personnel. These subsystems are the shipment management module, movement control team operations module, mode operations module, convoy planning module, highway regulation module and transportation addressing module.

B-9. Currently, DAMMS-R is fielded in two Blocks. Block 1 includes the shipment management, movement control team operations, mode operations and transportation addressing modules; and block 2 contains the highway regulation and convoy planning modules. DAMMS-R Block 3 will replace Block 1. Selected DAMMS-R functionality will migrate to TC-AIMS-II.

GLOBAL TRANSPORTATION NETWORK

B-10. GTN is an automated command and control information system that provides the family of transportation users and providers with an integrated view of transportation information. It provides USTRANSCOM the ability to perform command and control operations, planning and analysis, and business operations to meet customer requirements. GTN also provides ITV for the DTS. GTN collects and integrates transportation information from selected DOD systems for use by transportation data customers– the NCA, CINCs, USTRANSCOM, and the Services. The system provides these users the ability to monitor movement of forces, cargo, passengers, and patients and movement of military and commercial airlift, sealift and surface assets.

B-11. GTN is available in both WWW and client server applications. The initial operational capability contains the ITV functionality. The command and control functionality and other capabilities are scheduled in subsequent deliveries.

JOINT TOTAL ASSET VISIBILITY

B-12. JTAV is being developed as a joint task force logistics management AIS to provide an in-theater TAV capability. JTAV provides the capability to fuse information from selected AISs into one picture. Through JTAV, theater logisticians will access in-transit, in-storage, and in-process information in GTN, the inventory control point AIS, and the LIPS. Additionally, JTAV will interface with Services' logistics databases to capture visibility of assets held by theater forces and with the theater transportation information system to provide visibility of shipments within the theater. JTAV will merge this information with in-theater unit information and other in-theater-related logistics information for both inbound and outbound assets. The JFC will use the logistics information in JTAV to enhance planning for the deployment of forces and materiel, the diversion of forces and materiel in-transit,

and, if required, to meet changing contingency requirements. Alsc for the management of in-theater assets, cross leveling and distribution, and for the redeployment of forces and retrograde of materiel.

DEFENSE TRANSPORTATION TRACKING SYSTEM

B-13. The mission of DTTS is ensure the safe and secure movement of all DOD sensitive conventional arms, ammunition and explosives and other sensitive material using satellite technology and 24-hour staff oversight, and to support DOD's ITV and TAV initiatives. DTTS monitors all sensitive shipments including non-ordnance related classified, pilferable, hazardous, and high value cargo moving from consignor to consignee. The monitoring is accomplished by using periodic satellite positioning and other coded/text messages from equipped vehicles. DTTS also identifies and coordinates responses to intransit accidents/incidents. DTTS provides ITV and expedites movements within CONUS for all military services, and other DOD and government agencies and programs. The ITV data is also provided to GTN. The DTTS is currently fielded and in operation in CONUS and Europe.

AUTOMATED AIR LOAD PLANNING SYSTEM

B-14. AALPS provides DOD with an automated information system to support the process and functions of aircraft estimation, aircraft gross load planning, deliberate load planning and execution, and tracking of movement statistics during deployments.

TRANSPORTATION COORDINATORS' AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II

B-15. TC-AIMS II is a joint information management system that provides functionality for facilitating the movement of unit personnel, equipment, and supplies during peace and war, and provides visibility data of those forces from home station to the conflict and back. Its primary mission is to support the warfighter in the planning and execution of deployment, sustainment, and redeployment of forces during peace and war. TC-AIMS II will integrate current DOD transportation systems supporting installation and unit movement requirements into a single system.

B-16. TC-AIMS II includes functionality found in three separate Service legacy systems: the Air Force's CMOS, the Army's TC-ACCIS, and the Marine Corps' TC-AIMS. Planned system functionality includes the following:

- providing source item level detail information on equipment and personnel to the separate Service and/or Joint TPFDDs,
- rail loading and convoy planning/scheduling,
- automated MILSTAMP documentation,
- common user lift requests to TCCs,
- creating and maintaining UEL/DEL, and
- sharing load plan information with air/ship stow planning systems.

B-17. The system will also provide GTN with unit movement ITV information for passengers and cargo. TC-AIMS II is currently in prototype development.

AUTOMATED IDENTIFICATION TECHNOLOGY

B-18. AIT encompasses a variety of read and write storage technologies that capture asset identification information. These technologies include bar codes, magnetic strips, integrated circuit cards, OMCs and RF identification tags. They are used for marking or "tagging" individual items, multipacks, air pallets, and containers. AIT devices offer a wide range of data storage capacities from a few characters to thousands of bytes. The devices can be interrogated using a variety of means, including contact, laser, or RF. The information obtained from the interrogations can then be provided electronically to automated information systems. AIT includes the hardware and software to create the storage devices, read the information stored on them, and integrate that data with other logistics data. AIT also includes the use of satellites to track and redirect shipments.

BAR CODES

B-19. A bar code is an array of parallel, narrow, rectangular bars and spaces that represent a group of characters in a particular symbology. The bars and spaces are arranged in an order defined by the symbology. Bar codes are applied on labels, paper, plastic, ceramic, and metal by a variety of marking techniques. A reader scans the bar code, decodes it, and transfers data to a host computer. Within DOD and the Army a common use of linear bar codes is the military shipping label which contains the TCN and other transportation information. For the future, DOD plans to phase in two-dimensional bar codes for selected areas of use. Two-dimensional bar codes have a greater data capacity and are more durable than linear bar codes.

RADIO FREQUENCY IDENTIFICATION TAGS

B-20. RFID is used to identify, categorize, and locate people and materiel automatically within relatively short distances (a few inches to 300 feet). The RFID labels are known as tags or transponders. They contain information that can range from a permanent ID number programmed into the tag by the manufacturer to a variable 128-kilobyte memory that can be programmed by a controller using RF energy. The controller is usually referred to as a reader or an interrogator. An interrogator and a tag use RF energy to communicate with each other. The interrogator sends a RF signal that wakes up the tag, and the tag transmits information to the

interrogator. In addition to reading the tag, the interrogator can write new information on the tag, thus permitting a user to alter the tag's information within the effective range. Interrogators can be networked to provide extensive coverage for a system.

B-21. The Army uses an active RF tag that accommodates line-item detail information to provide ITV and standoff, in the box visibility of container contents. As an example, the tag, which contains data on the container contents, is placed on the container and then read as it passes interrogators located at nodes or other critical locations within the transportation system. RFID capabilities provided by active RF tags are beneficial when a user needs to locate and redirect individual containers. RFID may also be used in an austere environment where there are inadequate systems or communications infrastructures and to facilitate the AIS capture of asset data. The active RFID capability offers significant capabilities for yard management, port operations, and ITV.

OPTICAL MEMORY CARDS

B-22. OMCs use the optical technology popularized by audio CDs and audiovisual CD-ROM products. Information is written to the card in increments rather than at one time. An OMC can have data written to it in a sequential order on many occasions until all available memory has been used. An OMC is similar in size to a credit card and can be easily carried. DOD activities use OMCs when extensive content detail is required, such as for multipack, air pallet, container, trailer, and rail car shipments. The Defense Logistics Agency's AMS uses a DOD standard OMC. The primary objective of AMS is to facilitate automated receipt processing. OMCs are used best when a data audit trail is required or an extensive amount of data has to be stored.

SATELLITE-TRACKING SYSTEMS

B-23. A satellite tracking system provides the ability to track the exact location of vehicles and convoys. The latitude and longitude locations of trucks, trains, and other transportation assets equipped with a transceiver are transmitted periodically via a satellite to a ground station. Some systems also provide two-way communications between a vehicle operator and a ground station for safety, security, and rerouting.

B-24. Satellite tracking uses a cellular or satellite-based transmitter or transceiver unit to communicate positional information, encoded and text messages, and (in the case of sensitive DOD ordnance movements in the CONUS) emergency messages from in-transit conveyances to the ground station. Transceiver-based technologies also permit communications from a ground station to the in-transit conveyance. A user can compose, transmit, and receive messages

with very small hand-held devices or with units integrated with computers. USEUCOM is using satellites to track convoys and critical shipments as they move to and from Bosnia.

B-25. The following description clarifies how a satellite-tracking system works. A system has five components– a subscriber unit, satellite, earth station, NCC, and logistics managers. A subscriber unit is installed on the conveyance being tracked. The unit exchanges information with an earth station via satellite. The earth station is connected to a NCC that stores information in electronic mailboxes. Logistics managers access their mailboxes to receive information from subscriber units and return information to them.

Appendix C

Wartime Executive Agency Responsibilities

This Appendix discusses all the responsibilities of the Wartime Executive Agency.

GENERAL

C-1. Responsibilities of an executive agent are:

- Implement and comply with the relevant policies and directives of the SECDEF.
- Ensure proper coordination among military departments, the combatant commands, the JCS, the Joint Staff, the SECDEF, and the Defense agencies and DOD field activities as appropriate for the responsibilities and activities assigned.
- Issue directives to other DOD components and take action on behalf of the SECDEF, to the extent authorized in the directive establishing the executive agent.
- Make recommendations to the SECDEF for actions regarding the activity that designated the executive agent, including the manner and timing for dissolution of these responsibilities and duties.
- Perform such other duties and observe such limitations as set forth in the directive establishing the executive agent.

C-2. The following is a listing of commonly recognized Army Service component WEAR responsibilities.

Army WEAR Requirements	Service Component
Inland Logistics Support	USMC
Inland Class I	All Services
Supply Support of UN Peacekeeping Forces	UN
Operation of Common User Ocean Terminals	All Services
Intermodal Container Management	All Services
Transportation Engineering for Highway Movement	All Services
Common User Land Transportation In-Theater	All Services
Log Applications of Automated Marking and Symbols	All Services
Military Customs Inspection Program	All Services
Military Troop Construction	USAF Overseas
Airdrop Equipment and Systems	All Services
Power Generation Equipment and Systems	All Services
Land Based Water Resources	All Services
Overland POL Support	All Services
Military Postal System	All Services
DOD Enemy POW and Detainee Program	All Services
Blood Support	USAF

Army WEAR Requirements	Service Component

Military Veterinary Support	All Services
Medical Evacuation on the Battlefield	All Services
Mortuary Services/Graves Registration Operations	All Services
Single Managers for Conventional Ammunition	All Services
Chemical Munitions	All Services
Disposal of Waste Explosives and Munitions	All Services

C-3. Geographic combatant commanders have many options when establishing their theater support systems. They may use uni-Service, cross-Servicing, common-Servicing or joint-Servicing support arrangements. Based on the type of Service support agreement, geographic combatant commanders assign logistics responsibilities. They may use either the dominant-user or the most-capable-Service concept. Regardless of the method, it should allow the components to use the common-user system for requirements that exceed organic capabilities. When implementing a concept, the combatant commander should plan for contingencies that would require a different arrangement.

DOMINANT-USER CONCEPT

C-4. The geographic combatant commander assigns the Service component that is the principal consumer responsibility for providing or coordinating logistics support to the other Service components in the theater or designated area.

MOST-CAPABLE-SERVICE CONCEPT

C-5. The geographic combatant commander assigns responsibilities to the Service component most capable of performing the mission. Usually, the most-capable-Service arrangement is the most efficient and flexible.

Appendix D

Financial Management Operations

The finance mission during RSO&I operations is to fund Army, joint and multinational forces by providing timely procurement and contracting support, banking and currency support, US and non-US pay support, accounting and cost capturing, travel and financial advice and policy.

GENERAL

D-1. Finance elements provide the initial funding in both US dollars and applicable foreign currencies to support the initial procurement efforts, including leasing of transportation assets, contracting of facilities (buildings, private air strips, warehouses, and so forth), and payment of services (translators, laundry, commercial phones).

D-2. Finance structure is modular and tailorable and deploys only those elements required to support the deployed force. The finance commander's knowledge of the interfaces between the logistical and financial management systems is critical for effective combat service support and provides specific capabilities during RSO&I operations as discussed below.

PROCUREMENT PROCESS

D-3. Support to the logistical system and to contingency contracting efforts is critical to success during all operations. Finance units will provide funds for the purchase of local goods and services needed in a more timely manner or that are more economically purchased locally. A large percentage of finance units' wartime efforts may be devoted to supporting contracting and local procurement efforts. It is the responsibility of finance personnel to prevent improper or illegal payments and to coordinate with support contracting personnel regarding local business practices.

BANKING AND CURRENCY

D-4. Currency support includes supplying US currency, foreign currencies, US Treasury checks, foreign military scrip, MPC, and, in some operations, precious metals (gold, silver) to US and multinational forces in the theater. Finance units may also provide currency and coins to AAFES facilities, (Tactical Field Exchanges), and postal units. Finance units provide cash for ATM in the theater. Finance commanders advise unit commanders on the use of local currency in the conduct of personal affairs. Restrictions may be imposed to prevent disruption of the local economy and to prevent and control black market operations and counterfeiting.

US PAY

D-5. As directed, finance units provide pay support to all services (both Active and Reserve components) and DOD civilians. Pay support will be provided when requested by commanders, METT-TC dependent; however, pay support is generally not provided to forces engaged in decisive operations. Finance units maximize the use of automated systems to maintain soldiers' pay accounts.

TRAVEL

D-6. Deployed personnel are likely to be in a TDY status (as opposed to field status). The requirements for travel support could be immense-even if entitlements are limited to incidental expenses. Reimbursable travel will be held to a minimum for the deployed force; however, during the early stages of the operation, there may be extensive requirements for TDY to and from the theater.

D-7. Travel support also includes NEO travel advances to noncombatants when they evacuate from the theater (emergency evacuation allowances). The State Department may issue a noncombatant evacuation order for US citizens in the host nation or target country. Evacuation payments are authorized under these conditions and are usually paid outside the target country at a pre-designated safe haven.

NON-US PAY

D-8. Finance units are responsible for providing pay support for host nation employees, day laborers, enemy prisoners of war, and civilian internees. Host nation employee and day labor pay are provided through arrangements with the host nation or by finance units but will occur in the theater.

ACCOUNTING

D-9. The Army must provide accurate reports to Congress on the use of public funds for an operation. Appropriated and non-appropriated accounting requirements for a military operation are immense, and they begin prior to the deployment of the first soldier into the theater. Efficient cost capturing is dependent upon the timely receipt and accuracy of cost data and is achieved through the joint efforts of the finance, contracting and resource management personnel.

COMMAND RESOURCE REQUIREMENTS

D-10. The goal of the financial manager is to provide prompt mission-essential funding to ensure operational success, and to protect funds from

fraud, waste, and abuse. The RM serves as the commander's "honest broker" during resource allocation discussions and advises the commander on the best possible use of these resources to support the operation.

D-11. The RM estimates funding requirements and prepares the initial estimates to support operational missions and will continually refine the estimates as operations continue. The RM considers reimbursement issues relating to joint and multinational operations, UN operations, and other interagency support and determines the bill payers for various aspects of an operation. Resource requirements include theater infrastructure construction, materiel, and services for ports, communications, road, rail, and river networks. The RM justifies command resource requirements based on the best operational and logistical estimates.

FUNDING SOURCES

D-12. The RM analyzes and determines all potential sources of funding, including various DOD appropriations, foreign cash contributions, host nation support, and foreign assistance-in-kind. Extraordinary measures, including emergency funding authorities such as Feed and Forage Act provisions, are also considered when appropriate.

D-13. The RM solicits and obtains obligation authority or other legal means of exchange to fund Army operations, and, as directed, joint and multinational operations.

DISTRIBUTE AND CONTROL

D-14. The RM develops and implements procedures to distribute obligation authority or other means of exchange among units in the theater. The RM also develops and implements procedures to respond quickly to valid changes in units' funding requirements or in the availability of funding sources. Procedures will adhere to regulations, applicable policies, and US law. Effective and efficient fund control and certification is critical in the conduct of operations, especially those operations of a long duration. Loss of control may violate regulations or the law and puts the RM and the operational commander in jeopardy.

D-15. Resource managers provide limited funding authority to field ordering officers and contracting officers. Finance unit's support contracting and ordering officers by providing cash, checks, and electronic fund transfer payments.

TRACKING OBLIGATIONS

D-16. The RM will establish reporting procedures that will let units report their estimated and/or actual commitments, obligations, and reimbursable costs, and estimate their future costs. Reporting procedures should be simple and flexible enough to ensure accurate reporting under any

circumstances, across the range of military operations. Cost reports are consolidated periodically and provided through appropriate command channels.

D-17. Resource management is closely linked to finance, logistical, and contracting activities in the theater. In many instances, deploying units will be responsible for tracking and capturing all costs incurred; however, sometimes the costs of centralized supply and logistical operations may be captured outside the theater, primarily by automated means. In any case, the RM, in conjunction with the supporting finance unit, captures the cost of intratheater logistical and construction operations and locally procured supplies and services.

TRACKING ALLIED SUPPORT

D-18. The RM will develop and implement procedures in coordination with logistics elements to report the value of allied support provided in the theater (this includes host nation support and foreign assistance-in-kind). Particular care must be taken in this arena due to the political sensitivity inherent in multinational operations. The RM tracks and budgets cash contributions in different currencies and develop logical and consistent methods to value both foreign currency contributions and assistance in kind in US dollars. Reimbursement costs may develop with organizations such as NATO, the UN, the US Department of State, or other troop providing nations.

Appendix E

RSO&I Organizations

This Appendix discusses the Army key units, their parent organization, and their major functions.

PURPOSE

E-1. Table E-1 below describes the key Army units and elements supporting RSO&I.

E-1. Army Units and Elements Supporting RSO&I

Organization or Activity	Parent Organization	Major Functions
Area Movement Control Detachment	Movement Control Agency	To expedite, coordinate, and supervise transportation support for units, cargo and personnel into, through, and out of an assigned geographic area, and to coordinate transportation movements, diversions, reconsignments, and transfers of units, cargo, and personnel.
Area Support Medical Battalion	Corps or EAC Medical Group	The ASMB provides Echelon I and Echelon HSS to units located in the battalion's AO. It provides C2 for assigned and attached units and medical staff advice and assistance as required. Its functions are centered around three basic principles: treat and RTD; treat and hold (up to 72 hours); and treat and evacuate.
Area Support Medical Company	Headquarters and Support Area Medical Battalion	The ASMC has the overall mission to provide Echelon I and Echelon II HSS to units located in its AO. It is organized into a company headquarters, a treatment platoon, and an ambulance platoon.

Organization or Activity	Parent Organization	Major Functions
Cargo Transfer Company	Transportation Terminal Battalion	To transship cargo at air, rail, truck, or sea terminals, and hubs, to temporarily hold and stuff/unstuff containers, to supplement cargo/supply handling operations at Combat Service Support activities in Corps and Division areas to alleviate backlogs, and to act as the A/DACG.
Engineer Battalion Headquarters Team	Corps or EAC Engineer Brigade	Provides command, control, and administrative support for separate engineer companies and engineer teams. This team can C2 three to seven engineer units.
Engineer Battalion, Combat Heavy	Corps or EAC Engineer Brigade	Provide planning for engineering tasks such as construction, rehabilitation, repair, maintenance, and modification of landing strips, airfields, command posts, main supply routes, supply installations, building structures, bridges and other related tasks as required, generally to the rear of the division.
Engineer Company, Construction Support	Engineer Brigade	Provide rock crushing, bituminous mixing, paving, and other construction support equipment with operators and thereby increase capabilities of an engineer group in major horizontal construction projects such as roads, storage facilities, and airfields.
Engineer Company, Pipeline Construction	Engineer Brigade	Provide personnel to support Engineer company pipeline construction, pipe stringing, pipe coupling, storage tank erection, and pump and dispensing facility construction. This company provides advisory personnel to three engineer companies engaged in pipeline construction.

Organization or Activity	Parent Organization	Major Functions

Engineer Company, Port Construction	Engineer Brigade	Construct, rehabilitate, and maintain offshore facilities including mooring systems, jetties, breakwaters, and other structures required to provide safe anchorage for ocean going vessels. Construct, rehabilitate, and maintain piers, wharves, ramps, and related structures required for cargo loading and off-loading. Construct facilities for RO/RO, breakbulk, and containerized cargo handling. Maintain tanker discharge facilities including repair or replacement or existing POL jetties and submarine pipelines. Provide limited dredging and removal of underwater obstructions. Install offshore petroleum discharge systems in support of Army LOTS operations where no naval units are assigned.
Engineer Detachment, Control and Support Dive	Engineer Brigade	Provides command, control, and support for one to six diving teams. Provide assistance on harbor and port clearance, development, and maintenance. Supports vessel damage control, maintenance, and repair; offshore petroleum distribution systems; and logistics over-the-shore operations.
Engineer Team, Fire Fighting Headquarters	Engineer Brigade	Plan fire-fighting and overall fire prevention programs. Control assigned or attached fire-fighting teams.
Engineer Team, Fire Truck	Engineer Brigade	Fight fires in all types of facilities.
Engineer Team, Lightweight Dive	Engineer Brigade	Perform hydrographic surveys for bare beach LOTS operations. Inspect and repair underwater port structures. Perform ship husbandry. Assist in salvage operations.

Organization or Activity	Parent Organization	Major Functions

Engineer Team, Power Line	Engineer Brigade	Can construct and maintain up to 60 miles of high-voltage electric power lines.
Engineer Team, Power Plant Operation and Maintenance	Engineer Battalion Headquarters	Operates and maintains one Army electric plant (500 KW to 4.5 MW). It also assists in the installation of the electric plant.
Engineer Team, Real Estate	Engineer Battalion Headquarters	Performs functions incidental to the acquisition, utilization, and disposal of real property required by military forces.
Engineer Team, Utilities (4,000)	Engineer Battalion Headquarters	Maintains utilities and furnishes utilities service and repair, including maintenance of environmental equipment. It also provides insect control. Can support base, logistical-facility, and LOC development, operations, and maintenance for deployed US forces.
Engineer Team, Water Truck	Engineer Battalion Headquarters	Transport up to 6,000 gallons of water per trip for fire fighting. Conduct fire-fighting operations.
Finance Detachment	Finance Battalion	To provide finance services to the TSC Contracting and HNS Module and or the MTMC Port Management Module for paying contractors or HNS elements supporting US Forces.
General Support Maintenance Battalion	Corps or EAC Support Group	Provides GS and backup DS maintenance to supported units in the COMMZ on an area basis. Maintenance support is provided in the areas of: Communications Equipment Repair, Special Electronics Devices Repair, Utilities Equipment Repair, Power Generation Equipment Repair, Quartermaster/Chemical Equipment Repair, Metalworking, Small Arms Repair, Tank Turret Repair.
Headquarters and Support Company Area Support Medical Battalion	Corps or EAC Medical Group	Provide medical planning, policies, support operations, and coordination of health services within the area of operations.

Organization or Activity	Parent Organization	Major Functions
Heavy Boat Company	HHC, Transportation Terminal	To provide and operate landing

	Battalion	craft to transport personnel, containers, vehicles, and outsized cargo during offshore discharge operations, to augment lighterage service in a port or harbor, inland or coastal waters, or between islands, and to provide lighterage service required in joint, amphibious, or other waterborne tactical operations.
HHC Railway Battalion	Transportation Railway Group	To command, control, and technically supervise assigned or attached units and to operate and maintain railway facilities in a theater of operations.
HHC, Motor Transport Battalion	Transportation Group	To command, control, and technically supervise transportation units in all types of motor transport missions, including local haul, line haul, terminal clearance, or transfer operations.
HHC, Movement Control Battalion	Corps or EAC Support Command	Command, control, and technically supervise attached or assigned teams at EAC or Corps engaged in movement control and highway regulation and to provide movement management, highway regulation, and coordination of personnel/materiel movements into, within, and out of the theater.
HHC, Theater Transportation Command	Army Component Command	Provides command and control operational level of war transportation system and assist the ASCC meet his responsibilities in deployment/repositioning of forces, reception and onward movement of the force, positioning of facilities, movement control, distribution, and redeployment.

Organization or Activity	Parent Organization	Major Functions
HHC, Transportation Composite Group	Transportation Terminal Brigade	To command and control all assigned operational-level

		transportation modal and terminal elements.
HHC, Transportation Terminal Battalion	Terminal Service Group	To command, control, and technically supervise operating units responsible for ocean water terminal operations and inland terminal operations.
LARC LX Detachment	Terminal Battalion	To transport beach paragraph equipment from ship-to-shore for bare-beach LOTS operations, and to move general cargo from ship-to-shore or to inland transfer points.
Logistics Support Vessel		To transport general and vehicular cargo worldwide (range 8,000 miles); to line haul large quantities of cargo and equipment (capacity 2,000 STONs) intratheater; to provide tactical resupply to remote underdeveloped coastlines and inland waterways; to transport cargo from ship-to-shore in LOTS operations including those in remote areas with unimproved beaches; to provide support to unit deployment and relocation, and to transport cargo from deep draft ships-to-shore ports or to areas too shallow for larger ships.
Medium Boat Company	Terminal Battalion	To provide and operate landing craft to move personnel and cargo (ship-to-shore) during Army water terminal operations and waterborne tactical operations, and to augment naval craft during joint amphibious operations when required.

Organization or Activity	Parent Organization	Major Functions
Movement Control Agency	Corps or EAC Support Command	To command, control and technically supervise attached or assigned units and teams

		engaged in movement control and highway regulation and to provide movement management, highway regulation, and coordination of personnel and materiel movements into, within, and out of the theater.
Movement Control Detachment, Cargo Documentation	Transportation Group	To provide cargo documentation for transshipping cargo in-theater distribution system inland terminals (water, rail, air, and motor) and hubs.
Movement Regulating Detachment	Movement Control Agency	To observe, assess, and report progress of tactical and non-tactical transportation movements along main supply routes. To divert cargo and troubleshoot movement problems, to implement changes in unit moves and/or vehicle convoy routings to resolve movement conflicts, and to position ITV RF tag interrogators at theater distribution system movement regulating points.
Ordnance Company, Ammunition (DS) (PLS/MOADS)	Corps or EAC Support Group	Provide personnel and equipment to operate up to three ASPs and one ammunition transfer point to resupply conventional ammunition in support of force generation operations. Perform direct support maintenance and limited modification of conventional ammunition, components, and containers. Provide emergency destruction of unserviceable conventional ammunition. Provide assistance for EOD personnel in the routine destruction of unserviceable conventional ammunition.

Organization or Activity	Parent Organization	Major Functions
Ordnance Company, Non-divisional Maintenance (DS)	Corps or EAC Support Group	Provide maintenance on non-divisional equipment to include: automotive, communications-

		electronics, construction, power generation, chemical, armament, refrigeration, small arms, and general repair. Maintain an ASL and repairable exchange list, to include receipt, storage, and issue of repair parts for all supported unit requirements. Provide wheeled vehicle recovery for supported units.
Port Movement Control Detachment	Port Support Activity	To expedite the port clearance of cargo and personnel arriving or departing by air or sea, to coordinate (in conjunction with the port commander) transportation support and highway clearance for theater onward movement, and to provide in-transit visibility of units, cargo, and personnel transiting an air or sea port.
Quartermaster Company (Force Provider)	EAC or Corps Support Group	Provide bare base billeting, dining, shower, latrine, laundry, and MWR support for approximately 3,000 personnel on a 24-hour basis.
Quartermaster Battalion	EAC or Corps Support Group	Provide bulk water and petroleum products to a theater of operations.
Quartermaster Group	EAC or Corps Support Command	Provide GS bulk water, petroleum products, and mortuary affairs to a theater of operations.
Rail Operating Company	Transportation Railway Battalion	To operate railway locomotives and trains, maintain and repair railway track, perform running inspections on rolling stock and diesel-electric locomotives, and perform organizational maintenance on rolling stock and diesel-electric locomotives.
Special Troops Battalion	EAC or Corps Support Group	To provide theater level services and mortuary affairs.

Organization or Activity	Parent Organization	Major Functions
TC Detachment, Trailer Transfer Point	HHC, Motor Transport Battalion	To operate a transfer point in conjunction with motor transport line haul operations by

		receiving, segregating, assembling, reporting, vehicle and cargo arrivals and departures. Inspecting documents, and dispatching loaded or empty trailers for convoys, providing maintenance (emergency repairs) on trucks and trailers, and maintaining POL dispensing facilities for refueling operating equipment.
Terminal Detachment, Port Cargo Operations	Transportation Terminal Battalion	To augment transportation cargo transfer company sea port operations and to discharge or load in any combination up to 1,500 STONs of breakbulk cargo and/or 300 containers per day. Additionally, to conduct LOTS operations to discharge or load in any combination up to 2,500 STONs of breakbulk cargo or up to 500 containers per day in a fixed sea port operation.
Terminal Team, Automated Cargo Documentation	Transportation Terminal Battalion	To document cargo being loaded or unloaded in a fixed sea port operation for up to four ships per day or in a LOTS operation for up to two ships per day.
Terminal Team, Contract Supervision	Transportation Terminal Battalion	Under the operational control of the TSC Contracting and HNS Module/or the MTMC Port Management Module, negotiate, and administer contracts for stevedoring, loading, unloading, terminal clearance, and inland waterway and highway transport operations.

Organization or Activity	Parent Organization	Major Functions
Terminal Team, Freight Consolidation and Distribution	Transportation Group or Area Support Group	To process up to 100 less-than-car-load shipments daily in a consolidation and distribution point, barge site, rail, truck, or water terminal, to stuff or

		unstuff up to 25 20-foot containers daily, and to install RF tag interrogators at theater CD points/hubs.
Transportation Harbormaster Operations Detachment	Transportation Terminal Battalion	To provides operational control for vessel and harbormaster operations and related functions within a water terminal operation area, fixed port, or LOTS on a 24-hour basis.

Appendix F

Combat Health Support

This Appendix provides an overview of CHS system activities designed to provide care to soldiers during RSO&I activities.

PREDEPLOYMENT COMBAT HEALTH SUPPORT ACTIVITIES

F-1. Predeployment CHS activities will focus on individual and unit measures designed to ensure the health of the command. Depending on the medical threat in the area of deployment, the following factors indicate command and medical measures that should be taken into consideration prior to deployment.

- **Acclimatization of troops.** (Includes requirements for acclimatization of newly arrived troops or for forecasted operations, such as desert or mountain operations.)
- **Presence of disease.** (Includes the endemic diseases that are not at a clinically significant level in the native population. Deploying forces may not be immune and the incidence of endemic disease cases may increase with a disruption of services, such as sanitation and garbage disposal.)
- **Status of immunizations**. (US Forces should maintain current shots and receive all appropriate immunization prior to deployment.) Commanders at all levels are responsible for assuring the medical readiness of their soldiers, that they receive required immunizations/prophylaxes, and that appropriate immunization, health, and dental records are maintained.
- **Status of nutrition.**
- **Clothing and Equipment.** (Includes consideration for specialized clothing and equipment, such as jungle fatigues, bed netting, parkas, and mountain climbing equipment. When deploying to desert environments, both hot and cold weather clothing should be brought.)
- **Fatigue.** (The fatigue factor must be monitored since fatigue can contribute to lowering an individual's resistance to disease and may lead to combat stress reactions.)
- **Morale.** (It is important to the morale of a soldier that he knows that medical attention is readily available if he is wounded.)
- **Status of Training.** (Includes soldier training, first aid training, and MOS-and mission-specific training.)

- **Other, as appropriate.** This can include water discipline programs or other preventive medicine measures and programs.

MOBILIZATION REQUIREMENTS

F-2. Mobilization requires extensive and comprehensive planning to ensure the medical readiness posture of the unit is maintained so that the unit can deploy in an efficient and timely manner. Commanders at all levels must ensure the highest degree of medical readiness of their units. Initial and refresher training can be conducted in the following areas:

- Field sanitation teams and personal hygiene (FM 21-10 and FM 21-10-1).
- First Aid (FM 21-11).
- Endemic and epidemic disease prevalence.
- Poisonous plants, wild animals, arthropods, and reptiles.
- Climate and associated environmental concerns.
- Pest management.
- Field Waste.

F-3. Combat stress control concerns include:

- Review of stressors associated with deployment and the specific operational scenario.
- Individual, buddy, and leader coping strategies and techniques.
- Sleeping planning.
- Home front issues and family support groups.
- Recognition and management of Battle Fatigue Casualties and Misconduct Stress Behaviors.

PREDEPLOYMENT VETERINARY ASSISTANCE

F-4. Units with military working dogs and/or government-owned animals will require veterinary assistance prior to deployment. Government-owned animals will be given a predeployment physical and immunizations/vaccines as required. The records of government-owned animals will be updated and checked for appropriate documents that may be required by host nation customs or health officials at the port of debarkation.

F-5. Veterinary personnel at the production facility inspected basic loads of rations being shipped with the unit. If these rations were properly stored, rotated, and expiration dates maintained, additional inspections are not necessary.

COMBAT HEALTH SUPPORT IN THE DEPLOYMENT STAGING AREA

F-6. When the unit is deployed, the commander is responsible for coordinating with the supporting medical units to ensure the unit is provided combat health support at the POE. Detailed coordination is required to provide treatment, hospitalization, and evacuation capability to the supported unit en route to and at the POE. The commander is responsible for coordinating for the provision of medical support at the mobilization site or staging area as organic medical supplies and equipment are loaded and not available for use.

COMBAT HEALTH SUPPORT IN THE RECEPTION AREA

F-7. Combat Health Support must be coordinated to ensure availability of emergency medical care, emergency dental care, and sick call support to arriving forces. Sick or injured soldiers requiring evacuation out of the theater of operations must be tracked through available automated systems. Soldiers are oriented to the AO in the following combat health support areas:

- Medical threat.
- Combat health support issues, to include preventive medicine measures and combat stress control procedures.
- Available host nation medical support.
- Class VIII supply procedures.
- Hospitalization and evacuation.

COMBAT HEALTH SUPPORT ONWARD MOVEMENT AND INTEGRATION

F-8. Combat Health Support will be provided in accordance to the specifics of the OPLAN and mission requirements. The CHS system encompasses all of the functional areas (hospitalization, evacuation, dental, and so forth). The full spectrum of CHS services are provided by a combination of organic, assigned, attached, in direct support, and in general support CHS resources.

PREVENTIVE MEDICINE SITE SURVEY CHECKLIST

F-9. A checklist for each category of preventive medicine is as follows:

Individual PVNTMED Measures

		N/A	SAT	UNSAT
A	Showering devices			
B	Handwashing devices			
	(1) Outside all latrines			

	(2) In food service area			

Individual PVNTMED Measures (continued)

		N/A	SAT	UNSAT
C	Soakage pits located under hand washing and showering devices			
D	Laundry facilities			

Water Supply

		N/A	SAT	UNSAT
A	Quantity of water required for soldiers is available			
	(1) Cold Climate Drinking (potable) water: ½ Gallon/soldier/day			
	(2) Hot Climate Drinking water: 3-4 Gallons/soldier/day			
	(3) Food Preparation: Meal, Ready-to-eat, 2 Quarts/soldier/day			
	(4) Food Preparation: A-, B-, or T-ration			
	(5) Nonpotable: General planning to meet water requirements in an arid zone is 3-6 gallons/soldier/day unless improvised shower devices are made available. In this case the requirement should be increased to 15 gallons or more/soldier/day.			
B	Quartermaster water distribution points			
C	Water sources			
	(1) Surface water			
	(2) Ground water			
	(3) Rain water			
	(4) Melted ice water			
	(5) Melted snow water			
	(6) Sea water			
D	Water containers			
	(1) Five (5) gallon water cans			
	(2) Collapsible fabric drums			
	(3) Water trailer (400 gallon)			
	(4) Other water containers			

Food Service Sanitation

		N/A	SAT	UNSAT
A	Transportation of food			
	(1) Vehicle used is clean and completely covered			
	(2) Vehicle used to transport garbage, trash, petroleum products, or similar material is thoroughly cleaned/sanitized before it is used to transport food			
B	Food storage			
	(1) Refrigerator available to store food at 45^{O}F or below			
	(2) Ice chest available			
	(3) Ice obtained from an approved source			
	(4) Insulated food containers			
	(5) Dunnage available for dry storage			
C	Mess kit laundry			
	(1) Correct number of containers available per line			
	(2) Containers correctly prepared and at right temperatures			

Food Service Sanitation (continued)

		N/A	SAT	UNSAT
D	Sanitation center			
	(1) Correctly setup			
	(2) Containers correctly prepared and at right temperatures			

Food Preparation and Serving

		N/A	SAT	UNSAT
A	Food protected from contamination during preparation and serving			
B	Food maintained at correct temperature during serving (cold 45^{O}F or above)			
C	Correct disposal of leftovers			

Waste Disposal

		N/A	SAT	UNSAT
A	Human waste: Latrines			
	(1) Fixed latrine sites			
	(2) Authorized the digging of latrines			
	(3) Number of latrines (4% of male population/6% of female population			
	(4) Latrine construction supplies (lumber, toilet seats, #10 cans, and screening)			
	(5) Authorized the use of burn-out latrines			
	(6) Pail latrines			
	(7) Chemical latrines			
	(8) Latrine location: 100 yards downwind (prevailing wind) from the unit food service facility and at least 100 feet from any unit ground water source			
	Human waste: Urine disposal facilities			
B	Solid waste disposal/temp storage			
	(1) Location: 100 feet from any natural water source used for cooking or drinking			
	(2) Solid waste will be buried			
	(3) Solid waste will be incinerated			
	(4) Solid waste will be hauled away			

Arthropod Control

		N/A	SAT	UNSAT
A	Ideal bivouac site:			
	(1) High, well-drained ground at least one (1) mile from breeding sites of flies and mosquitoes			
	(2) One (1) mile from native habitats			
B	Screened billets			
C	Availability of pesticides			
D	Arthropod resistance to pesticides			

Rodent Survey

		N/A	SAT	UNSAT
A	Sightings of live or dead rodents			
B	Droppings			
C	Smudge marks			
D	Tracks			
E	Gnawing			
F	Burrows/holes			
G	Nests			
H	Sounds			
I	Odors			

Heat/Cold Injuries

		N/A	SAT	UNSAT
A	Seasonal temperatures			
B	Seasonal winds			
C	Humidity			
D	Seasonal precipitation			
E	Alcohol (ETOH) availability			
F	Acclimatization program			
G	Wet bulb globe temperature (WEGT) Index:			
	(1) Available from preventive medicine service			
	(2) Available from military meteorological service			

Chemical Hazards (Non-NBC

		N/A	SAT	UNSAT
A	Gas, liquid, or solid chemicals stored in area			
B	Enclosed areas ventilated			
C	Correct solvent being used			

Noise Hazards

		N/A	SAT	UNSAT
A	Noise hazard areas clearly marked			
B	Hearing protection devices being used			

Appendix G

RSO&I Enabling Teams

RSO&I success depends on early deployments of the SLRP, OPP, PSA, and Advance Parties. The purposes of the SLRP, OPP, PSA, and Advance Parties are to:

- Reduce the time the deploying units stay in the reception and staging areas.
- Speed the unit's incremental build of its combat power and its integration into the CINC's campaign plan.

SURVEY, LIAISON, RECONNAISSANCE PARTY

G-1. The SLRP is a task organization comprised of representatives from designated support organizations, for example, composite transportation groups, and MTMC and liaison personnel from the deploying combat unit. The mission of the SLRP is to make an initial assessment and establish the reception capabilities in the AO. Minimum tasks for the SLRP assessment include determining:

- Condition and adequacy of facilities for receiving and discharging ships and clearing the ports.
- Condition and adequacy of transportation facilities and airfields.
- Requirements for engineer support and communications.
- Locations and facilities for CSS units.
- Status of current agreements (if any) with host nation.
- Capability and availability of host nation support (logistics, manpower, real estate, health services, and so forth).

SLRP RESPONSIBILITIES

G-2. The SLRP responsibilities are to do the following:

- Conduct liaison with local military/civil authorities, as required.
- Assign facilities and real estate until arrival of a senior logistical commander.
- Select command post site in conjunction with the Headquarters Commandant representative and Communication representative.
- Coordinate and provide operational intelligence reports.
- Coordinate with the US country team on support that can be provided.

- Obtain maps and photographs of PODs and any operational areas of special interest.
- Plan assembly of units consistent with the plan of employment.
- Coordinate and establish logistical support necessary for the operation.
- In conjunction with the operations representatives, recommend necessary revisions to off-load sequence.
- Recommend the leasing of property required for reception operations.
- Establish traffic patterns and routes from PODs to staging areas.
- Establish initial logistics support arrangements for the arrival of the main body, including billeting, utilities, engineer services, food services, and construction.
- Determine the amounts and types of Host Nation support available.
- Determine adequate sites for Aid Stations to support RSO&I operations.
- Monitor test procedures for potable water sources for purity and recommend appropriate corrective action as required.
- Estimate requirements for communications personnel, equipment and supplies, and facilities.
- Coordinate C4 systems support.
- Provide linguistic services.
- Evaluate civil affairs requirements.
- Develop population control, exclusion, and evacuation concepts for arrival and assembly, and employment operations.
- Develop transportation and CHE/MHE requirements based upon local operating conditions.
- Assign specific facilities and areas to subordinate units for port and CSS operations.
- Coordinate preparatory operations for off-load.
- Determine construction and engineering projects necessary for a safe and expeditious off-load, to include beach and port area improvements.
- Coordinate with and assist on the selection of ammunition storage sites/dumps, which may entail the construction of force protection barriers/facilities.
- Identify areas appropriate for boat havens, lighterage storage, and repair operations.

- Confirm tentative off-load estimates based on port and beach reconnaissance.
- Enter into contracts for HNS (the SLRP should be empowered to contract for HN services that would facilitate RSO&I operations).

OFF-LOAD PREPARATION PARTY

G-3. The OPP is a temporary task organization that consists of USAMC personnel, possibly augmented by deploying unit personnel. (See Table G-1 below.) Its task is to prepare APS-3 weapon systems and equipment aboard APA ships for operations, off-loading, and issuance to units at the SPOD. Vigorous OPP operations conducted while the APS-3 ships are still en route to the SPOD decrease the deploying unit's stay in the reception and staging areas. The OPP should deploy to meet the APA ships at their home port or at a point during their transit to the SPOD. Ideally, the OPP should be aboard the APA ships not later than 96 hours prior to the ships' arrival at the SPOD. Upon the OPP's arrival aboard the APA ship, the OPP OIC will report to the APA's shipmaster to obtain specific direction concerning shipboard activities.

Table G-1. OPP Mission Essential Task List

Collective Task	Supporting Task
Conduct planning activities.	- Organize OPP based on mission and ship's equipment density list.
Report to the APA's shipmaster.	- Identify life support requirements.
Perform safety and condition checks.	- Visually inspect tires and tracks on PREPO equipment. - Check for leaks in and around equipment. - Check fluid levels and add fluids as required. - Remove waterproofing and preservation materials from exhaust and intake opening. - Remove all packing material that will impede proper equipment/vehicle operations. - Check the fuel filter and ensure the element is installed and serviceable; add fuel additive as required. - Check and adjust belt tension as required. - Install active batteries. - Test start engines after completing the "before operation checks" and with the approval of the ship's master. - Tag any equipment that requires maintenance with a tag attached to the left front and rear of the equipment. - Conduct a walk-around inspection (if possible) to ensure all safety requirements have been met prior to placing equipment in service. - Ensure equipment log book/record jackets are with the piece of equipment.
Perform pre-discharge	- Mark vehicles for distribution. Remove chains and tie downs

preparation operations.	before berthing.

PORT SUPPORT ACTIVITY

G-4. The PSA is a temporary military augmentation organization comprised of personnel with specific skills. (See Table G-2 below.) Its mission is to support the port operator in receiving, processing, and clearing cargo at the SPOD. The PSA units should be prioritized on the TPFDD to arrive approximately 24 hours prior to the ships' arrival at the SPOD. Upon the PSA arrival at the SPOD, it becomes OPCON to the port operator. Size of the SPOD governs the size of the PSA, but as a general rule, the PSA should be company size for a deploying brigade, battalion size for a deploying division, and brigade size for a deploying corps. The PSA mission can be accomplished either by a rotation of deploying units or by designating a specific unit for the duration of the deployment. The PSA is most effective when a single unit is designated.

Table G-2. PSA Mission Essential Task List

Collective Task	Supporting Task
Conduct planning activities.	- Organize PSA based on mission and transport (ship/train) equipment density list.
Report to the port operator.	- Identify life support requirements.
Receive and stage unit equipment in SPOD/rail terminal equipment holding area.	- Implement and refine the traffic flow and the equipment holding area used for each ship/train. - Assist in breaking down blocking/bracing and tie down material. - Supervise movement of cargo from docks/rail terminal to equipment holding area. - Conduct RF tagging. - Stage equipment.
Serve as vehicle/ equipment operators.	- Ensure licensed operators are available for equipment being staged. - Operate all vehicles safely.
Assist the port operator with cargo accountability.	- Document as required by the port operator. - Provide equipment information list.

ADVANCE PARTY

G-5. The Advance Party is a task organization with representatives from the deploying unit and its subordinate units' headquarters. The primary purpose of the Advance Party is to coordinate and arrange for the reception of the unit's main body.

Appendix H

Army Materiel Command Logistics Support Element

This Appendix discusses the mission and functions of the US Army Materiel Command.

GENERAL

H-1. The USAMC LSE is a multifaceted TDA organization whose mission is to enhance readiness through integrated application of CONUS-based technical capabilities to deployed units within any theater of operations. The LSE provides limited depot and GS level logistics. It also performs a key role in executing Army Prepositioned Stocks operations. The LSE supports reception operations by maintaining, preparing, issuing, and transferring accountability of prepositioned stocks (less class VIII) to the gaining unit. The LSE has a small peacetime cadre with the bulk of its positions being identified on a personnel deployment roster. The LSE is rapidly deployable, and its structure evolves during the course of the operation to accommodate changing requirements and capabilities of the deployed organizations. When deployed, the LSE functional areas maintain their technical lines of communications with USAMC. The LSE can shorten the Logistics pipeline by providing the ASCC with almost the same support in-theater that USAMC provides to the US Army in CONUS.

MISSION

H-2. The mission of the LSE is to enhance in-theater readiness by performing doctrinal USAMC missions in the forward area of operation. Table H-1, page H-2 shows specific functions of the LSE and how it could functionally deploy based on the type of operation required by the ASCC.

H-3. The LSE is the forward element of the national logistics base. Its deployment ensures a positive link between the deploying units and its CONUS sustaining base. The LSE can fill gaps in the logistics forces infrastructure or project elements of the wholesale/industrial base into the theater. It can provide a command and control structure, not only for USAMC functions, but also for contractors, reserve component, and host nation support logistics efforts. The LSE should not replace capabilities provided by other organizations within the force structure. Tasks that the LSE can accomplish include–

- Providing command and control of all USAMC elements.
- Integrating national level logistics support into theater.

- Filling in-theater logistics gaps with CONUS-based USAMC doctrinal technical capabilities.
- Advising the ASCC on USAMC technical capabilities.
- Tailoring support based on commander's desires and METT-TC.
- Preparing to take other missions as directed by the JFC.

Table H-1. LSE Functions

CONUS SUPPORT OPERATIONS	SUPPORT OPERATIONS OR STABILITY OPERATIONS	MAJOR THEATER WAR	RECONSTITUTION AND RETROGRADE
Customer Assistance	Customer Assistance	Customer Assistance	Customer Assistance
Expedite Supply Operations	Expedite Supply Operations	Expedite Supply Operations	Expedite Supply Operations
Tech Advice	Tech Advice	Tech Advice	Tech Advice
Contact Teams	Contact Teams	Contact Teams	Contact Teams
	LOGCAP	LOGCAP	LOGCAP
	Force Provider	Force Provider	Force Provider
	Oil Analysis	Oil Analysis	Oil Analysis
	Test, Measurement, Diagnostic Equipment	Test, Measurement, Diagnostic Equipment	Test, Measurement, Diagnostic Equipment
	Quality Assurance Spec/ Ammunition Surveillance	Quality Assurance Spec/ Ammunition Surveillance	Quality Assurance Spec/Ammunition Surveillance
	Limited Repair	Limited Repair	Limited Repair
		Depot Maintenance	Depot Maintenance
		APS-3 maintenance checks and release	APS-3 maintenance checks and release
		Excess Redistribution	Excess Redistribution
		SPT Packages	
		Equipment Upgrades	
		Technology	

COMMAND AND CONTROL

H-4. The LSE headquarters performs the command and control functions for USAMC assets deployed in-theater. While deployed, the LSE is OPCON to the Army senior support command. OPCON allows the senior support command to assign missions and set priorities for the LSE, without imposing the burdens of managing LSE administrative records. The LSE maintains its technical links with USAMC, CASCOM, the Soldier Support Center, DLA, and the Health Care System Support Agency for technical direction, policy guidance, and review and evaluation of program performance.

ARMY PREPOSITIONED AFLOAT

H-5. The USAMC is responsible for the management and accountability of all unit equipment and supplies aboard APA ships except for Class VIII (medical material), which is a USAMMA responsibility. To facilitate off-loading APA ships, the LSE should be one of the first elements to arrive in-theater after the CTG, CSG, and the MTMC have opened the SPOD.

H-6. USAMC responsibilities:

- Manage all equipment and supplies (except Class VIII) loaded aboard APA vessels.
- Conduct periodic inspections and perform care of supplies in storage on APA materiel to prevent deterioration and assure equipment is maintained in a 10/20 standard.
- Develop and coordinate issue and accountability procedures for APA stocks.
- Resource and supervise the OPP. If deploying unit personnel augments the OPP, AMC maintains responsibility for supervising the OPP. The MSC provides life support for the OPP aboard APA ships.

H-7. LSE responsibilities:

- Coordinate with the CTG, CSG, or MTMC for discharge operations.
- Coordinate with the CTG or CSG for life support.
- Utilize issue and accountability procedures, developed by USAMC, to issue APA stocks from the APA vessels to the force commanders.
- Control APA stocks, not issued to APA units, until issue to other units is directed by the ASCC.

LIFE SUPPORT

H-8. To enhance its deployability, the LSE can deploy in echelon and USAMC has several life and base support packages available to support the LSE's initial deployment. A major mission of the LSE's advance party is to assess and coordinate the support needed for the operation of the LSE main. The LSE main requires the same logistics support as required by other logistics command and control headquarters. Army units, host nation support, Force Provider, or the LOGCAP can provide the logistics support and facilities needed to support the LSE. It is important that the LSE facilities be located within a secured area, since LSE has insufficient assets to provide for its own security.

H-9. Contractors will do some of LSE's in-theater work. These LSE contractors (laborers, truck drivers, stevedores, and so forth) will provide logistics support when specified in their contract. Normally, weapon system sustainment and forward deployed contracted personnel will require the same logistics support, billeting, and security as DOD civilians.

Appendix I

Movement Control Operations

There is always a basic dilemma in setting up movement control: it is the sea frontier or the port of embarkation commander who knows what material and units are ready for shipment; but it is the area commander who knows what is needed. A satisfactory resolution of this dilemma can be found only if the 'movement' people are continually aware of changing requirements. It is fundamental that to be effective, a movement control system must be based upon a prescribed combined system of priorities and allocation which, in turn, is administered by an agency responsive to the needs of the commander in the field.

RADM Henry E. Eccles 1959

This Appendix discusses the movement control process and the elements that contribute.

JOINT MOVEMENT CONTROL

I-1. Joint Pub 4-01.3 states that the theater combatant commander has a wide range of options for performing movement control. He may direct subordinate JFCs and Service components to perform their own movement control. He may establish a theater JMC. Ideally, such an organization would be identified as a force deployment option in an OPLAN and be established early in the theater to coordinate arrival, theater expansion, and operations movement planning and execution.

I-2. Subordinate organizations to the JMC must be made available from all Services and need to be requested according to the mission. Most of these organizations are small and modular in nature and requirements can be replicated as the mission demands. The key is to possess the capability to expand for the mission.

INTERFACE BETWEEN STRATEGIC AND THEATER MOVEMENT CONTROL COMMAND RELATIONSHIPS

I-3. USTRANSCOM may place elements from each of its subordinate TCCs in a theater to provide management of strategic mobility operations into and out of the theater.

MOVEMENT CONTROL ORGANIZATIONS

I-4. The theater movement control plan is key to a sound movement control system. The plan integrates the transportation capabilities of the component commands, and produces a movement control system with centralized planning and decentralized execution. The following paragraphs describe the transportation and movement control capabilities of each Service component.

ARMY COMPONENT

I-5. The Army component usually provides common-user land and inland waterway transport. It also furnishes water terminal operations and, when necessary, JLOTS operations.

I-6. The Army fields a MCA to support echelons above corps. The MCA positions movement control battalions (EAC MCB) in the COMMZ to provide movement control through movement regulating teams for such operations as force deployment, JLOTS, and commercial carrier support. The MCA coordinates and monitors all throughput shipments in the theater to their final destinations.

I-7. An Army Corps will have a movement control battalion (Corps MCB) to manage movements and transportation assets within its AOR. The MCB positions movement control teams throughout the corps AOR to provide movement control support.

I-8. In addition to the movement control headquarters elements identified above, the Army has active duty and early mobilizing reserve component MCT that operate at critical transportation nodes. Port MCTs operate at airfields or seaports and initiate onward movement from the port via land transportation. Area MCTs operate at assembly areas and logistic bases coordinating onward movement of units and sustainment material. Highway Regulation MCTs control movements along designated main lines of communication. Cargo Documentation Teams maintain visibility over cargo being off-loaded from ships or at transload sites.

I-9. Each Army division has a DTO. Each DTO is augmented with an attached movement control team to assist with this responsibility. For more information on Army movement control see FM 55-10.

AIR FORCE COMPONENT

I-10. The Air Force component provides theater common-user airlift. The JFC generally establishes a JFACC to exercise OPCON of common-user theater airlift forces. The JFACC controls joint air operations, including theater airlift operations, through the JAOC. Within the JAOC, the ALCC plans, executes, and manages the execution of theater airlift operations.

I-11. The DIRMOBFOR, a senior officer sourced from the theater's organization, or nominated by USTRANSCOM or USACOM, serves as the designated agent of the JFACC for all airlift issues. The JFC establishes theater transportation priorities, which are then enforced by the DIRMOBFOR. In addition, the DIRMOBFOR exercises coordinating authority between the agencies, both internal and external to the Air Operations Center, in order to expedite the resolution of any airlift problems.

I-12. On the request of the theater air component commander, the AME deploys to the theater as an extension of the Air Mobility Command's TACC, which is located at AMC HQ at Scott AFB, Illinois. The AME provides coordination and interface of the inter-theater air mobility system (airlift and refueling) with the theater air logistic system. Although the AME assists and advises the DIRMOBFOR, AMC retains OPCON of the AME.

NAVY COMPONENT

I-13. The Navy component performs movement control operations through the NCC, ALSS, FLS, or a designated representative. The NCC submits requirements for airlift to the JMC, while the ALSS and FLS provide logistic support, to include movement management to theater naval forces during contingencies. Both the ALSS and FLS coordinate Navy land transportation requirements with Army movement control organizations or the JMC.

MARINE COMPONENT

I-14. The Marine Corps Component has a SMO and an Embarkation Officer organic to the MAGTF staff. The SMO can coordinate Marine movement requirements with the JFC, the JMC, and USTRANSCOM.

I-15. The Marine Corps activates a FMCC within the theater to coordinate and provide transportation services to all land-based MAGTF. As the Marine's primary movement control agency within the theater, the FMCC establishes liaison and communications with the JMC, and forwards all transportation shortfalls to the JMC. However, if Marine forces are afloat and part of an amphibious force, the command relationships established between the CATF and the CLF take precedence.

I-16. Forward-oriented transportation support is a combat multiplier. It is dependent on fast, reliable transportation to move supplies and personnel as far forward as required. The senior movement control organization prepares movement plans and programs and ensures proper use of available movement capabilities.

I-17. Movement control units will normally deploy in proportion to the total force size and level of transportation effort required. They deploy in echelons with their force.

COMMUNICATIONS

I-18. Communications are essential to the movement control process. Discussed below are the different types of communication.

REQUIREMENT

I-19. Movement control commanders should be folded into the warfighter's communications net in order to maintain the same OPTEMPO of the warfighter. Situational awareness is critical to providing timely support. Movement control commanders need reliable long-range communications capability in order to command and control, or direct the activities of their subordinate executing elements which doctrinally operate 50–500 miles apart across the battlespace. Without this capability, the Army's ability to reach the objectives of our force projection strategy is at risk. Communications equipment required by transportation movement control units includes radios, telephones, and satellite terminals.

RADIO COMMUNICATIONS

I-20. The communication requirements of the unit's mission determine the type and extent of radio facilities required. The radios are mounted in vehicles organic to the unit. Movement control units typically require long-range FM radio sets. These sets are used for mobile operations or to supplement common-user communications facilities. Long-range high frequency radio sets are required to permit communications between movement control command and control elements and their subordinate elements, which often operate at remote locations that are great distances from their higher headquarters.

I-21. Movement control commanders, S-3s, command posts, and operations sections require dual long-range FM radios or dual short-/long-range FM radios. Typically, one radio is used to monitor the higher headquarters command/operations net, and the other is used to participate in the element's own unit net, and to command and control elements operating away from the unit area.

TELEPHONE COMMUNICATIONS

I-22. Digital non-secure voice telephones are a quick, efficient means of communication. Movement control headquarters elements, command posts, operations and highway traffic division sections, maintenance sections, and detachments all require wire subscriber access. Additionally, facsimiles, STAMIS, and other types of automated information systems interface with the telephone's data port. Commanders and key personnel require mobile subscriber terminals to allow them access to their staff and functional personnel while mobile.

SATELLITE COMMUNICATIONS

I-23. There are two types of satellite systems. These two types are discussed below.

Voice/Data

I-24. Transportation Movement Control units are essential to the efficient use of the Theater's limited transportation assets. Movement Control units regulate the flow of units and materiel, and report the progress of units and materiel across the transportation system. These units require reliable long-range voice/data communications to ensure communications with shippers, mode operators, customers and subordinate executing elements from 50 to 500 miles away. The mission of the MCTs requires them to disperse and operate throughout the transportation network at various operational nodes and locations such as APODs, SPODs, and along MSRs. The MCTs doctrinally operate autonomously at remote locations that are great distances from the MCB headquarters. Many of these sites are out of the MSE/Signal grids. Tactical and commercial SATCOM provides these units with their required non-line of sight, long-range communications capability for command and operational control. In addition, movement management automated information systems use SATCOM to send and/or receive data used to process lift requirements, deconflict and coordinate movements, plan and execute deployments/redeployments, and to conduct force and asset tracking.

I-25. Force projection missions require early identification and establishment of APODs and SPODs. "First to support" movement control units that are part of a TOFM include the MCA early entry module, Corps and EAC Movement Control Battalions, and Movement Control Teams. SATCOM provides these units full operational communications capability that they require immediately upon arrival in-theater (even before the first vessel or aircraft arrives) to conduct reception, staging, and onward movement of units, their equipment, and supplies. Other transportation units that are part of a TOFM need to be able to receive movement requests from movement control units, Transportation Terminal Battalions, and Transportation Motor Transport Battalions. Therefore, they require the same SATCOM devices to coordinate these activities.

I-26. At the strategic level, movement control command and control elements, responsible for coordinating strategic lift in an austere environment, require satellite-based voice and data communications with CONUS to obtain the information required to plan, program and execute reception, staging, and onward movement of arriving forces.

Movement Tracking System

I-27. MTS is a satellite based tracking/communication system consisting of a mobile unit vehicle mounted unit and a base unit station controlled and monitored by movement control operators. MTS incorporates GPS, automatic identification technology, non-line of site message capability between the mobile and base units, and mapping technologies. The primary function of MTS is to allow command and control and movements control personnel to track, locate, and communicate with in-transit transportation vehicles in a near-real time basis anywhere on the battlefield. It allows the movement control community the ability to redirect and divert trucks mounted with MTS based on changing battlefield requirements and tactical unit relocations. Movement control personnel can directly communicate with drivers anywhere on the battlefield, warning them of dangers, submitting new tasks, and redirecting them around route obstacles and congestion. Integrating the automated identification technology into MTS will provide visibility of the cargo that the vehicle is transporting.

MOVEMENT CONTROL CHECKLIST

I-28. In order to have a successful movement control, you should maintain a checklist. By maintaining a checklist on the items listed below you will eliminate shortfalls.

MOVEMENT CONTROL SYSTEM

I-29. For this item, you should ask the following questions:

- What is JFCs concept for movement control?

- Are adequate movement control elements in the force list?
- Is a JTB or JMC established?
- Have joint use transportation requirements been established?
- Has a specific Service component commander been given responsibility for theater/joint movement control? Or been given responsibility for coordinating with other component commanders?
- Has each Service component been given responsibility for their own movement control?
- What are the theater common user transportation requirements and capabilities?
- What are the US assets available for theater support? (air, lighterage, ground)
- What host nation transportation facilities and capabilities are available?

COMMAND & CONTROL

I-30. You should check this item by asking the following questions:

- Has the movement control command and control structure been identified?
- Has the JMC Chief been identified?
- Has an existing movement control unit been identified to serve as the core of the JMC?
- Has alignment of subordinate movement control organizations been established?

EMPLOYMENT

I-31. You should check this item by asking the following questions:

- Are adequate movement control elements allocated in the force list?
- Are adequate movement control elements early on the TPFDD? When do they arrive?
- Have APODs and SPODs been identified? Have movement control elements been allocated to each POD?
- Is JLOTS being established? Have movement control elements been allocated to support JLOTS?

INFORMATION MANAGEMENT SYSTEMS

I-32. You should check this item by asking the following questions:

- What automated transportation information management systems are available?
- Is GCCS available with operators in the theater?
- Is GTN available in the theater?
- Are adequate communications for the JMC and other movement control elements available? Do the links connect to CONUS? Do the links connect with all operating locations?

Appendix J

Deployment Planning Tools

This Appendix discusses all the different planning tools used to enable deployment.

HIGH-LEVEL PLANNING TOOLS

J-1. The JOPES is the primary US system for deployment planning and execution. It is a comprehensive, integrated system of people, policies, procedures, and reporting systems supported by automated systems and applications. The JOPES (Table J-1) currently operates on the GCCS, and provides the capability to develop a TPFDD and to monitor its execution. JOPES was specifically designed to provide strategic deployment information useful to the NCA, the Joint Staff, and the Service Headquarters.

J-2. The GCCS is an integrated architecture of telecommunications, software, and computer equipment designed to support information sharing among various echelons of command, including the NCA, the Services and Defense Agencies, the Service elements, and Joint Task Forces. GCCS provides worldwide user-to-user information exchange for C2, communications, intelligence, functional and administrative management, including logistics, transportation, personnel, and medical support.

J-3. In basic terms, the core of GCCS is a COE that allows several different software suites to interface with each other and exchange data. Running on this COE are JOPES, JMASS (a suite of joint tools to access unit readiness and intelligence data, as well as to plan and execute non-combatant evacuation operations), and a number of utilities such as video teleconferencing and collaborative planning tools. Table J-1 lists these applications that will be fielded as part of GCCS Version 2.1, as well as the suites on which they are resident.

Table J-1. GCCS Applications and Functions

Application	Function	Application Suite
OPLANs and OPORDs	The JOPES automated data processing applications facilitate rapid building and updating of OPLANs and concept summaries in deliberate planning, and rapid development of effective options and OPORDs in crisis action planning. In GCCS Version 2.1 the JOPES requirements are developed using the RDA, AHQ, and S&M applications.	JOPES
Requirements Development and Analysis	Allows planners and operators to develop, edit, and manipulate the TPFDD.	JOPES
Ad Hoc Query	Allows planners and operators to define, design, and print reports for information and analysis.	JOPES

Table J-1. GCCS Applications and Functions (continued)

Application	Function	Application Suite
Scheduling and Movement	Application interfaces with USTRANSCOM's GTN, and provides in-transit movement information through planning allocations, manifested passenger and cargo information, and carrier schedules.	JOPES
Transportation Planning	JFAST application provides quick response capability to determine the transportation feasibility of an OPLAN or course of action.	JOPES
Logistics Planning	The Logistics Sustainment Analysis and Feasibility Estimator application provides the capability to both estimate logistics sustainment requirements and evaluate material supportability.	JOPES
Mobilization Planning	The Force Augmentation Planning and Execution System application assists planners with mobilization planning, analysis, and execution by forecasting mobilization requirements, identifying manpower resources for each COA, and monitoring the status and progress of mobilization.	JOPES
Medical Planning	The Medical Planning and Execution System application provides combatant command medical planners with the capability to perform gross medical feasibility and supportability assessments of operation plans.	JOPES
Civil Engineer Planning	The Joint Engineering Planning and Execution System application supports combatant command engineers in developing civil engineering support plans.	JOPES
Unit Status	The GSORTS application provides both map-based query and display of joint information on the status of units with respect to personnel, equipment, and training.	JMASS
National Reconnaissance	The Global Reconnaissance Information System application provides automated support for the Joint Staff, unified and functional commands, National Security Agency, and Defense Intelligence Agency. It provides near real-time mission status to the JCS, and generates worldwide airborne Sensitive Reconnaissance Operations schedule requests.	JMASS
Non-Combatant Evacuation	The Evacuation File Maintenance and Retrieval System application supports non-combatant evacuation planning and operations. It responds to queries concerning the number of non-combatant personnel to be evacuated in a country or area.	JMASS
Fuel Planning	The Fuel Resources Analysis System application provides an automated capability for determining the fuel supportability of an OPLAN or COA.	JOPES
Utility Software	Utility services are provided as part of GCCS through integration of existing government applications, including message handling software, E-mail, office automation, teleconferencing, Telnet, and file transfer.	COE
Fused Operational Battlespace Picture	The JMCIS application is the foundation for the GCCS fused operational battlespace picture. Incorporated as part of the COE, it provides near real-time sea and air tracks, geographic display, contact correlation, and track database management.	COE
Intelligence	The JMCIS, NTCS-A, JDIS, and INTELINK-S applications within GCCS provide intelligence capabilities that include an authoritative and fused common tactical picture with integrated intelligence services and databases. It has access to theater, service, and national intelligence databases, transmittal and receipt of specific intelligence requests, and the inputting of intelligence data into a variety of operations and intelligence systems.	JMASS
Collaborative Planning	TARGET is a suite of distributed collaborative planning tools.	JOPES COE

THEATER TPFDD DEVELOPMENT

J-4. Once the high-level planning tools are used to select the major forces that will participate in contingency operations, several other tools are used both to help plan which specific units will deploy and to help schedule how these forces are going to be moved to the theater of operations. These tools are part of AMP, an umbrella "fort-to-foxhole" planning system. DART, a computer program that allows planners to rapidly flesh out high-level planning guidance and create force modules. The JFAST is a tool that assists planners in estimating force closure dates in the theater ports of debarkation and provides the theater TPFDD developer with the capability to rapidly create a TPFDD. Additionally, it estimates when the strategic transportation will deliver TPFDD elements into the theater port complexes. Additionally, ELIST provides planners with a tool for analyzing closure profiles from fort-to-port and POD to final destination. Summaries of all four of these tools are in Table J-2.

Table J-2. Current Automated Systems and Software Applications Supporting Theater TPFDD Development

Acronym	Name	Proponent	Users	Use	Remarks
AMP	Analysis of Mobility Platform	USTRANSCOM	USTRANSCOM HQ, USTRANSCOM Transportation Component Command HQs, CINCs, CINC Components and Sub-Components	Set of transportation analysis tools aimed at improving joint transportation planning and execution. Provides planners with a rapid analysis of the transportation feasibility of a specific deployment plan, against a planner defined transportation environment. AMP enables USTRANSCOM to determine, within hours, whether a deliberate or crisis deployment plan is supportable by the DTS.	AMP currently includes the MASS, MIDAS, ELIST, FORCEFLO, and JFAST transportation models, as well as the DART TPFDD editing and LOGGEN sustainment estimating tools. Other transportation and scheduling tools will be added to the AMP suite as they are developed. Secret.

Table J-2. Current Automated Systems and Software Applications Supporting Theater TPFDD Development (continued)

Acronym	Name	Proponent	Users	Use	Remarks
DART	Dynamic Analysis and Replan-ning Tool	USTRANSCOM	USTRANSCOM HQ, USTRANSCOM Transportation Component Command HQs, CINCs, CINC Components and Sub-Components	Provides planner with the capability to rapidly enter, manipulate, and analyze TPFDD force and movement requirements. Includes a distributive collaborative planning capability for the PODs.	Part of the AMP suite of transportation models. Very quick and useful TPFDD editor that has gained wide usage since its development during Desert Storm. Secret.
JFAST	Joint Flow and Analysis System for Transpor-tation	USTRANSCOM	CINCs and Subordinate commands, JCS, USTRANSCOM, Services, Analytical Agencies, and Service schools	High-speed analytical tool used for making detailed estimates of the resources required for transporting military forces (including cargo, personnel, and their sustainment) during various scenarios. Estimates when forces will arrive in-theater.	Part of the AMP suite of transportation models. Secret.
ELIST	Enhanced Logistics Intra-theater Support Tool	HQDA (DCSLOG)	JCS, OSD, USTRANSCOM, PACOM, CENTCOM, EUCOM, USFK, USAREUR	ELIST provides the planner a transportation feasibility tool for analyzing fort to port and POD to TAA portions of the deployment. An RSO&I simulation and analysis tool.	Part of the AMP suite of transportation models. Secret.

ANALYSIS OF MOBILITY PLATFORM

J-5. AMP is being developed under the cognizance of USTRANSCOM. This effort focuses on the cooperative development and integration of automated tools to facilitate end-to-end mobility planning and execution of contingency deployments.

J-6. The AMP effort integrates the capabilities of available systems such as the DART, JFAST, MIDAS, MASS, ELIST, MDSS, and TC-AIMS II, and builds on these capabilities by adding tools where they are lacking.

J-7. For example, ongoing developments such as FORSCOM's MADCAP, FORCEGEN, and Force Flow; MTMC's PORTSIM and STRADSS; and the Army's KBLPS eventually will be integrated into the AMP set of tools. Permitting planners to develop, analyze, and provide the results of crisis deployment options to decision makers within hours and monitor and adjust the deployment during execution.

J-8. All of AMP component tools can run on their own. They can also be run interactively under the AMP suite, and so their databases can be stored. DART and JFAST allow the theater transportation planner to rapidly create a TPFDD, equipment and sustainment of the theater port complexes. This information is important input data to theater LOC planning tools.

DYNAMIC ANALYSIS AND REPLANNING TOOL

J-9. DART provides the analyst with the capability to enter rapidly, manipulate, and analyze force and movement requirements. DART assists the user in rapidly modifying and analyzing the strategic transportation feasibility of a TPFDD. Based on the concept of distributed collaborative planning, DART allows users at remote sites to collaborate interactively in developing deployment and sustainment plans, and to share and transfer TPFDD records between remote DART systems. Using DART, planners can:

- Build and edit new TPFDD records.
- Graphically represent and modify existing TPFDD records.
- Graphically display transportation routes and destinations to help analyze the TPFDD's transportation feasibility.
- Create and manipulate force modules.
- Automatically check the quality of TPFDD records.
- Obtain quick access to the TUCHA file.
- Rapidly look-up GEOLOC.

JOINT FLOW AND ANALYSIS SYSTEM FOR TRANSPORTATION

J-10. JFAST is a high-speed analytical tool used for making detailed estimates of the resources required to transport military forces, including cargo, personnel, and their sustainment, during various scenarios. The primary output of JFAST is an estimation of when forces will arrive at the theater port complexes. In addition, JFAST presents a wealth of graphic and tabular output showing the impact of the theater deployment upon the strategic transportation resources, vehicles, and ports used during the simulation.

J-11. JFAST input primarily comes from JOPES in the form of OPLAN TPFDDs and reference files. JFAST can also import plan TPFDDs from DART, as well as export plans to other transportation models such as the ELIST.

J-12. A potentially very useful feature of JFAST is its capability for creating notional movement requirements for instances in which no plan currently exists. In this situation, an OPLAN or exercise TPFDD may identify where and when the military forces are to be deployed. The JFAST NRG takes division or brigade echelon ground units and squadron echelon air units, as well as expected levels of activity, climate, and desired days of supply, and generates detailed company and detachment level TPFDD deployments. This information can then be used by the JFAST model to estimate closure dates of the generated forces, as well as by the planner for further analysis.

THEATER LOC DEVELOPMENT

J-13. There are few tools available to assist combatant and Service component planners with developing an entire theater LOC concept to support joint RSO&I and sustainment for contingency operations. Most of the existing automated RSO&I planning tools address strategic, rather than theater, deployment.

J-14. Two tools that are currently used to help plan the overall theater LOC are currently in joint use (Table J-3). These are ELIST and SUMMITS.

Table J-3. Current Automated Information Systems and Software Applications Supporting Theater LOC Development

Acronym	Name	Proponent	Users	Use	Remarks
ELIST	Enhanced Logistics Intra-theater Support Tool	Army MTMC-TEA	OSD, JCS, USTRANSCOM HQ, MTMC, CINCs, CINC Components and Sub-Components	Discrete event, simulation-based system that evaluates the logistical feasibility of the theater transportation portion of a course of action. Model theater air, ground, and rail transport assets and transportation infrastructure with object-oriented database. Compares the CONUS and planned theater arrival schedule against a theater's transportation assets, cargo handling equipment, facilities, and routes.	Part of the current AMP suite. Army is currently funding improvements to the model. ELIST networks needed to conduct analysis are available via the MTMCTEA classified web site. Secret.

Table J-3. Current Automated Information Systems and Software Applications Supporting Theater LOC Development (continued)

Acronym	Name	Proponent	Users	Use	Remarks
SUMMITS	Scenario Unrestricted Mobility Model for Intra-theater Simulation	OSD (PA&E)	OSD (PA&E) and JS J4	Evaluates the logistic feasibility of a proposed theater transportation course of action. Quantifies the total requirement for common-user theater transportation to deliver the specified force to its destination.	Very detailed model that requires considerable programming support to use effectively. Secret.
LAD	Logistics Anchor Desk	Army Logistics Integration Agency	HQDA, USAREUR HQ, and other Army planners.	Two-computer system that allows logistics planners to determine the location and status of selected Army materiel inside and outside the theater of operations and, based on that information, plan the logistical force required to support a proposed course of action.	Parent system of KBLPS. Secret.
KBLPS	Knowledge-Based Logistics Planning Shell	Army Logistics Integration Agency	HQDA, USAREUR HQ, and other Army planners.	Interactive DSS that assists logisticians in planning, allocation and transportation of Army support at the corps level. Built-in database includes default information about corps-subordinate combat units, as well as the support slice usually allocated to the units.	Used successfully by XVIII Airborne Corps to help plan Desert Storm operations, and by USAREUR to help plan and sustain Operation Joint Endeavor. Secret.

ENHANCED LOGISTICS INTRATHEATER SUPPORT TOOL

J-15. ELIST is an analytical tool that simulates, from a transportation perspective, the deployment of forces within CONUS (fort-to-port) or a theater (POD to TAA). It helps planners analyze and develop courses of action. ELIST uses an object-oriented database to model unit and host nation transportation assets and theater infrastructure. The theater transportation network is used to move personnel and cargo from fort-to-port or theater entry points such as air and seaports of debarkation to final theater destinations.

J-16. Planners can generate movement scenarios for ELIST from TPFDD data, as well as from several other models, including DART, MIDAS, and JFAST. Movements are constrained by available theater transportation assets and the capacities of the theater infrastructure.

J-17. ELIST can be used to play out a MSEL, which is a list of events that take place at certain times during the simulation. For example, the user can add or subtract transportation resources, further constrain link capacities to simulate enemy action, or close down specific ports to determine the effects of these actions on the overall simulated movement of forces and cargo within the theater transportation network.

J-18. The user interface is a graphical windowing system that integrates maps, data, and a variety of charts, reports, and graphs to show the results of the simulation.

J-19. ELIST does not plan a CONUS or theater LOC; rather, it assesses the feasibility of a proposed LOC.

SCENARIO UNRESTRICTED MOBILITY MODEL FOR INTRATHEATER SIMULATION

J-20. SUMMITS was developed by the Director, Projection Forces, OSD (PA&E) to execute an intratheater deployment simulation based on inputs provided by the user. The simulation moves personnel, unit equipment, and supplies in accordance with defined requirements. Requirements for transportation are processed in priority order, with each requirement being provided an assigned delivery path through established air, road, rail, water, and pipeline networks. Available transport resources are consumed as each requirement is applied to its assigned delivery path.

J-21. SUMMITS quantifies the total requirement for common-user transportation to deliver the specified force and the required logistics support using the established transportation resource assets. Also, the model quantifies the performance of the established transportation network and resource mix in providing timely delivery of the force to its final destination.

J-22. The model produces a wealth of reports that detail the transportation requirement for each transportable commodity represented, which usually includes personnel, unit equipment, sustainment cargo, ammunition, bulk fuel, and water. For example, the trips required per day for a particular vehicle type can be examined as a day by day requirement, a static average daily requirement over a fixed number of days per five day period, or a rolling average daily requirement over a fixed rolling average period.

J-23. SUMMITS is currently being used by the Joint Staff/J4 and OSD (PA&E) to conduct the intratheater lift analysis for two MTWs.

J-24. As with ELIST, SUMMITS cannot plan a theater LOC; rather it assesses the feasibility of a proposed LOC concept.

USING ELIST AND SUMMITS TO PLAN THE THEATER LOC

J-25. Unfortunately, neither ELIST nor SUMMITS can independently develop a proposed theater LOC concept. Also, neither tool is particularly user-friendly, and both require a very knowledgeable planner, a good computer programmer, and detailed inputs. Some of these inputs are:

- A completely planned theater LOC.
- Lift resources available.
- Storage and throughput capacities for each mode and node in the theater.
- Node and link capacities.
- Other theater LOC constraints.
- A planned, detailed TPFDD flow into and within the theater.

J-26. SUMMITS also requires theater campaign results to determine the locations where the unit personnel and equipment must be delivered as a function of time, intensity of combat, and friendly combat success; the combat consumption of all classes of supply played in the model; and a detailed theater logistics support plan.

OTHER THEATER LOC DEVELOPMENT TOOLS

J-27. In addition to these more general LOC planning tools, there are some other tools that can be used to plan specific portions of the LOC. The LAD allows the planner to determine the location and status of selected Army materiel in the theater, while its Knowledge Based Logistics Planning System module assists the planner in developing a logistics concept to support proposed corps-level courses of action.

LOGISTICS ANCHOR DESK AND THE KNOWLEDGE BASED LOGISTICS PLANNING SHELL

J-28. Another tool that can be used to plan the Army corps-level portion of the theater LOC is LAD. It is a two-computer system that allows logistics planners to determine the location and status of selected Army materiel inside and outside the theater of operations and, based on that information, plan the logistical force required to support a proposed course of action. One of the LAD computers runs a situational awareness model that consolidates data from numerous existing Army databases. This model allows the planner to determine what resources are or could be made available for his

operation. Once the resource data is available, the other LAD computer runs a planning and analysis module that uses the data to develop a logistical plan that supports the course of action. The planning and analysis module of the LAD is KBLPS.

J-29. KBLPS is an interactive decision support system that assists logisticians in planning allocation and transportation of support at the corps level. Sponsored by the Logistics Integration Agency, KBLPS is used for instructional purposes at the Army's Command and General Staff College. In addition, the XVIII Airborne Corps used KBLPS successfully during Operation Desert Shield/Desert Storm to help develop the logistics plan.

J-30. The first thing the planner must do to use KBLPS is to move icons representing the corps units onto a map background to show where the units are or will be during the proposed operation. For most common corps-level and lower units, KBLPS has a built-in database that includes default information about corps-subordinate combat units, as well as the support slice usually allocated to those units. The user can change these default values as desired.

J-31. Based on a series of default or user-defined constraints and priorities, KBLPS then generates a simple logistics plan that maximizes the efficient use of available CS/CSS resources within the corps area. KBLPS color-codes the unit icons to show if they can be adequately supported by the plan. Embedded spreadsheets and graphics allow the planner to view various aspects of the plan, including such factors as logistics flow through certain nodes or links, the consumption of logistics by node, and so forth.

J-32. If the planner decides that changes are needed in the plan, he can change constraints, priorities, or resources, and have KBLPS reevaluate the situation. Once he is satisfied with the plan, the decision graphics generated by KBLPS can be of use in preparing his formal, written plan.

J-33. KBLPS is usually used to plan for a 120-hour planning horizon, although there is no fundamental reason that it cannot be used for other time intervals.

J-34. KBLPS is primarily focused on corps level operations, although it has some very limited capabilities to tie into outputs from other databases such as ELIST. For example, KBLPS can read an ELIST-generated file that indicates what materiel shows up at what nodes when. However, there is no direct, real-time link between KBLPS and ELIST.

NODE PLANNING TOOLS

J-35. There are also tools available to assist in the planning of specific nodes in the theater LOC. BRACE can be used to model military aerial port operations and estimate airfield throughput

capability. The ICODES can assist the planner in developing stow plans for ships, while the PORTSIM model simulates seaport operations during a force deployment. These tools are summarized in Table J-4.

Table J-4. Developmental Automated Information Systems and Software Application Supporting Theater LOC Analysis

Acronym	Name	Proponent	Users	Use	Remarks
BRACE	Base Resource and Capability Estimator	AMC	USTRANSCOM HQ, AMC, JFACCs, Air Staff Planners	Simulates airfield onloading, off-loading, en route, and recovery base operations, including ground activities such as cargo handling, refueling, maintenance, and aircraft parking. Estimates airfield throughput capability.	Currently in advanced development. May be incorporated into GTN. Unclassified.
ICODES	Integrated Computerized Deployment System	MTMC	MTMC Terminals	Assists in the pre-stowage process by matching a vessel characteristic file against the cargo being offered for shipment to produce a vessel stowage plan. Calculates critical sailing characteristics, including trim and stability.	Usually used in conjunction with unit moves. Interfaces with DAMMS-R. Unclassified.
PORTSIM	Port Simulation	MTMC	MTMC Terminals	Simulation of seaport operations during a force deployment. Provides a port clearance profile over time and reports on use of port assets such as gates, holding areas, berths, rail, drivers, and other parameters.	Usually used in conjunction with unit moves. Interfaces with ICODES. Unclassified.

AERIAL PORT PLANNING TOOLS

J-36. In general, most of the passengers that enter the theater of operations arrive at the Joint Aerial Ports. An automated planning tool being developed by Air Mobility Command to model military air terminal operations is BRACE. It simulates airfield onloading, off-loading, en route, and recovery base operations, including ground activities such as cargo handling, refueling, maintenance, and aircraft parking. The model can be used to:

- Estimate airfield throughput capability.
- Estimate air, ground, and other resources required to support a given level of throughput at an airfield.
- Validate MOG values used in existing air transportation models such as MASS and JFAST.

J-37. The GTN Program Management Office is currently investigating the desirability of including BRACE as part of the planning tools available as part of the AMP suite.

SEAPORT PLANNING TOOLS

J-38. The Joint Water Ports in the theater of operation are critical to the success of the operation because most of the Army and Marine unit equipment and sustainment cargo will be received through them. Two of the most useful tools for assisting in planning SPOE/D operations are ICODES and PORTSIM.

INTEGRATED COMPUTERIZED DEPLOYMENT SYSTEM

J-39. ICODES is a decision support system for developing stow plans for ships. ICODES assists the user in developing stow plans by matching vessel characteristics against the cargo being offered for shipment. ICODES develops the stow plans for up to four specific ships concurrently while continuously checking for access and hazard violations. At the user's request, ICODES can automatically attempt to maintain unit integrity in the stow plans it develops.

J-40. Once the stow plans are completed, ICODES automatically generates ship manifests and templates cargo items onto ship drawings in a matter of minutes. ICODES includes video films of ship decks and cargo items, a wealth of customized reports that detail both the process of constructing the stow plans and results of the process. It also includes a database, which provides details on the availability of external ship ramps and the facilities for many ports around the world.

PORT SIMULATION MODEL

J-41. PORTSIM is a LIN level, time-stepped, discrete event simulation of seaport operations during a force deployment. PORTSIM provides port clearance profiles over time and reports use of port assets.

J-42. PORTSIM loads individual cargo items aboard ship by size and stow factor. Once an interface between PORTSIM and ICODES is established via a load sequencing agent, the model will load ships using ICODES developed stow plan.

J-43. Future development of PORTSIM will include 2- and 3-D animation, interfaces to execution systems, databases, and scheduling models, and a port network building capability for TAV/ITV.

COMBINED FORCES PLANNING AND EXECUTION TOOLS

J-44. Since the end of the Cold War, the US military has participated in several operations, almost all of which were conducted in cooperation with allied nations. There is every reason to believe that future operations will continue to be conducted as multinational operations. The ACE ADAMS and ACCIS are two computerized systems that are in widespread use among NATO countries. These systems are likely to be used by US and NATO forces in future operations both within and outside NATO's historical AOR.

J-45. ADAMS is intended to fulfill the requirements for a Joint Reception and Movement System within NATO. It is a personal computer-based system that processes data up through the NATO SECRET classification. The structure of ADAMS recognizes that many nations already have national automated deployment systems. Its function is to facilitate the exchange of movement plans, situation reports, and associated background data in agreed formats between the national automated systems and allied headquarters.

J-46. There is no central database envisioned for ADAMS. Instead, the data elements reside with the parent nation or headquarters. The data are transmitted to other users in a standard format on an as-required basis. The development to date has focused on data and planning requirements.

J-47. Although the final configuration of ADAMS is still evolving, it currently includes the following modules:

- Force Selection.
- Rough Planning.
- Detailed Planning.
- Force Databases.
- Assets Databases.
- Infrastructure Database.
- Deployment Display.

J-48. The current version of the system is available at all national headquarters (except Portugal), and at SHAPE, the three MSC headquarters, the ARRC, and NATO's RFAS. The connectivity between US systems and ADAMS is retained at USEUCOM headquarters. Future developments include the addition of more capable analysis tools and capabilities to monitor deployment executions.

J-49. The ACCIS is the primary NATO system used by SACEUR to exercise command and control over the activities of allied forces in the Allied Command Europe area of responsibility. ADAMS is one of its several components.

Appendix K

Reception Operations

This Appendix discusses the different ways personnel, unit equipment, and materiel will enter a theater.

RECEPTION COMPLEXES

K-1. Normally, the majority of personnel, unit equipment, and materiel will enter a theater through two types of reception complexes, the Joint Aerial Port and the Joint Water Port.

JOINT AERIAL PORT COMPLEX

K-2. The Joint Aerial Port Complex containing an Air Terminal is a key node in any reception and deployment operation. During deployment operations the Aerial Port Complex handles flows in both directions, inbound as well as outbound movement.

K-3. The operation of a Joint Aerial Port Complex can be divided into two parts, the air terminal operations run by the Air Mobility Command and the air terminal support functions which are, in most cases, the responsibility of the Army Component Command. However, other Service Component Commands may be responsible for operating some functions.

K-4. These support operations may include port clearance, movement control, onward movement, liaison, operation of holding areas, postal operations, and personnel replacement processing. Table K-1 identifies some of the organizations located within the Aerial Port Complex and illustrates some of the functions they perform.

Table K-1. Support Organizations and Functions at a Joint Aerial Port Complex

Organization or Activity	Parent Organization	Theater C2	Major Functions
Aerial Port Squadron/Mobility Flight	USTRANSCOM (AMC)	Per Command Arrangement Agreements	Plan aircraft loads, process and document personnel and cargo, load and service airlift aircraft.
Aeromedical Evacuation Liaison Team	USTRANSCOM (AMC)	Per Command Arrangement Agreements	Communicate/ coordinate aeromedical evacuation requirements between medical facilities and the Global Patient Regulating Center.

Table K-1. Support Organizations and Functions at a Joint Aerial Port Complex (continued)

Organization or Activity	Parent Organization	Theater C2	Major Functions
Arrival/Departure Airfield Control Group	Army Component Command	OPCON to Senior Support Command	Coordination with the TALCE, clear arrival and departure airfield.
Port Movement Control Detachment	Movement Control Agency	OPCON to Senior Support Command	Assist deploying units with onward movement from port. Resolve problems with frustrated cargo.
ASG Liaison Element	Theater Support Command	OPCON to Senior Support Command	Coordinate ASG support at port.
NEO Liaison Element	Army Component Command	OPCON to Senior Support Command	Coordinate all movements of noncombatants.
Aircraft Maintenance Team	Army Component Command	OPCON to Senior Support Command	Provide technical assistance to Army aviation units deploying through the Joint Aerial Port Complex.
Postal Operations Terminal	Air or Army Component Command	OPCON to Senior Support Command	Process inbound or outbound mail shipments.
Tanker Airlift Control Element	USTRANSCOM (AMC)	Per Command Arrangement Agreement	Control, coordinate, and monitor US airlift operations.
Port Security	Air Component Command, Army Component Command outside airfield	OPCON to Senior Support Command	Provides physical security for the airfield and port complex.
Airlift Clearance Authority	Air Component Command	Air Component Command	Provide clearance for theater airlift of Air Force cargo from Aerial Port Complex.
Host Nation Support Elements	Host Nation	OPCON to Senior Support Command	Operate airfield, load/ unload aircraft, service aircraft, provide local transportation, provide security, provide air defense, and so forth.

K-5. In the Joint Aerial Port Complex various organizations establish sites to carry out these functions. These sites are designated by the Joint Aerial Port Complex Commander in coordination with the host nation and other Allied commands which may be using the facility. Many of these functions are performed at supporting nodes. Some of these supporting nodes include Holding

Areas (Enemy Prisoner of War, NEO, Frustrated Cargo, and so forth), Assembly Areas (Convoy, Helicopter, Vehicle, and so forth), and Railheads. Figure K-1 depicts a notional configuration of a Joint Aerial Port Complex illustrating some of the functions performed in the complex. Some of the supporting nodes are also shown.

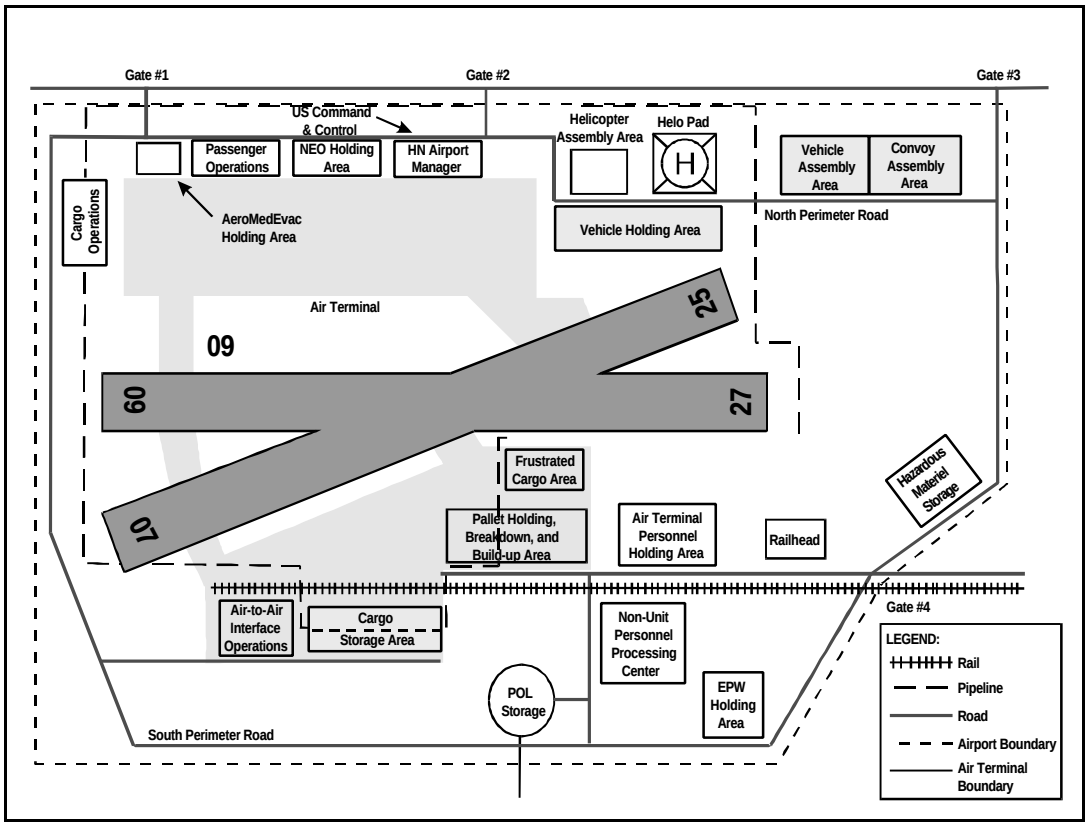


Figure K-1. Notional Joint Aerial Port Complex

K-6. The JFC selects the Aerial Port Complex, and USTRANSCOM activates it with Air Mobility Command assets. A/DACG elements (provided by the primary user) should be front loaded on the TPFDD to facilitate the processing and onward movement of follow-on units.

K-7. Functionally, the APOD can be divided into three main areas: the airfield/off-loading ramp, holding area, and marshaling area, as shown in Figure K-2, page K-3. TALCE will off-load personnel and cargo from the aircraft and move them to the specified off-loading ramp. The A/DACG then moves and processes the personnel and cargo in the holding area. Upon release, personnel and cargo move to the marshaling area. From the marshaling area, the Port Movement Control Detachment coordinates the unit's movement to its TSB.

K-8. The TPFDD should sequence a unit's advance party and main body through the APOD and to the TSB 24 hours prior to the arrival of its equipment at the SPOD or railhead.

K-9. The airfield/off-loading ramp activities are controlled by the TALCE. Each load, when off-loaded from the aircraft, will be released to the A/DACG for return to unit control at the established release point.

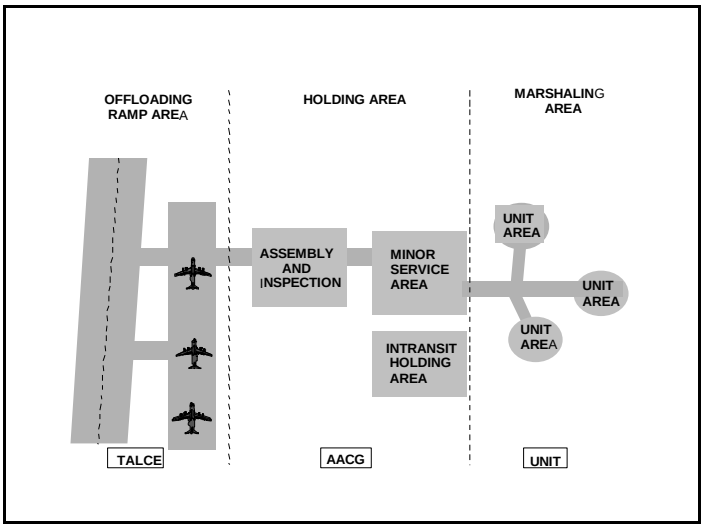


Figure K-2. Notional APOD Diagram

K-10. TALCE will:

- Advise the A/DACG of the airflow and expected arrival of aircraft.
- Plan and supervise aircraft parking.
- 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.
- Provide all MHE and special off-loading equipment, including operators.
- Ensure communications between the TALCE and A/DACG and all functional areas of the TALCE.
- Inform the A/DACG of any change in operations.
- Maintain statistical data on the operation.
- Release the load to the A/DACG at the established release point.

K-11. The A/DACG will:

- Maintain coordination with the TALCE and the deploying unit (if the A/DACG is in the lead element, it will immediately coordinate with the TALCE upon its arrival).

- Maintain records on personnel and equipment received and cleared.
- Provide off-load teams with pusher vehicles.
- Coordinate with the TALCE for recovery and storage of shoring materials.
- Provide fuel, oil and minor maintenance for transported vehicles.
- Provide or coordinate for emergency services as required. (For more information see FM 55-12.)

K-12. The deploying unit troop or plane load commander will:

- Provide unit liaison personnel to the A/DACG.
- Assist the A/DACG as required.
- Provide assistance to primary loadmaster.
- Receive instructions from the off-load team chief.
- Ensure that all aircraft tie-down equipment, pallets, and nets are returned to the TALCE.
- Provide one copy of the passenger and cargo manifests to the A/DACG.

K-13. The holding area activities are controlled by the A/DACG. The holding area will be selected by the TALCE in coordination with the A/DACG. The marshaling area is where the deploying element terminates its air movement and prepares for in-theater movement. The personnel will normally move to the TSB where they will reunite with equipment and supplies. Some small units will arrive by air with accompanying equipment and will be capable of transporting themselves to their employment location.

DISPOSITION OF UNITS AND MATERIEL WITHIN THE APOD

K-14. Arriving unit equipment will be moved to either a Vehicle Assembly Area in the vicinity of the Railhead (if one is available) or to the Convoy Assembly Area depending on the mode used for onward movement.

K-15. Arriving unit helicopters will be towed to the Helicopter Assembly Area by trained crews and prepared for flight to the Helicopter Marshaling Area normally located outside of the Joint Aerial Port Complex.

K-16. Palletized non-unit materiel will be unloaded and transported either to the Pallet Holding/Breakdown Area or other cargo storage area. Palletized unit materiel beyond the unit's capability to transport will normally be loaded directly onto common-user US, host nation, or Allied vehicles and depart the complex with deploying unit personnel.

K-17. Non-unit ammunition, and other hazardous materiel, arriving in the complex will be transported to designated hazardous cargo storage areas in accordance with local procedures established for hazardous materiel to comply with NEW and Quantity/Distance restrictions.

OUTBOUND OPERATIONS

K-18. The Joint Aerial Port Complex will also support outbound operations. These operations could include NEO, movement of enemy prisoners of war, or the movement of human remains, reparable spares, or mail. To accommodate outbound operations, the Joint Aerial Port Complex Commander will designate specific locations within the complex to serve as Enemy Prisoner of War Holding Areas, mortuary holding area, and NEO Holding Areas.

JOINT WATER PORT COMPLEXES

K-19. Another key node in any reception and deployment operation is the Joint Water Port Complex containing a water terminal. As with the Joint Aerial Port Complex, the Joint Water Port Complex may handle flows in both directions including the reception of unit materiel and non-unit cargo, as well as the outbound movement of equipment requiring repair, empty containers, and possibly captured enemy equipment.

K-20. As with the Joint Aerial Port Complex, a number of US and host nation support organizations are responsible for performing the many functions associated with the operation of a Joint Water Port Complex. Some of the US organizations are provided by the JFC's component commands while others are provided by components of USTRANSCOM. Table K-2 identifies the organizations, some of the functions they perform within the Joint Water Port Complex, and the theater command and control relationships. USCINCTRANS has established standing agreements with each of the unified commanders. These agreements are CAA and delineate command relationships for USTRANSCOM elements located in the unified commander's AOR under peace and wartime conditions. The unified commander is the ultimate authority for command relationship within the theater and delineates them via OPLANs and orders.

Table K-2. Organizations and Functions at a Joint Water Port Complex

Organization or Activity	Parent Organization	Theater C2	Major Functions
MSC Office	USTRANSCOM (MSC)	Per Command Arrangement Agreement	Coordinate husbanding services of ships in port.
Composite Transportation Group	Army Component Command	OPCON to Senior Support Command	Perform port operation and terminal service functions.
MTMC	USTRANSCOM	Per Command	Manage theater common-

	(MTMC)	Arrangement Agreement	user seaports and workload the JFC designated port operator.
Ocean Cargo Clearance Authority	USTRANSCOM (MTMC)	Per Command Arrangement Agreement	Coordinate movement of outbound cargo from sea port.
Logistic Support Element	Army Materiel Command	OPCON to Senior Support Command	Provide Support to Army prepositioned afloat operations.

Table K-2. Organizations and Functions at a Joint Water Port Complex (continued)

Organization or Activity	Parent Organization	Theater C2	Major Functions
Naval Control of Shipping Organization	Naval Component Command	Naval Component Command	Coordinate deployment of merchant ship convoys
Port Support Activity	Deploying unit or designated unit	OPCON to Port Operator	Provide support necessary to assist in deployment (that is, vehicle drivers, equipment operators, limited maintenance, security, life support).
Port Movement Control Team	MCA	OPCON to Senior Support Command	Assist deploying units with onward movement from port.
Area Support Group	TSC	OPCON to Senior Support Command	Coordinate ASG port support.
NEO Liaison Element	Army Component Command	OPCON to Senior Support Command	Coordinate all movements of noncombatants.
Helicopter Maintenance Team	TSC	OPCON to Port Operator	Provide technical assistance to Army aviation units deploying through the Joint Water Port Complex.
DHA Control Group	PSA	OPCON to Port Operator	Provide necessary services for accommodating personnel at DHA.
Tanker Airlift Control Element	USTRANSCOM (AMC)	Per Command Arrangement Agreement	Control, coordinate, and monitor US airlift operations at Sea-to-Air Interface Site.
Aerial Port Squadron/Mobility Flight	USTRANSCOM (AMC)	Per Command Arrangement Agreement	Provide cargo/passenger service at SAIS.
Airlift Clearance Authority	Air Component Command	Air Component Command	Provide clearance for theater airlift of cargo from SAIS.
ASG SAIS Liaison Element	TSC	OPCON to Port Operator	Coordinate ASG support at SAIS.
Port Security (Waterside)	USCG	OPCON to Naval Component Command	Provide physical security of the port complex.
Port Security (Pierside)	Army Component Command/Navy Component	OPCON to Port Operator	Provide physical security of the port complex.

	Command/Host Nation		
Host Nation Support Elements	Host Nation	OPCON to Senior Support Command	Operate port, load/unload vessels, operate airfield, load aircraft, provide local transportation, provide security, provide air defense, and so forth.

K-21. The JFC may designate MTMC as the port manager and a Service component (normally the Army as the primary user) as the port operator. Within the Joint Water Port Complex, the various organizations establish sites where they can carry out these functions. These sites are designated by the Joint Water Port Complex Commander (appointed by senior support commander) in coordination with the host nation and other Allied commands which may be using the facility.

K-22. The SLRP deploys and conducts a reconnaissance and provides detailed information to the JFC on projected port operations.

K-23. Figure K-3, page K-8 depicts a notional configuration of a Joint Water Port Complex showing some of the functions that would be performed in the complex. The figure shows a composite profile of the complex including the SAIS.

DISPOSITION OF PERSONNEL AND MATERIAL IN THE JOINT WATER PORT COMPLEX

K-24. Arriving materiel is unloaded and moved to appropriate processing areas located within the complex. If the unit vehicles can be driven off a RO/RO ship or lifted from another type of ship and placed alongside on the pier, drivers from the unit will be provided from the DHA based on daily coordination between the Joint Water Terminal Operator and the operator of the DHA. Drivers may also be provided by the PSA located at the complex. The drivers move the equipment to a Marshaling Area in the vicinity of the Railhead (if one exists) or to the Convoy Assembly Area depending on the mode used for onward movement. Arriving unit helicopters will be towed to the Helicopter Assembly Area by trained crews and prepared for flight to the Helicopter Marshaling Area normally located outside of the Water Port Complex.

K-25. Containerized non-unit materiel will be unloaded and transported directly to destination or to the Container Holding/Handling Area within the complex. Containerized unit materiel will accompany the other elements of the deploying unit. Non-unit ammunition arriving in the complex will be transported to designated ammunition storage areas in accordance with local procedures established for hazardous materiel and Net Explosive Weight restrictions. Breakbulk cargo will be lifted from ship holds and placed on common-user US, host nation, or Allied vehicles for onward movement from the complex, as arranged by the Port Movement Control Team within the Joint Water Port.

K-26. The complex will also support outbound operations when required. These operations may include large numbers of personnel for NEO; the movement of enemy prisoners of war, empty containers, or the movement of damaged equipment or captured enemy equipment. To accommodate these outbound operations, the Joint Water Port Complex Commander would designate specific locations within the complex to serve as an Enemy Prisoner of War Holding Areas and NEO Holding Areas.

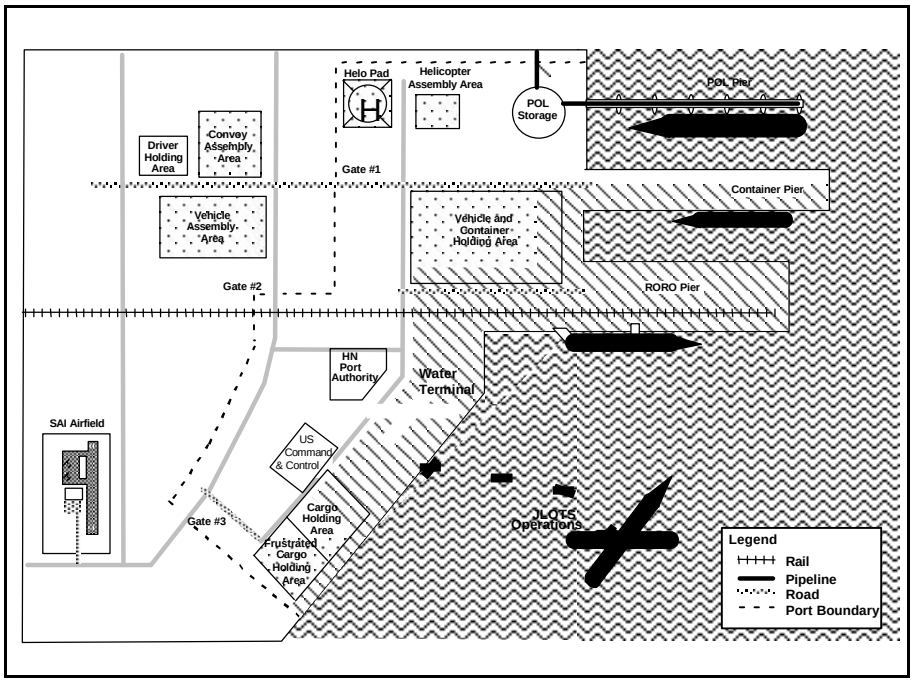


Figure K-3. Notional Joint Water Port Complex (with Sea-Air Interface Site)

K-27. In certain cases, there may be urgent need for selected sustainment materiel or items of unit equipment arriving by sea to be moved by theater airlift to intermediate or final destinations within the theater. The designated items are unloaded from arriving vessels and immediately transported to a SAIS located within, or in close proximity to, the Joint Water Port Complex for onward movement by theater air.

SEA-AIR INTERFACE SITE

K-28. Figure K-4, page K-9 provides the notional layout of a Sea-Air Interface Site and shows some of the US organizations that normally would be located at this site. The units located at the facility will accomplish the following functions:

- Receive the materiel.
- Validate theater air clearance for onward movement.
- Arrange theater airlift.
- Coordinate aircraft operations and servicing at the facility.

- Prepare loads and load them on the aircraft.
- Prepare the necessary documentation and render reports necessary to maintain visibility of the materiel and personnel moved through the site.

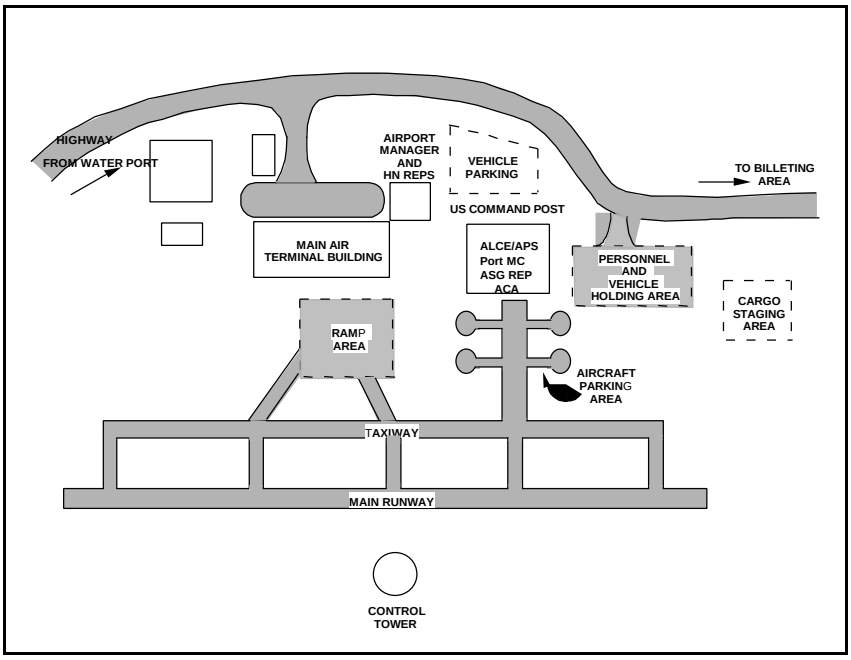


Figure K-4. Notional Sea-Air Interface Site

RECEPTION SEQUENCE AT THE JOINT WATER PORT COMPLEX

K-29. There can be three sequential events:

- APS ashore.
- APS afloat.
- Surge Sealift.

K-30. Initially, if required, the lodgment may be secured by airborne forces. The heavy brigade that is designated to draw the prepositioned ashore equipment provides a LO to the aerial port, an advance party, and the main body. The LO prepares for the arrival of the advance party and main body by arranging for support to move them to the equipment draw site. The advance party arrives at the aerial port and moves to the prepo ashore facility to draw the unit's equipment. The main body follows closely behind the advance party. (See Figure K-5, page K-10.)

K-31. APS-3 provides a 2x2 brigade to reinforce the lodgment, to protect the key objectives, to open the port for the surge sealift from CONUS or forward deployed areas, and supports the conduct of military operations in the theater.

K-32. The APS-3 vessels that carry this force are home ported in Diego Garcia and Saipan, and are moved to the theater of operations as heightened tensions and other indicators foretell its use. The first element of APS-3 is the initial port opening package and could be the only portion of APS-3 committed for humanitarian operations, or it is the opening package for larger operations involving surge sealift. It includes a heavy lift preposition ship or FLO/FLO vessel, a

one of a kind self-submergible vessel. The FLO/FLO submerges to discharge the Army watercraft that are on board. These Army watercraft provide the theater the capability to do in-stream off-load to augment the theater reception capability. It also includes a crane ship, to provide crane capability should the port become disabled or have no capability. In addition, the crane ship has Force Provider modules that can be used to establish the TSB. Finally, it includes two RO/RO ships that contain equipment such as RTCH, and other MHE and CSS equipment necessary to open the port.

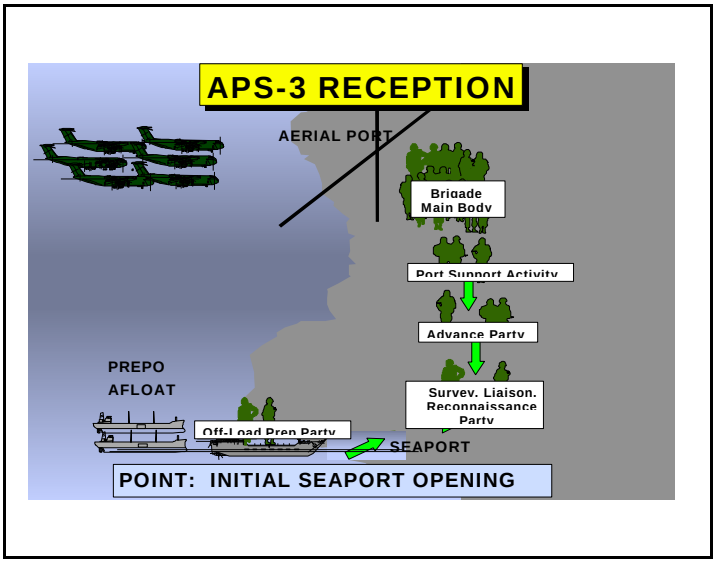


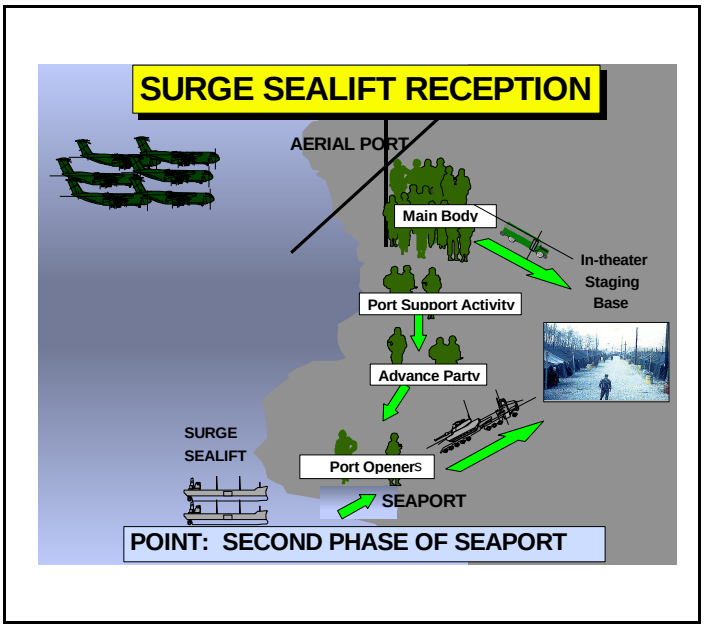
Figure K-5. APS-3 Reception

K-33. The remainder of APS-3 includes LASH and RO/RO vessels that contain equipment and supplies necessary to support theater operations for the first 30 days. Stockage levels and equipment listings change as new ships are brought into the APS-3 fleet. The most up to date APS-3 stockage information is available in the APS-3 automated battlebooks published by USAMC. The battlebooks also provide units information from which TAT requirements can be established.

K-34. Surge sealift begins arriving in theater around C+24. The process used is different from that of the APS-3 (see Figure K-6, page K-11). The structure in place for APS-3 reception is not capable of supporting the large numbers of soldiers and equipment. The volume of arriving soldier and cargo creates the need for a separate theater staging base.

K-35. In APS-3 operations the PSA comes from the brigade off-loading. The volume of shipping in surge sealift drives the need for the PSA to be a separate entity. It takes 200 soldiers a day to off-load the 1,100–1,700 vehicles in a LMSR vessel (100 per shift/24-hour operation).

K-36. Surge sealift could bring up to 19–20 ships simultaneously to berth requiring a PSA of 3,000–4,000 soldiers. The standard is 7 days from the arrival of the ships until the forces are integrated into the ground commander's tactical plan.



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Appendix L

Army Watercraft and Port Equipment

This Appendix discusses the various Army watercraft and port equipment, their uses, characteristics, and so forth.

LOGISTICS SUPPORT VESSEL

L-1. The LSV (see Figure L-1) is a 273-foot self-deploying ship with a cruising range of 8,200 nautical miles at 12.5 knots. It is capable of receiving cargo from a ship anchored in the stream and transporting that cargo to shore for discharge over the bow ramp. Because of its shallow draft, the LSV can carry cargo from deep drafted ships to shore ports or areas too shallow for larger ships.

L-2. CHARACTERISTICS:

- **Length overall:** 273 feet.
- **Beam:** 60 feet.
- **Displacement (weight):** 4,199 long tons.
- **Deck area:** 10,500 square feet (up to 24 M1 Main Battle Tanks or 25 [50 double stacked] 20 foot ISO containers).
- **Payload:** 2,000 tons (equivalent payload capacity of 86 C-141s).
- **Range:**
  - **Light:** 8,200 nautical miles at 12.5 knots.
  - **Loaded:** 6,500 nautical miles at 11.5 knots.

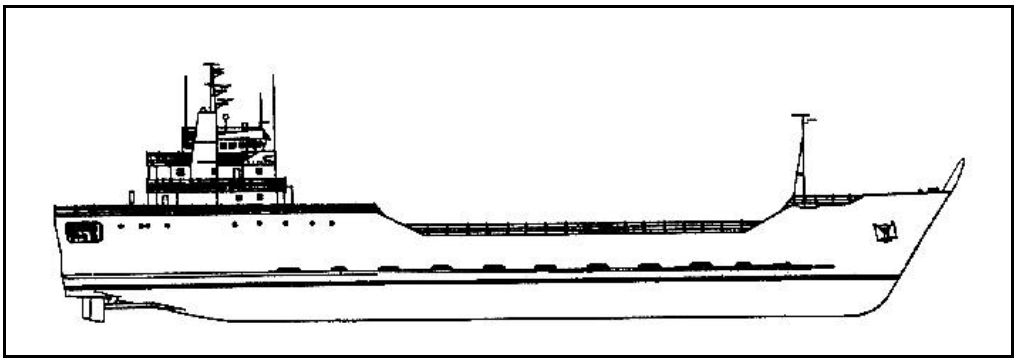


Figure L-1. Logistics Support Vessel

L-3. The LSV provides worldwide transport of general and vehicular cargo. It provides intratheater line haul of large quantities of cargo and equipment. Tactical resupply missions can be performed to remote underdeveloped coastlines and inland waterways. It is also ideally suited for the discharge and/or back load of sealift, vessels such as LMSRs. It can transport cargo from ship to shore in LOTS operations including those in remote areas with unimproved beaches. All wheeled and tracked vehicles, including Main Battle Tanks, dozers, container handling equipment, and so forth can be transported in LOTS operations. It has both bow and stern ramps for RO/RO cargo, and a bow thruster to assist in beaching and beach extraction. It can also be used for unit deployment and relocation.

LANDING CRAFT, UTILITY 2000

L-4. The LCU (see Figure L-2, page L-2) is a 174-foot self-deploying ship with a cruising range of 10,000 nautical miles at 12 knots. It is capable of receiving cargo from a ship anchored in the stream and transporting that cargo to shore for discharge over the bow ramp. Because of its shallow draft, the LCU can carry cargo from deep drafted ships to shore ports or areas too shallow for larger ships.

L-5. CHARACTERISTICS:

- **Length overall:** 174 feet.
- **Beam:** 42 feet.
- **Displacement (weight):** 575 long tons (light)/1,087 long tons (loaded).
- **Deck area:** 2,500 square feet (5 M1 Main Battle Tanks or 12 [24 double stacked] 20 foot ISO containers).
- **Payload:** 350 tons (equivalent payload capacity of 15 C-141 loads).
- **Range:**
  - **Light:** 10,000 nautical miles at 12 knots.
  - **Loaded:** 6,500 nautical miles at 10 knots.
- **Draft:**
  - **Light:** 8 feet.
  - **Loaded:** 9 feet.

L-6. The LCU 2000 moves containers, general or vehicular cargo. This includes missions in LOTS operations in remote areas with austere shore facilities or unimproved beaches. The LCU 2000 is also suitable for the intratheater movement of cargo and unit equipment along coastlines or inland waterways. It can also be used for unit deployment and relocation. It has a bow ramp for Roll-on/Roll-off cargo, and a bow thruster to assist in beaching and beach extraction.

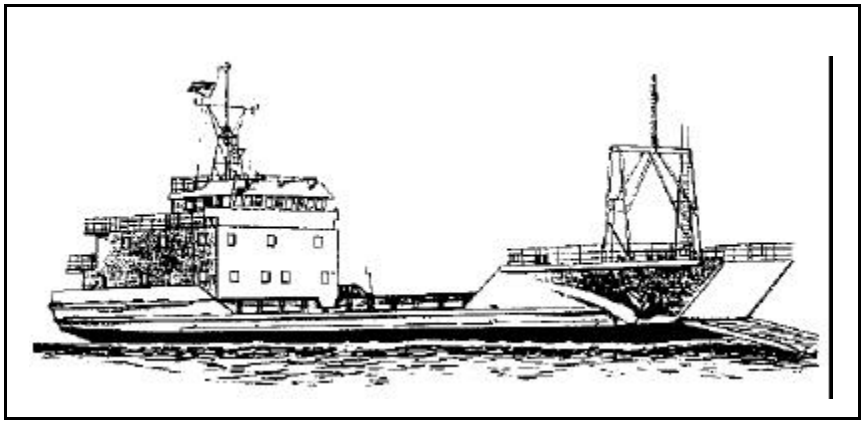


Figure L-2. LCU 2000

LANDING CRAFT MECHANIZED (LCM-8) MOD 2

L-7. The Mod 2 (see Figure L-3) will function as a C2, personnel transfer and a light salvage/firefighting vessel. The Army will modify existing LCM-8's for this purpose.

L-8. The Mod 2 will perform many key support functions in conditions through Sea State 3. The LCM-8's proven record of performance provides a solid platform for this modification. As a C2 platform, the Mod 2 will provide the critical link between ship and shore operation centers. It will transport Army stevedores from shore to ship/ship to shore in a protected environment. It will also be used as a MEDEVAC vessel, diver support platform, and limited firefighting and light salvage boat. The Mod 2 will function in shallow inlets, rivers and surf zones. It will retain its ability to land on an unimproved beach.

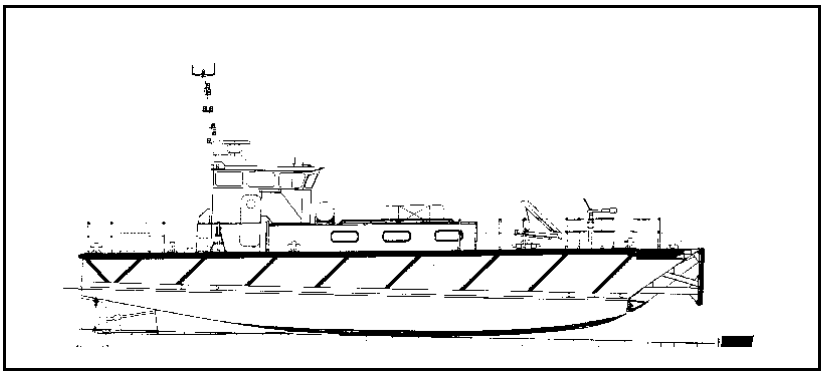


Figure L-3. LCM-8 Mod 2

L-9. The Mod 2 is an afloat C2 platform used to direct and monitor cargo discharging and loading of Army watercraft. Army watercraft including landing craft, amphibians, modular causeways and harbor craft provide the critical link between the offshore arrival of combat power on strategic sealift and placing that power ashore in a combat configuration. The Mod 2 will perform a multifaceted role in-theater opening and force sustainment operations.

MODULAR CAUSEWAY SYSTEM

L-10. The main building block for the MCS is the modular causeway section. These sections are 24 feet x 80 feet platforms configured from ISO compatible floating pontoons. The sections can be disassembled and shipped via military/commercial assets capable of handling 40-foot containers.

L-11. Causeway sections are assembled to configure three sub-systems:

- Floating causeway.
- Roll-on/roll-off discharge facility.
- Causeway ferry.

L-12. The mission of the MCS is to provide a rapid means of transporting rolling stock, containerized and breakbulk cargo from ship to shore during LOTS. MCS will be used in areas with undeveloped port facilities or where established ports are denied, unavailable, or inadequate. The FC consists of standard causeway strings that are attached end to end to form a bridge/ramp from the shore, seaward. This system will be used to overcome a shallow gradient or reef barrier. An RRDF is also composed of standard causeway sections and provides the interface between RO/RO vessels and the lighters that will move rolling stock to shore. The CF is composed of one powered section and three causeway sections. This system is used to carry rolling stock and containers from ship to shore.

MODULAR CAUSEWAY SYSTEM ROLL-ON/ROLL-OFF DISCHARGE FACILITY

L-13. RRDF is assembled from six modular causeway sections. It is assembled and secured along side a strategic sealift roll-on/roll-off ship. It is capable of supporting the weight of the ship's discharge ramp and the heaviest rolling stock in the Army's inventory. The RRDF consists of:

- Six modular causeway sections.
- One combination beach and sea end section.
- Two warping tugs.
- One lighting, fendering and anchoring system.

L-14. The RRDF is composed of standard modular causeway sections and provides the interface between RO/RO vessels and the lighters that would move rolling stock to shore during LOTS operations. The RRDF will be used in areas with undeveloped port facilities or where established ports are denied, unavailable, or inadequate.

MODULAR CAUSEWAY SYSTEM CAUSEWAY FERRY

L-15. CF is assembled from two nonpowered modular causeway sections and one powered causeway section to form a self-propelled barge 24 feet x 240 feet (see Figure L-4). The CF is constructed of Modular Causeway Sections and can be deployed aboard container ships and other cargo type vessels. The CF consists of:

- Two modular causeway sections.
- One powered modular causeway section.
- One combination beach and sea end.

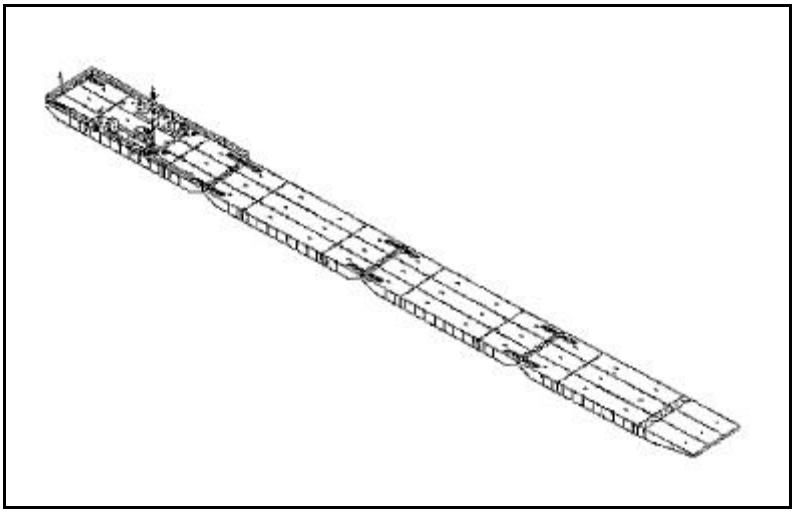


Figure L-4. Modular Causeway System Causeway Ferry

L-16. The CF is used for the movement of rolling, breakbulk, and containerized cargo from an ocean going vessel directly to the shore-side logistics operation or to a fixed or semipermanent pier. It will support RO/RO and LO/LO operations. The CF would be used in areas with undeveloped port facilities or where established ports are denied, unavailable or inadequate.

BARGE DERRICK

L-17. The BD is a non-self-propelled, 115 long ton capacity-floating crane. It is the only heavy lift-floating crane in a FC Company. It is capable of lifting a main battle tank from the centerline of a non-self-sustaining strategic sealift ship. It is also capable of lifting equipment from the well decks of prepositioned lighters stored aboard HLPS characteristics:

- **Capacity:** 115 Long Tons.
- **Reach:** Variable.
- **Transportability:** Prepositioned and towed by the Army 128 foot Large Tug.
- **Crew:** 15 (1 officer; 14 enlisted).

L-18. **Accommodations:** For all crewmembers The barge derrick loads and discharges heavy cargo from ships and other vessels. Heavy lift cargo includes main battle tanks lifted from the centerline of a non-self-sustaining sealift vessel. The BD will be employed in theater water terminals and offshore sites.

CONTAINERIZED MAINTENANCE FACILITY

L-19. The CMF will be comprised of maintenance modules that provide support maintenance to US Army watercraft. The modules will form a shore-based complex, which will fully integrate and encompass the unit mission providing a cohesive, responsive maintenance operation in the immediate area of watercraft operations.

L-20. The CMF will be housed in standard ISO expandable containers. This modular maintenance system will have a sufficient number of shelters to contain the following capabilities:

- Welding/Machine Shop.
- Engine Rebuild/Component Rebuild Shop.
- Stock/Bench Stock and General Storage
- Detachment HQ, Productions and Quality Control.

L-21. The CMF will be deployed in a tactical environment and operated out of the same container in which it is transported.

Appendix M

Staging Operations

This Appendix discusses the factors involved in the planning of staging operations. It also discusses the factors to consider in selecting a TSB and the TSB Commander's responsibilities.

PLANNING FACTORS

M-1. Real estate size and management are two important factors to consider in the selection of a TSB and the planning of staging operations. A divisional main support battalion, tactically dispersed, requires about 35 square kilometers to provide adequate dispersion for its operational elements, equipment and sustaining materiel. During Operation Joint Endeavor, the main support battalion of the 1st Armored Division had an average of 450 containers and 20 pallets in its work area each day. The amount of sustainment materiel would have increased greatly with more intensive combat operations. The approximate footprint (data provided for equipment only, not total stowage space required) of selected major US combat formations is provided in Table M-1, below:

Table M-1. Footprint of Selected Major US Army Combat Formations

TYPE UNIT	PERS	SQ FEET	STON	ROAD SP VEH	ROAD TOWED VEH	NON-ROAD VEH	TR VEH	A/C	20-FT CNTRS	20-FT OUTSIZE CNTRS	ACC SUP CNTRS	ACC AMMO CNTRS
AIR ASSAULT	16,593	1,034,589	35,503	3,453	2,360	163	14	406	461	34	177	7
AIRBORNE	13,198	755,300	25,783	2,731	1,588	171	6	116	500	14	144	6
AR Div	17,186	1,484,636	101,342	3,662	2,312	83	1,710	90	492	67	186	8
LT IN Div	11,520	560,284	18,122	1,987	1,158	71	7	99	169	7	119	5
MECH Div	17,407	1,484,873	100,128	3,654	2,321	83	1,728	90	496	67	189	8
ACAV REGT	4,555	433,658	31,267	1,056	545	21	561	68	136	22	51	3
ARMD BDE	4,203	347,954	27,854	811	436	16	492	0	113	13	44	2
IN BDE	3,902	192,311	7,992	992	450	17	4	11	94	4	44	2
MECH BDE	4,445	349,176	26,649	812	472	16	510	0	119	13	48	2

TYPE UNIT	Self-explanatory
PERS	Total number of personnel contained in the unit
SQ FEET	Total footprint of equipment in square feet
STON	Total size of equipment in short tons
ROAD SELF-PROPELLED VEH	Roadable, self-propelled vehicles
ROAD TOWED VEH	Roadable, Towed Vehicles
WHEELED NON-ROAD VEH	Wheeled, Non-Roadable Vehicles
TRACKED VEHICLES	Self-explanatory
ACFT	Total number of Helicopters
20-FT CONT ELG	20-foot Container Eligible Cargo (Number of Containers)
20-FT OUTSIZE	20-foot Container Outsize Cargo (Number of Containers)
ACC SUP	Accompanying Supplies (Number of Containers) at 10 STONS/20-foot container
ACC AMMO	Accompanying Ammunition (Number of Containers) at 13.9 STONS/20-foot container

TSB COMMANDER'S RESPONSIBILITIES

M-2. Command, Control, and Communications duties include–

- **Area Selection**–selects staging area based on guidance received from the JFC, space available for unit dispersion, transportation network to and from the port, and transportation network to support onward movement.
- **Automatic Data Processing**–plans ADP requirements to support the TSB and staging unit needs.
- **Command and Control**–coordinates all operations and communications within the TSB and assists the staging unit in coordinating its future operations.
- **Terrain and facilities management.**
- **Communications (external)—**supports staging unit communication needs as required
- **Communications (internal)**–establishes staging area internal communication system for TSB and staging unit use.
- **Reports Procedures**–processes reports on staging units.
- **Security—**coordinates area security and the internal security requirements.

M-3. Host Nation Support duties include–

- **Host Nation Support—**coordinates host nation support to support TSB operations.
- **Linguists**–provides/coordinates linguistic support for contract, local purchases, and so forth.

M-4. Maintenance duties are to provide maintenance support as required.

M-5. Onward Movement duties include–

- Blocking, bracing, and tie-downs.
- Movement Control.
- **Railhead Operations—**plans and operates railhead as required.

M-6. Security duties include–

- OPSEC.
- **Security—**plans TSB defensive operations.

M-7. Services include–

- Contracting Support.
- Food Service Operations.
- Latrines.
- Laundry.
- MHE.
- Combat Health Support.

- Mortuary Affairs.
- Refueling.
- Religious Support.
- Shower Support.
- Water/Ice Supply.
- Trash Disposal.

M-8. Supply Support includes–

- Class II items/CIF/Clothing Exchange/Individual Equipment.
- SSSC.

M-9. Transportation includes–

- Transportation (local).
- Traffic Control.

M-10. Other Support includes–

- **Engineer**–coordinates engineer construction needs (infrastructure: latrines, showers, tent floors, barriers, checkpoints, roads, bridges, and so forth).
- **EOD**–coordinates countermines measures, explosive ordnance disposal as required.
- Health and Comfort Items.
- Maps.
- **NBC**–develops and implements NBC defense plan (detection, chemical reconnaissance, biological identification, NBC warning, NBC reporting, and decontamination) as required.
- **Power (generators, and so forth)—**provides/coordinates power sources.
- **Public Affairs—**plans and coordinates public affairs/news releases.
- **Tents**–provides tents (for office, billeting, and storage).

Appendix N

Combat Power Tracking

This Appendix discusses the combat power tracking procedures. It also includes examples of unit status reports.

GENERAL

N-1. The following is an example of combat power tracking procedures from the National Training Center. The reports are applicable to the majority of corps and divisional units and can be adapted for use by other units. They are a sequential series of reports submitted by the smallest elements of a unit and reported to the headquarters for compilation into an overall unit status report. The unit status is reported through command channels.

N-2. Tracking combat power is the monitoring of a unit's status (equipment, personnel, and training). In this example unit combat power is monitored in five areas:

- Combat capability by unit.
- Logistic capability by unit.
- Mobility-survivability.
- C3I.
- Overall unit rating.

REPORTING

VEHICLE COMBAT CAPABILITY

VEHICLE BUMPER #_____ DATE:_____

SHOOT ⬭	MOVE ⬭	COMMUNICATE ⬭	SUSTAIN ⬭	FORCE PROTECTION ⬭	TRAINING ⬭	PERSONNEL STATUS ⬭
MISSION CAPABLE G/B	MISSION-CAPABLE G/B	MISSION-CAPABLE G/B	MISSION-CAPABLE B/A/R/B	MISSION-CAPABLE G/B	MISSION-CAPABLE G/A/R/	MISSION-CAPABLE G/R/B
BORESIGHT/ZERO/ SCREEN/MRS UPDATE	NVDS OPERATIONIAL	RADIO CHECKS	3 DAYS CL I & WATER	PROTECTIVE MASK	ROE BRIEF	CREW STATUS
PREP TO FIRE CHECKS	MAINTENANCE CHECKS (PER SOP)	NTERCOM	CL III TOPPED OFF	MOPP UNIFORM	RISK ASSESSMENT & CONTROLS IN PLACE	BATTLE ROSTERS
THERMAL OPNL/SIGHTS REFERRED	RESTORE LOAD PLANS	OPSEC MEASURES IN PLACE	CL V BASIC LOAD O/H	M8 ALARM		
BATTLESIGHT RG INDEXED PER SOP	MAP/NAVIGATIONAL EQUIPMENT	SOI	M1, M88 FUEL TRANSFER OPERATIONAL	M256 KIT		
		REQUIRED SIGNAL DEVICES O/H	PMCS CURRENT (2404, 5988E)	IMMUNIZATIONS		
			COMBAT LIFE SAVER W/BAG	RADIOLOGICAL EQUIPMENT		
			SENSITIVE ITEMS ACCOUNTABILITY	INDIVIDUAL EQUIPMENT		
			CRITICAL BATTERIES REQUIRED	M8/M9 PAPER		
G=ALL WPNS BORESIGHTED/ SCREENED/ZEROED AS APPLICABLE, PFTC COMPLETE, WPN SYSTEMS(S) MC	G=NVDS OPERATIONAL (NIGHT OPNS) AUTOMOTIVE MAINT CHKS DONE, LOAD PLAN INTACT, MAP/NAV EQUIP O/H VEHICLE IS AUTOMOTIVE MC	G=RADIO(S)/ INTERCOM OPERATIONAL, CAN MEET OPSEC REQUIREMENTS	G=CL I/WATER O/H, PMCS, CLS BAG O/H, SENSITIVE ITEMS ACOUNTED FOR, BATTERIES O/H, CL III/V G=100-90% A=89-755 R=74-60% B=59-0%	G=ALL THE ABOVE O/H AND FUNCTIONAL	G=ALL SOLDIERS BRIEFED, A=ONE OR MORE NOT BRIEFED R=NO BRIEIFING	G=FULL AUTH CREW R=DEGRADED CREW B=CANNOT RIGHTG (BATTLE ROSTER VERIFIED)

G=GREEN/A=AMBER/R=RED/B=BLACK OVERALL RATING = LOWEST RATING ⬭

FA SECTION COMBAT CAPABILITY

DATE:_____

SECTION_____PLATOON_____BATTERY_____

SHOOT ⬭	MOVE ⬭	COMMUNICATE ⬭	SUSTAIN ⬭	FORCE PROTECTION ⬭	TRAINING ⬭	PERSONNEL STATUS ⬭
MISSION CAPABLE G/B	MISSION-CAPABLE G/B	MISSION-CAPABLE G/B	MISSION-CAPABLE B/A/R/B	MISSION-CAPABLE G/B	MISSION-CAPABLE G/A/R/	MISSION-CAPABLE G/R/B
FIRE CONTROL ALIGNMENT TEST	NVDS OPERATIONAL	RADIO CHECKS	3 DAYS CL I & WATER	PROTECTIVE MASK	ROE BRIEF	CREW STATUS
PREFIRE CHECKS	MAINTENANCE CHECKS (PER SOP)	NTERCOM	CL III TOPPED OFF	MOPP UNIFORM	RISK ASSESSMENT & CONTROLS IN PLACE	BATTLE ROSTERS
CALIBRATION DATA	RESTORE LOAD PLANS	OPSEC MEASURES IN PLACE	CL V BASIC LOAD O/H	M8 ALARM		
DECLINATE AIMING CIRCLES	MAP/NAVIGATIONAL EQUIPMENT	SOI	M1, M88 FUEL TRANSFER OPERATIONAL	M256 KIT		
WPNS FUNCTIONS CHECKS		REQUIRED SIGNAL DEVICES O/H	PMCS CURRENT (2404, 5988E)	IMMUNIZATIONS		
			COMBAT LIFE SAVER W/BAG	RADIOLOGICAL EQUIPMENT		
FDC:			SENSITIVE ITEMS ACCOUNTABILITY	INDIVIDUAL EQUIPMENT		
PRIMARY & SECONDARY COMPUTATION MEANS			CRITICAL BATTERIES REQUIRED	M8/M9 APER		
G=ALL OF THE ABOVE A=ALL OF THE ABOVE EXCEPT CALIBRATION	G=NVDS OPERATIONAL (NIGHT OPNS) AUTOMOTIVE MAINT CHKS DONE, LOAD PLAN INTACT, MAP/NAV EQUIP O/H VEHICLE IS AUTOMOTIVE MC	G=RADIO(S)/ INTERCOM OPERATIONAL, CAN MEET OPSEC REQUIREMENTS	G=CL I/WATER O/H, PMCS, CLS BAG O/H, SENSITIVE ITEMS ACOUNTED FOR, BATTERIES O/H, CL III/V G=100-90% A=89-755 R=74-60% B=59-0%	G=ALL THE ABOVE O/H AND FUNCTIONAL	G=ALL SOLDIERS BRIEFED, A=ONE OR MORE NOT BRIEFED R=NO BRIEIFING	G=FULL AUTH CREW R=DEGRADED CREW B=CANNOT RIGHTG (BATTLE ROSTER VERIFIED)

G=GREEN/A=AMBER/R=RED/B=BLACK OVERALL RATING = LOWEST RATING ⬭

PLATOON COMBAT CAPABILITY ⬭

PLATOON_____CO_____TF_____ DATE:_____

COMBAT CAPABILITY	VEHICLE 1	VEHICLE 2	VEHICLE 3	VEHICLE 4
SHOOT	GREEN---BLACK	GREEN---BLACK	GREEN---BLACK	GREEN---BLACK
MOVE	GREEN---BLACK	GREEN---BLACK	GREEN---BLACK	GREEN---BLACK
COMMUNICATE	GREEN---BLACK	GREEN---BLACK	GREEN---BLACK	GREEN---BLACK
SUSTAIN	GREEN—AMBER--BLACK	GREEN—AMBER--BLACK	GREEN—AMBER--BLACK	GREEN—AMBER--BLACK
FORCE PROTECTION	GREEN---BLACK	GREEN---BLACK	GREEN---BLACK	GREEN---BLACK
TRAINING	GREEN—AMBER--BLACK	GREEN—AMBER--BLACK	GREEN—AMBER--BLACK	GREEN—AMBER--BLACK
PERSONNEL STATUS	GREEN--RED--BLACK	GREEN--RED--BLACK	GREEN--RED--BLACK	GREEN--RED--BLACK
C^2	GREEN--RED--BLACK	GREEN--RED--BLACK	GREEN--RED--BLACK	GREEN--RED--BLACK
VEHICLE STATUS	⬭	⬭	⬭	⬭

PLATOON RATING: GREEN: ALL VEHICLES GREEN AMBER: THREE OF FOUR VEHICLES AMBER OR BETTER
RED: TWO OF FOUR VEHICLES RED OR BETTER BLACK: THREE OF FOUR VEHICLES BLACK
ALL VEHICLES NOT BLACK ARE REPORTED HIGHER AS MISSION CAPABLE ON SLANT REPORT TO TF CDR

PLATOON COMBAT CAPABILITY

DATE:_____

PLATOON_____BTRY_____BN_____ ⬭

COMBAT CAPABILITY	SECTION 1	SECTION 2	SECTION 3	SECTION 4	FDC
	GREEN--AMBER--BLACK	GREEN--AMBER--BLACK	GREEN--AMBER--BLACK	GREEN--AMBER--BLACK	GREEN--BLACK

CO/TM

DATE:_____

BUILDING COMBAT CAPABILITY

	PLT	PLT	PLT	CO/TM
	⬭	⬭	⬭	⬭
SHOOT	⬭	⬭	⬭	⬭
MOVE	⬭	⬭	⬭	⬭
COMMUNICATE	⬭	⬭	⬭	⬭
SUSTAIN	⬭	⬭	⬭	⬭
TRAIN	⬭	⬭	⬭	⬭
FORCE PROTECTION	⬭	⬭	⬭	⬭

-BASED ON VEHICLE AND PLATOON CHECKLISTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING THE BUILDING OF COMBAT CAPABILITY:

- GREEN: 90% OR MORE CAPABILITY AVAILABLE
- AMBER: 70%-89% CAPABILITY AVAILABLE
- RED: 50%-69% CAPABILITY AVAILABLE
- BLACK: 49% OR LESS CAPABILITY AVAILABLE

- OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF SUBORDINATE RATINGS

TASK FORCE _____DATE:_____

_____BTRY, _____FA BN DATE:_____

TOTAL COMBAT CAPABILITY STATUS

	1PLT	2PLT	BTRY
OVERALL	⬭	⬭	⬭

DEFINITIONS

- OVERALL PLT AND BTRY RATINGS EQUAL LOWEST OF BELOW RATINGS

COMBAT CAPABILITY

	1PLT ⬭	2LT ⬭	BTRY ⬭
HOWITZER			
FAASV			
FDC			

- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS AS MISSION CAPABLE.

- BASED ON COMBAT CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING COMBAT CAPABILITY:

• 90% OR MORE HOWITZERS MC
•AMBER: 70%-89% HOWITZERS MC
•RED: 50%-69% HOWITZERS MC
•BLACK: 49% OR LESS HOWITZERS MC

•CAN SUBJECTIVELY DOWNGRADE/UPGRADE BASED ON OBSERVATIONS EXPLAIN IN COMMENTS

LOG CAPABILITY

	1PLT ⬭	2PLT ⬭	BTRY ⬭
PERSONNEL	⬭	⬭	⬭
COMBAT LS	⬭	⬭	⬭
CLASS III (B)	⬭	⬭	⬭
CLASS III (P)	⬭	⬭	⬭
CLASS V	⬭	⬭	⬭
CLASS IV	⬭	⬭	⬭

- BASED ON LOGISTICAL REPORTING AND IAW UNIT TACSOP, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING LOGISTIC CAPABILITY:

• GREEN: 90% OR MORE CAPABILITY AVAILABLE
• AMBER: 70%-89% CAPABILITY AVAILABLE
• RED: 50%-69% CAPABILITY AVAILABLE
- BLACK: 49% OR LESS CAPABILITY AVAILABLE

• OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF S SUBORDINATE RATINGS

_____MED _____FSB DATE:_____
CO

	EVAC	TREAT	CO
OVERALL	⬭	⬭	⬭

DEFINITIONS

- OVERALL PLT AND CO/TM RATINGS EQUAL LOWEST OF BELOW RATINGS

MED SYSTEMS (MC/AVAIL)

	EVAC	TREAT	CO
M113 AMB			
M977 AMB			
M577			
M35			
MED EQUIP SETS			
X-RAY			
DENTAL			

- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS

- BASED ON COMBAT CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING COMBAT CAPABILITY:

• 90% OR MORE CBT SYSTEMS AVAILABLE
•AMBER: 70%-89% CBT SYSTEMS AVAILABLE
•RED: 50%-69% CBT SYSTEMS AVAILABLE
•BLACK: 49% OR LESS CBT SYSTEMS AVAILABLE

_____FA BN DATE:_____

TOTAL COMBAT CAPABILITY STATUS

	A BTRY	B BTRY	C BTRY	LT BTRY	HHB	BN
OVERALL	⬭	⬭	⬭	⬭	⬭	⬭

DEFINITIONS

- OVERALL BTRY AND BN RATINGS EQUAL LOWEST RATING
- BTRY OVERALL STATUS BASED ON VERTICAL SUMMATION
- BN OVERALL STATUS BASED ON HORIZONTAL SUMMATION

COMBAT CAPABILITY (MC/AVAIL)

	A BTRY	B BTRY	C BTRY	LT BTRY	HHB	BN
	⬭	⬭	⬭	⬭	⬭	⬭
HOWITZERS						
FAASVS						
FDCS						

-- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS AS MISSION CAPABLE

- BASED ON COMBAT CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING COMBAT CAPABILITY:

• 90% OR MORE HOWITZERS MC
•AMBER: 70%-89% HOWITZERS MC
•RED: 50%-69% HOWITZERS MC
•BLACK: 49% OR LESS HOWITZERS MC

•CAN SUBJECTIVELY DOWNGRADE/UPGRADE BASED ON OBSERVATIONS. EXPLAIN IN COMMENTS.

BUILDING LOG CAPABILITY

	A BTRY	B BTRY	C BTRY	LT BTRY	BN
	⬭	⬭	⬭	⬭	⬭
PERSONNEL	⬭	⬭	⬭	⬭	⬭
CLASS I	⬭	⬭	⬭	⬭	⬭
CLASS III (P)	⬭	⬭	⬭	⬭	⬭
CLASS III (B)	⬭	⬭	⬭	⬭	⬭
CLASS IV	⬭	⬭	⬭	⬭	⬭
CLASS V	⬭	⬭	⬭	⬭	⬭
MED/CL VIII	⬭	⬭	⬭	⬭	⬭

- BASED ON LOGISTICAL REPORTING AND IAW UNIT TACSOP, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING LOGISTIC CAPABILITY:

• GREEN: 90% OR MORE CAPABILITY AVAILABLE
• AMBER: 70%-89% CAPABILITY AVAILABLE
• RED: 50%-69% CAPABILITY AVAILABLE
- BLACK: 49% OR LESS HOWITZERS MC

• OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF S SUBORDINATE RATINGS

_____SUPPLY CO _____FSB DATE:_____

DEFINITIONS

TOTAL SUPPLY CAPABILITY

	HQ	SUPPLY	CO
OVERALL	⬭	⬭	⬭

- OVERALL PLT AND CO/TM RATINGS EQUAL LOWEST OF BELOW RATINGS

SUPPLY SYSTEMS (MC/AVAIL)

	HQ	SUPPLY	CO
5K TANKER			
PLS			
S & P			
6K RTFL			

- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS
- BASED ON COMBAT CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING COMBAT CAPABILITY:
• 90% OR MORE CBT SYSTEMS AVAILABLE
•AMBER: 70%-89% CBT SYSTEMS AVAILABLE
•RED: 50%-69% CBT SYSTEMS AVAILABLE
•BLACK: 49% OR LESS CBT SYSTEMS AVAILABLE

•CAN SUBJECTIVELY DOWNGRADE/UPGRADE EXPLAIN IN COMMENTS

SUPPLY CAPABILITY

	HQ	SUPPLY	CO
WATER	⬭	⬭	⬭
CLASS I	⬭	⬭	⬭
CLASS III (P)	⬭	⬭	⬭

- BASED ON LOGISTICAL REPORTING AND IAW UNIT TACSOP, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING LOGISTIC CAPABILITY:
• GREEN: 90% OR MORE CAPABILITY AVAILABLE
• AMBER: 70%-89% CAPABILITY AVAILABLE

_____CO/TM _____TF DATE:_____

TOTAL COMBAT CAPABILITY STATUS

	PLT	PLT	PLT	CO/TM
OVERALL	⬭	⬭	⬭	⬭

DEFINITIONS

- OVERALL PLT AND BTRY RATINGS EQUAL LOWEST OF BELOW RATINGS

COMBAT CAPABILITY (MC/AVAIL)

	PLT ⬭	PLT ⬭	PLT ⬭	CO/TM ⬭
TANKS				
IFV/CFV				
IN SQDS				
SCOUTS				
MORTARS				
FIST/COLTS				
BSFV/STINGER				

- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS AS MISSION CAPABLE.

- BASED ON COMBAT CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING COMBAT CAPABILITY:

• 90% OR MORE CBT SYSTEMS MC
•AMBER: 70%-89% CBT SYSTEMS MC
•RED: 50%-69% CBT SYSTEMS MC
•BLACK: 49% OR LESS CBT SYSTEMS MC

•CAN SUBJECTIVELY DOWNGRADE/UPGRADE BASED ON STATUS OF INF
•SQUADS, MORTARS, SCOUTS, FISTVs, BSFVs, AND SO FORTH.
EXPLAIN IN COMMENTS

LOG CAPABILITY

	PLT ⬭	PLT ⬭	PLT ⬭	CO/TM ⬭
PERSONNEL	⬭	⬭	⬭	⬭
COMBAT LS	⬭	⬭	⬭	⬭
CLASS III (B)	⬭	⬭	⬭	⬭
CLASS III (P)	⬭	⬭	⬭	⬭
CLASS V	⬭	⬭	⬭	⬭
CLASS IV	⬭	⬭	⬭	⬭

- BASED ON LOGISTICAL REPORTING AND IAW UNIT TACSOP, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING LOGISTIC CAPABILITY:

• GREEN: 90% OR MORE CAPABILITY AVAILABLE
• AMBER: 70%-89% CAPABILITY AVAILABLE
• RED: 50%-69% CAPABILITY AVAILABLE
- BLACK: 49% OR LESS CAPABILITY AVAILABLE

• OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF S SUBORDINATE RATINGS

FSB_____ DATE:_____

TOTAL FSB CAPABILITY STATUS

	HHD	A CO	B CO	C CO	FSB
OVERALL	⬭	⬭	⬭	⬭	⬭

DEFINITIONS

- OVERALL PLT AND CO/TM RATINGS EQUAL LOWEST OF BELOW RATINGS

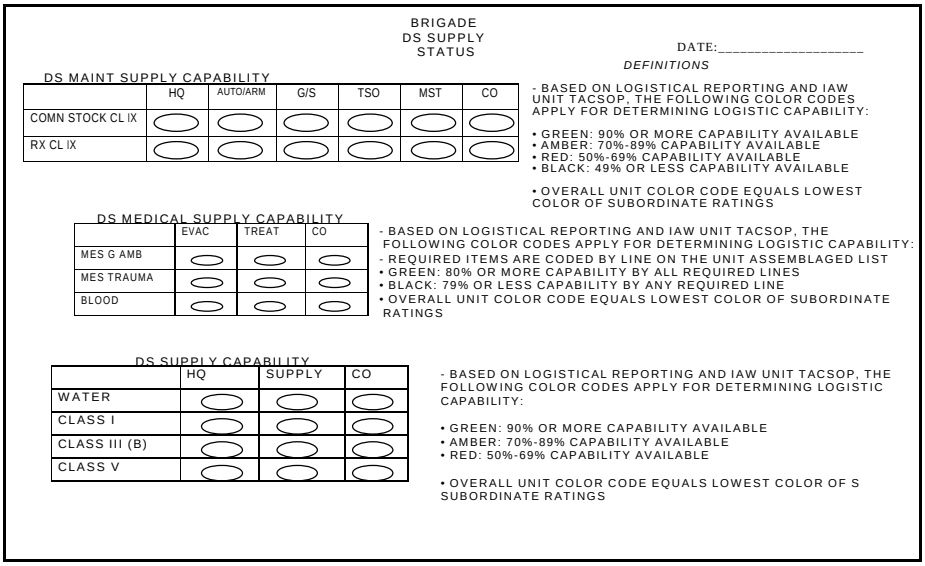
CSS SYSTEMS (MC/AVAIL)

	HHD	A CO	B CO	C CO	FSB
M88s	⬭	⬭	⬭	⬭	⬭
WRECKERS					
CONTACT TRKS					
PLS					
M113 AMB					
M997 A,B					
M577					

- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS AS MISSION CAPABLE

- BASED ON COMBAT CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING CSS CAPABILITY:

• 90% OR MORE SYSTEMS MC
•AMBER: 70%-89% SYSTEMS MC
•RED: 50%-69% SYSTEMS MC
•BLACK: 49% OR LESS SYSTEMS MC



BRIGADE
DS SUPPLY
STATUS

DATE:_____

DS MAINT SUPPLY CAPABILITY

	HQ	AUTO/ARM	G/S	TSO	MST	CO
COMN STOCK CL IX						
RX CL IX						

DEFINITIONS

- BASED ON LOGISTICAL REPORTING AND IAW UNIT TACSOP, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING LOGISTIC CAPABILITY:

• GREEN: 90% OR MORE CAPABILITY AVAILABLE
• AMBER: 70%-89% CAPABILITY AVAILABLE
• RED: 50%-69% CAPABILITY AVAILABLE
• BLACK: 49% OR LESS CAPABILITY AVAILABLE

• OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF SUBORDINATE RATINGS

DS MEDICAL SUPPLY CAPABILITY

	EVAC	TREAT	CO
MES G AMB			
MES TRAUMA			
BLOOD			

- BASED ON LOGISTICAL REPORTING AND IAW UNIT TACSOP, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING LOGISTIC CAPABILITY:
- REQUIRED ITEMS ARE CODED BY LINE ON THE UNIT ASSEMBLAGED LIST
• GREEN: 80% OR MORE CAPABILITY BY ALL REQUIRED LINES
• BLACK: 79% OR LESS CAPABILITY BY ANY REQUIRED LINE
• OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF SUBORDINATE RATINGS

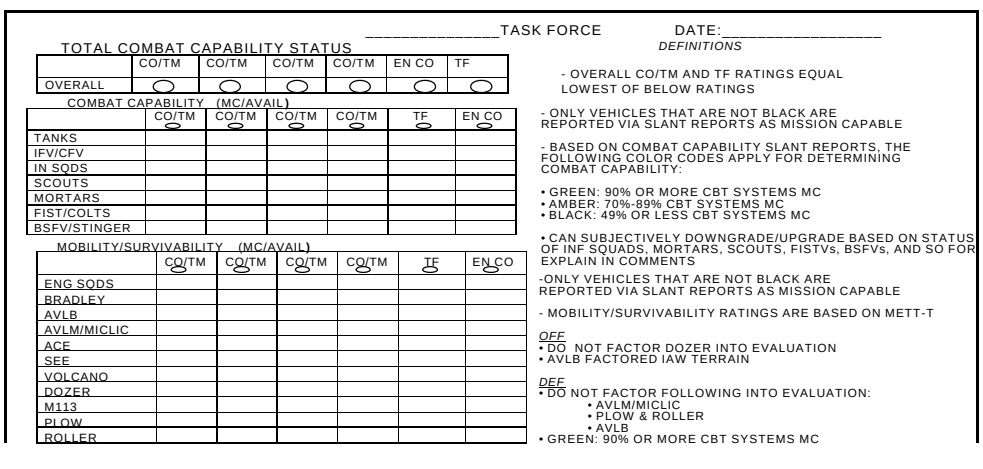
DS SUPPLY CAPABILITY

	HQ	SUPPLY	CO
WATER			
CLASS I			
CLASS III (B)			
CLASS V			

- BASED ON LOGISTICAL REPORTING AND IAW UNIT TACSOP, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING LOGISTIC CAPABILITY:

• GREEN: 90% OR MORE CAPABILITY AVAILABLE
• AMBER: 70%-89% CAPABILITY AVAILABLE
• RED: 50%-69% CAPABILITY AVAILABLE

• OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF S SUBORDINATE RATINGS



_____TASK FORCE DATE:_____

TOTAL COMBAT CAPABILITY STATUS

	CO/TM	CO/TM	CO/TM	CO/TM	EN CO	TF
OVERALL						

DEFINITIONS

- OVERALL CO/TM AND TF RATINGS EQUAL LOWEST OF BELOW RATINGS

COMBAT CAPABILITY (MC/AVAIL)

	CO/TM	CO/TM	CO/TM	CO/TM	TF	EN CO
TANKS						
IFV/CFV						
IN SQDS						
SCOUTS						
MORTARS						
FIST/COLTS						
BSFV/STINGER						

- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS AS MISSION CAPABLE

- BASED ON COMBAT CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING COMBAT CAPABILITY:

• GREEN: 90% OR MORE CBT SYSTEMS MC
• AMBER: 70%-89% CBT SYSTEMS MC
• BLACK: 49% OR LESS CBT SYSTEMS MC

• CAN SUBJECTIVELY DOWNGRADE/UPGRADE BASED ON STATUS OF INF SQUADS, MORTARS, SCOUTS, FISTVs, BSFVs, AND SO FOR EXPLAIN IN COMMENTS

MOBILITY/SURVIVABILITY (MC/AVAIL)

	CO/TM	CO/TM	CO/TM	CO/TM	TF	EN CO
ENG SQDS						
BRADLEY						
AVLB						
AVLM/MICLIC						
ACE						
SEE						
VOLCANO						
DOZER						
M113						
PLOW						
ROLLER						

-ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS AS MISSION CAPABLE

- MOBILITY/SURVIVABILITY RATINGS ARE BASED ON METT-T

OFF
• DO NOT FACTOR DOZER INTO EVALUATION
• AVLB FACTORED IAW TERRAIN

DEF
• DO NOT FACTOR FOLLOWING INTO EVALUATION:
  • AVLM/MICLIC
  • PLOW & ROLLER
  • AVLB
• GREEN: 90% OR MORE CBT SYSTEMS MC

BRIGADE DATE:_____

TOTAL COMBAT CAPABILITY STATUS

	TF	TF	TF	DS FA	R FA	EN BN	FSB	BDE
OVERALL	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭

DEFINITIONS

- OVERALL TF AND BDE RATINGS EQUAL LOWEST OF BELOW RATINGS

COMBAT CAPABILITY (MC/AVAIL)

	TF ⬭	TF ⬭	TF ⬭	DS FA ⬭	R FA ⬭	EN BN ⬭	BDE ⬭
TANKS							
IFV/CFV							
IN SQDS							
SCOUTS							
INFANTRY							
FIST/COLTS							
HOWITZERS							
BSFV/STINGER							

- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS AS MISSION CAPABLE
- BASED ON COMBAT CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING COMBAT CAPABILITY:

• GREEN: 90% OR MORE CBT SYSTEMS MC
• AMBER: 70%-89% CBT SYSTEMS MC
• RED: 50%-69% CBT SYSTEMS MC
• BLACK: 49% OR LESS CBT SYSTEMS MC

• CAN SUBJECTIVELY DOWNGRADE/UPGRADE BASED ON STATUS OF INF SQUADS, MORTARS, SCOUTS, FISTVs, BSFVs. ETC. EXPLAIN IN COMMENTS

MOBILITY/SURVIVABILITY (MC/AVAIL)

	TF ⬭	TF ⬭	TF ⬭	DS FA ⬭	R FA ⬭	EN BN ⬭	BDE ⬭
ENG SQDS							
BRADLEY							
AVLB							
AVLM/MICLIC							
ACE							
SEE							
VOLCANO							
DOZER							
M113							
PLOW							
ROLLER							
SMOKE							
NBC RECON							

- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS AS MISSION CAPABLE
- MOBILITY/SURVIVABILITY RATINGS MAY BE MODIFIED BASED ON METT-T

OFF
• DO NOT FACTOR DOZER INTO EVALUATION
• AVLB FACTORED IAW TERRAIN

DEF
DO NOT FACTOR FOLLOWING INTO EVALUATION
• AVLM/MICLIC
• PLOW & ROLLER
• AVLB

- BASED ON COMBAT CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING COMBAT CAPABILITY:

• GREEN: 90% OR MORE CBT SYSTEMS MC
• AMBER: 70%-89% CBT SYSTEMS MC
• RED: 50%-69% CBT SYSTEMS MC
• BLACK: 49% OR LESS CBT SYSTEMS MC

LOG CAPABILITY

	TF ⬭	TF ⬭	TF ⬭	DS FA ⬭	R FA ⬭	EN BN ⬭	FSB ⬭	BDE ⬭
PERSONNEL	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭
CLASS I	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭
CLASS III (P&B)	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭
CLASS V	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭
CLASS IV	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭
MAINT	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭
MED/CL VIII	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭

- BASED ON LOGISTICAL REPORTING AND IAW UNIT TACSOP, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING LOGISTIC CAPABILITY:

• GREEN: 90% OR MORE CBT SYSTEMS MC
• AMBER: 70%-89% CBT SYSTEMS MC
• RED: 50%-69% CBT SYSTEMS MC
• BLACK: 49% OR LESS CBT SYSTEMS MC

• OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF SUBORDINATE RATINGS

CO/TM/BTRY C^3I DATE:_____

SUBJECTIVE EVALUATION:

ISSUES WITH RETRANS COLLECTORS, JAMMERS, FIREFINDERS ARE REPORTED BY EXCEPTION

C^3I EVALUATION IS SUBJECTIVES BASED ON METT-T REQUIREMENTS AND INCLUDE CONSIDERATION OF:

ORGANIC CMD, O&I, ADMIN/LOG, AND FIRE SUPPORT CONNECTIVITY AND WITH HIGHER AND LOWER C^2 NODES
MSRT LINKAGE WITH BCT C^2 NODES
RETRANS CAPABILITY
CAPABILITY GENERATOR CAPABILITY
AVAILABILITY OF BATTERIES TO ACCOMPLISH THE MISSION

_____BN/TF C^{3}I DATE:_____

SUBJECTIVE EVALUATION:

ISSUES WITH RETRANS COLLECTORS, JAMMERS, FIREFINDERS ARE REPORTED BY EXCEPTION

C^{3}I EVALUATION IS SUBJECTIVES BASED ON METT-T REQUIREMENTS AND INCLUDE CONSIDERATION OF:

ORGANIC CMD, O&I, ADMIN/LOG, AND FIRE SUPPORT CONNECTIVITY AND WITH HIGHER AND LOWER C^2 NODES
MSRT LINKAGE WITH BCT C^2 NODES
RETRANS CAPABILITY
CAPABILITY GENERATOR CAPABILITY
AVAILABILITY OF BATTERIES TO ACCOMPLISH THE MISSION

ISSUES/COMMENTS

BRIGADE C^{3}I DATE:_____

SUBJECTIVE EVALUATION:

ISSUES WITH RETRANS COLLECTORS, JAMMERS, FIREFINDERS ARE REPORTED BY EXCEPTION

C^{3}I EVALUATION IS SUBJECTIVES BASED ON METT-T REQUIREMENTS AND INCLUDE CONSIDERATION OF:

ORGANIC CMD, O&I, ADMIN/LOG, AND FIRE SUPPORT CONNECTIVITY AND WITH HIGHER AND LOWER C^2 NODES
MSRT LINKAGE WITH BCT C^2 NODES
RETRANS CAPABILITY
CAPABILITY GENERATOR CAPABILITY
AVAILABILITY OF BATTERIES TO ACCOMPLISH THE MISSION

ISSUES/COMMENTS

_____BN/TASK FORCE C³I/CSS DATE:_____

TOTAL C3I/CSS CAPABILITY STATUS

	MAINT	MED	SPT	TOC	CTCP	FTCP
OVERALL	⬭	⬭	⬭	⬭	⬭	⬭

DEFINITIONS

- OVERALL RATING IS BASED ON VERTICAL SUMMATION EQUAL TO LOWEST RATING

C³I/CSS SYSTEMS (MC/AVAIL)

	MAINT ⬭	MED ⬭	SPT ⬭	TOC ⬭	CTCP ⬭	FTCP ⬭
M577						
M113						
M978 FUELER						
M977 CARGO						
M88A1						
5-TON TRUCKS						
25-TON TRUCKS						
HMMWV						

- ONLY VEHICLES THAT ARE NOT BLACK ARE REPORTED VIA SLANT REPORTS AS MISSION CAPABLE

- BASED ON C³I/CSS CAPABILITY SLANT REPORTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING C3I/CSS CAPABILITY:

• GREEN: 90% OR MORE CBT SYSTEMS MC
• AMBER: 70-89% CBT SYSTEMS MC
• RED: 50%-69% CBT SYSTEMS MC
• BLACK: 49% OR LESS CBT SYSTEMS MC

• CAN SUBJECTIVELY DOWNGRADE/UPGRADE BASED ON OBSERVATIONS, EXPLAIN IN COMMENTS.

BUILDING LOG CAPABILITY

	MAINT ⬭	MED ⬭	SPT ⬭	TOC ⬭	CTCP ⬭	FTCP ⬭
PERSONNEL	⬭	⬭	⬭	⬭	⬭	⬭
CLASS I	⬭	⬭	⬭	⬭	⬭	⬭
CLASS III (P&B)	⬭	⬭	⬭	⬭	⬭	⬭
CLASS V	⬭	⬭	⬭	⬭	⬭	⬭
CLASS IV	⬭	⬭	⬭	⬭	⬭	⬭
MAINT	⬭	⬭	⬭	⬭	⬭	⬭
MED/CL VIII	⬭	⬭	⬭	⬭	⬭	⬭

- BASED ON LOGISTICAL REPORTING AND IAW UNIT TACSOP, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING LOGISTIC CAPABILITY:

• GREEN: 90% OR MORE CAPABILITY AVAILABLE
• AMBER: 70%-89% CAPABILITY AVAILABLE
• RED: 50%-69% CAPABILITY AVAILABLE
• BLACK: 49% OR LESS CAPABILITY AVAILABLE

• OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF SUBORDINATE RATINGS

BN/TASK FORCE C³I/CSS_____DATE:_____

	MAINT ⬭	MED ⬭	SPT ⬭	TOC ⬭	CTCP ⬭	FTCP ⬭
SUPPORT CAPABILITY	⬭	⬭	⬭	⬭	⬭	⬭
MOVE	⬭	⬭	⬭	⬭	⬭	⬭
COMMUNICATE	⬭	⬭	⬭	⬭	⬭	⬭
SUSTAIN	⬭	⬭	⬭	⬭	⬭	⬭
TRAIN	⬭	⬭	⬭	⬭	⬭	⬭
FORCE PROTECTION	⬭	⬭	⬭	⬭	⬭	⬭

-BASED ON VEHICLE AND PLT CHECKLISTS, THE FOLLOWING COLOR CODES APPLY FOR DETERMINING THE BUILDING OF C3I/CSS CAPABILITY:

•GREEN: 90% OR MORE CAPABILITY AVAILABLE
• AMBER: 70%-89% CAPABILITY AVAILABLE
• RED: 50%-69% CAPABILITY AVAILABLE
• BLACK: 49% OR LESS CAPABILITY AVAILABLE

• OVERALL UNIT COLOR CODE EQUALS LOWEST COLOR OF SUBORDINATE RATINGS

Glossary

AALPS	Automated Air Load Planning System
AAR	After Action Report
ACA	Airlift Clearance Authority
ACE	Allied Command Europe
ACCIS	ACE Command and Control Information System
ACOM	Atlantic Command
A/DACG	Arrival/Departure Airfield Control Group
ADAMS	Allied Command Europe Deployment Movement System
ADP	Automated Data Process
AELT	Aeromedical Evacuation Liaison Team
AHQ	Ad-Hoc Query
AIS	Automated Information System
AIT	Automated Identification Technology
ALCC	Airlift Coordination Center
ALSS	Advanced Logistic Support Site
AMC	Air Mobility Command
AME	Air Mobility Element
AMOPES	Army Mobilization and Operations Planning System
AMP	Analysis of Mobility Platform
AMS	Automated Manifest System
AO	Area of Operations
AOR	Area of Responsibility
APA	Army Prepositioned Afloat
APOD	Aerial Port of Debarkation
APOE	Aerial Port of Embarkation
APS	Army Prepositioned Stocks
APS-3	Army Prepositioned Stocks - set three (afloat)
ARRC	ACE Rapid Reaction Corps
ASCC	Army Service Component Command
ASG	Area Support Group
ASMB	Area Support Medical Battalion
ATM	Automated Teller Machines

AUEL	Automated Unit Equipment List
BRACE	Base Resource and Capability Estimator
C2	Command and Control
CAA	Command Arrangements Agreement
CATF	Commander Amphibious Task Force
CD	Compact Disk
CENTCOM	Central Command
CF	Causeway Ferry
CINC	Commander-in-Chief
CINCCENT	Commander-in-Chief Central Command
CHE	Container Handling Equipment
CHS	Combat Health Support
CLF	Commander Landing Force
CMOS	Cargo Movement Operating System
COB	Collocated Operating Base
COE	Common Operating Environment
COL	Contingency Operating Location
COMMZ	Communication Zone
COMPASS	Computerized Movement Planning and Status System
CONCAP	Construction Civilian Augmentation Program
CONPLAN	Concept Plan
CONUS	Continental United States
COSCOM	Corps Support Command
CS	Combat Support
CSC	Convoy Support Command
CSG	Corps Support Group
CSS	Combat Service Support
CTC	Cargo Transfer Company
CTG	Composite Transportation Group
DAMMS-R	Department of the Army Movement Management System – Revised
DART	Dynamic Analysis Replanning Tool
DEL	Deployment Equipment List
DHA	Driver Holding Area

DIRMOBFOR	Director of Mobility Forces
DISCOM	Division Support Command
DAO	Division Ammunition Officer
DOD	Department of Defense
DRB	Division Ready Brigade
DSN	Defense Switch Network
DSS	Decision Support System
DTO	Division Transportation Officer
DTS	Defense Transportation System
DTTS	Defense Transportation Tracking System
EAC	Echelons Above Corps
EAD	Echelons Above Division
ELIST	Enhanced Logistics Intratheater Tool
EOD	Explosive Ordnance Disposal
FC	Floating Causeway
FDO	Flexible Deterrent Options
FLO/FLO	Float on Float off
FLS	Forward Logistic Site
FMCC	Force Movement Control Center
FORCEFLO	Force Flow
FORCEGEN	Force Generation
GCCS	Global Command and Control System
GCCS-A	Global Command and Control System–Army
GEOLOC	Geographic Location Codes
GPS	Global Positioning System
GS	General Support
GSORTS	Global Status of Resources and Training Systems
GTN	Global Transportation Network
HET	Heavy Equipment Transporter
HNS	Host Nation Support
HSS	Health Service Support
IBS	Integrated Booking System
ICLF	Improved Container Lifting Frame
ICODE	Integrated Computerized Deployment System

IPB	Intelligence Preparation of the Battlefield
ISB	Intermediate Staging Base
ITO	Installation Transportation Officer
ITV	In-transit Visibility
JAOC	Joint Air Operation Center
JDIS	Joint Deployable Intelligence System
JFACC	Joint Force Air Component Commander
JFAST	Joint Flow and Analysis System for Transportation
JFC	Joint Force Commander
JFUB	Joint Facilities Utilization Board
JLOTS	Joint Logistics Over-the-Shore
JMASS	Joint Modeling and Simulation System
JMC	Joint Movement Center
JMCIS	Joint Maritime Command Information System
JOPES	Joint Operation Planning and Execution System
JPEC	Joint Planning and Execution Community
JSCP	Joint Strategic Capabilities Plan
JTAV	Joint Total Asset Visibility
JTB	Joint Transportation Board
JTF	Joint Task Force
KBLPS	Knowledge Based Logistics Planning Shell
LAD	Logistics Anchor Desk
LASH	Lighter Aboard Ship
LIPS	Logistics Information Processing System
LMSR	Large Medium Speed Roll-on/Roll-off
LNO	Liaison Officer
LOC	Line of Communication
LOGCAP	Logistics Civilian Augmentation Program
LOTS	Logistics Over-the-Shore
LSE	Logistics Support Element
MA	Marshaling Area
MADCAP	Mobilization and Deployment Capability Assurance Project
MAGTF	Marine Air Ground Task Force
MCA	Movements Control Agency

MCB	Movement Control Battalion
MCO	Movement Control Officer
MCS	Modular Causeway System
MCT	Movement Control Team
MDSS	MAGTF Deployment Support System
MEDEVAC	Medical Evacuation
MEE	Mission Essential Equipment
MEF	Marine Expeditionary Force
METL	Mission Essential Task List
METT-TC	Mission, Enemy, Troops, Terrain–Time and Civilian Considerations
MHE	Materiel Handling Equipment
MIDAS	Model for Intertheater Deployment by Air and Sea
MILSTAMP	Military Standard Transportation and Movement Procedures
MOB	Main Operating Base
MOG	Maximum on Ground
MSC	Military Sealift Command
MSEL	Master Scenario Events List
MSL	Military Shipping List
MSR	Main Supply Route
MTMC	Military Traffic Management Command
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological, Chemical
NCA	National Command Authorities
NCC	Naval Component Command; Network Control Center
NEO	Noncombatant Evacuation Operation
NEW	Net Explosive Weight
NRG	Notional Requirements Generator
NTC	National Training Center
OMC	Optical Memory Card
OPCON	Operational Control
OPLAN	Operation Plan
OPORD	Operation Order
OPP	Off-Load Preparation Party

OPSEC	Operations Security
POD	Port of Debarkation
POE	Port of Embarkation
POMCUS	Prepositioned Organizational Material Configured in Unit Sets
PORTSIM	Port Simulation
PSA	Port Support Activity
RDA	Requirements Development and Analysis
REFORGER	Return of Forces to Germany
RF	Radio Frequency
RFAS	Reaction Forces Air Staff
RFID	Radio Frequency Identification
RIB	Rapidly Installed Breakwater System
RM	Resource Manager
RO-RO	Roll on–Roll off
RRDF	Roll-on/Roll-off Discharge Facility
RSO&I	Reception, Staging, Onward Movement, and Integration
RTCH	Rough Terrain Container Handler
S&M	Scheduling and Movement
SAIS	Sea-to-Air Interface Site
SATCOM	Satellite Communications
SLRP	Survey, Liaison, Reconnaissance Party
SMO	Strategic Mobility Officer
SOF	Special Operations Force
SOP	Standing Operating Procedure
SPM	Single Port Manager
SPOD	Seaport of Debarkation
SPOE	Seaport of Embarkation
SSSC	Self Service Supply Center
STAMIS	Standard Army Management Information Systems
SUMMITS	Scenario Unrestricted Mobility Model for Intratheater Simulation
TAA	Tactical Assembly Area
TACC	Tanker Airlift Control Center
TACS	Theater Air Control System
TALCE	Tanker Airlift Control Element

TARGET	Theater Analysis and Preplanning Graphical Execution Toolkit
TAT	To Accompany Troops
TAV	Total Asset Visibility
TC-ACCIS	Transportation Coordinator – Automated Command and Control System
TC-AIMS II	Transportation Coordinator's Automated Information for Movement System II
TCC	Transportation Component Command
TCMD	Transportation Control and Movement Document
TOFM	Theater Opening Force Module
TPFDD	Time Phased Force Deployment Data
TSB	Theater Staging Base
TSC	Theater Support Command
TT Bde	Terminal Transfer Brigade
TTP	Trailer Transfer Point
TUCHA	Type Unit Characteristics
UIC	Unit Identification Code
UMD	Unit Movement Data
UMO	Unit Movement Officer
UMP	Unit Movement Plan
ULN	Unit Line Number
UN	United Nations
USAMC	United States Army Materiel Command
USAMMA	United States Army Medical Materiel Agency
USAREUR	United States Army Europe
USCG	United States Coast Guard
USTRANSCOM	United States Transportation Command
WEAR	Wartime Executive Agency Requirement
WPS	Worldwide Port System
WWMCCS	Worldwide Military Command and Control System

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