December 1994

Ensuring Effective Port Operations During Contingencies and War

MT402MR1

Edward T. Fortunato
Claude D. Perkins, Jr.

Prepared pursuant to Department of Defense Contract MDA903-90-C-0006. The views expressed here are those of the Logistics Management Institute at the time of issue but not necessarily those of the Department of Defense.

Logistics Management Institute
2000 Corporate Ridge
McLean, Virginia 22102-7805

REPORT DOCUMENTATION PAGE

Form Approved
OPM No.0704-0188

1. AGENCY USE ONLY *(Leave Blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	Dec 94	Final

4. TITLE AND SUBTITLE

Ensuring Effective Port Operations During Contingencies and War

5. FUNDING NUMBERS

C MDA903-90-C-0006

PE 0902198D

6. AUTHOR(S)

Edward T. Fortunato, Claude D. Perkins, Jr.

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Logistics Management Institute
2000 Corporate Ridge
McLean, VA 22102-7805

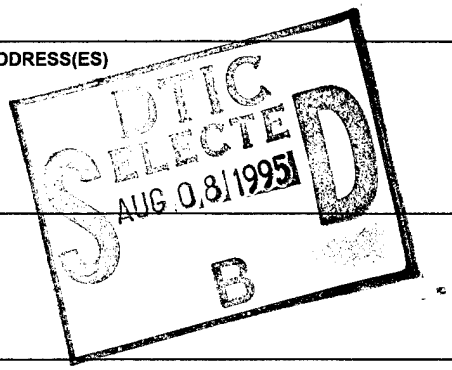
8. PERFORMING ORGANIZATION REPORT NUMBER

LMI– MT402MR1

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Commander
Military Traffic Management Command
5611 Columbia Pike
Falls Church, VA 22041-5050

10. SPONSORING/MONITORING AGENCY REPORT NUMBER



11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

A: Approved for public release; distribution unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT ***(Maximum 200 words)***

The Military Traffic Management Command (MTMC) operates 24 common user ports worldwide. As a consequence of those activities, MTMC can be considered the DoD's expert on port operations and capabilities. In spite of that expertise, theater commanders-in-chief (CINCs) often to not call upon MTMC to assist in planning for port operations in support of military contingencies; MTMC's role in aiding the execution of those plans is also inconsistent.

This report presents a concept for expansion of MTMC's role in predeployment port planning and in the management and operation of ports during contingencies and war. Although referred to as the "single port manager" concept, it does not propose any changes to the authority of the theater CINCs who establish the actual command, control, and operational relationships within their areas of responsibilities. Instead, the concept envisions the Commander, MTMC taking a number of actions to create the necessary foundation for expanding MTMC's responsibilities in port planning and operations through normal command and doctrinal channels.

14. SUBJECT TERMS

15. NUMBER OF PAGES

62

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL

Executive Summary

The Military Traffic Management Command (MTMC) operates 24 common user ocean ports worldwide. It also routinely books Department of Defense (DoD) cargo with commercial carriers; contracts for terminal services; interfaces with host nations on port-related issues; prepares ship manifests and other documentation; develops and operates port management systems; and, when requested, conducts surveys of port capabilities throughout the world. As a consequence, MTMC is uniquely qualified as the DoD's expert on water port operations and capabilities. Its role in planning for military contingencies worldwide and aiding in their execution is not clearly defined, however. That shortcoming needs to be corrected.

In this report, we propose a single port manager concept that calls for MTMC to focus its efforts during wartime and contingencies in two key areas: predeployment planning and port operations support. We address each of these areas in more detail below.

Predeployment Planning

The staffs of the theater Commanders-in-Chief (CINCs) – Central Command (CENTCOM); European Command (EUCOM); Pacific Command (PACOM); and Southern Command (SOUTHCOM); as well as the Atlantic Command (ACOM), – perform much of the key planning for specific military contingencies. In addition to determining the force packaging, command relationships, and requirements for troops, unit equipment, and sustainment cargo, that planning extends down to detailed evaluations of the

- physical capability of various ports to support the throughput of unit equipment and sustainment cargo,
- availability of host nation labor and equipment to offload ships, and
- adequacy of rail and road networks serving the ports.

These and related evaluations focus on issues that MTMC routinely addresses during peacetime. Nonetheless, MTMC does not have a full-time presence on any of the CINCs' staffs for the explicit purpose of assisting in the assessment of port alternatives and selecting ports for use in specific

contingencies. It has a liaison officer on the EUCOM staff who performs freight and household goods support. It also has senior military officers in EUCOM, PACOM, and SOUTHCOM whose primary duties are commanding ports and handling a wide range of duties involving traffic management, predeployment port planning and port operations, and theater-level planning. However, those officers are not explicitly assigned to a CINC's staff for port planning purposes.

As corrective action, we recommend the Commander, MTMC take the following actions:

- *Request CINC United States Transportation Command (CINCTRANS) offer CINCCENTCOM a permanent or part-time MTMC representative to serve on his staff for purposes of aiding in the predeployment planning for port openings, management, and operations.*

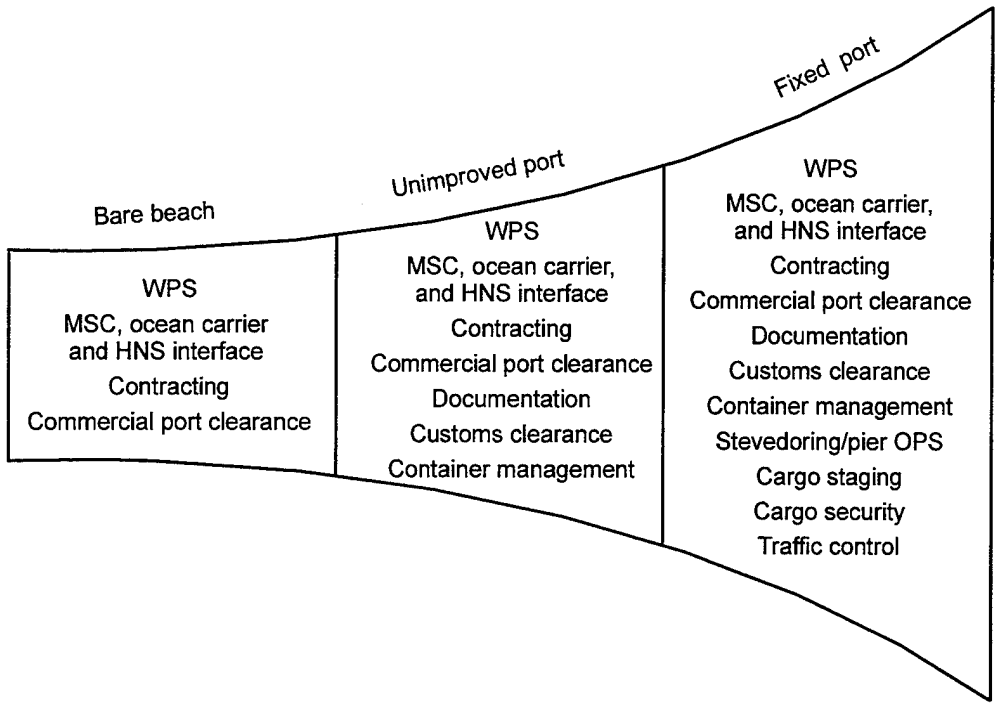
- *Evaluate MTMC representation on the other CINCs' staff to determine if it is adequate for predeployment port planning. At a minimum, the role of the current MTMC representatives must be more clearly defined and strengthened.*

We believe that such representation is fundamental to the single port manager concept and would enhance the port planning capability of the CINC's staffs. It would also provide a direct linkage between MTMC's long-standing expertise in port operations during peacetime to the planning for port operations in support of military contingencies. Our recommendations do not address command, control, and operational relationships because they are established by the theater CINC and vary by operational scenario.

PORT OPERATIONS SUPPORT

The function of operating ports during wartime is complex and highly dependent on the types of ports being used. Our single port manager concept calls for MTMC to have a formal role in both predeployment planning and port operations support. Figure 1 graphically illustrates our concept for port operations support. At the far left of the figure, representing bare beach operations, MTMC's responsibilities would be relatively few because unit equipment and sustainment cargo would be offloaded in a bare beach environment, dictating use of the U.S. Army's 7th Transportation Group or other Military Service's similar capability. However, as ports become more developed and commercial capability becomes available, MTMC's role would expand to eventually encompass all aspects of port management and operations.

We discuss this concept in more detail below using three scenarios to illustrate how MTMC's single port manager role would vary by port. We also address MTMC's role in retrograde shipments.



Note: WPS = Worldwide Port System; MSC = Military Sealift Command; HNS = Host Nation Support; OPS = Operations.

Figure 1.
Single Port Manager Concept — MTMC's Role in Port Operations Support

Bare Beach

In this scenario, piers and wharves would not be available. Unit equipment and cargo would be brought ashore via lighters from ships at anchor, discharged at the beach, and staged for clearance to inland destinations. These functions are primarily military and assigned to the Marine Corps for discharging the Maritime Preposition Ships; the Navy Expeditionary Logistics Support Force (ELSF); and the U.S. Army's 7th Transportation Group, which has the capability to discharge ships off shore, transport the cargo on lighterage to the beach, and then move the cargo off the beach. Currently, MTMC is neither staffed nor equipped to conduct the offload of unit equipment and sustainment cargo under these conditions. Even in this scenario, however, MTMC could have a standing role in those areas where it has unique skills and experience. Those areas include

- operating the Worldwide Port System (WPS),
- interfacing with host nations on port-related issues and with the Military Sealift Command and ocean carriers on cargo-related matters,

- contracting for services or equipment, and
- arranging for port clearance when commercial transportation is used.

We estimate that providing these services at a bare beach would require six full-time MTMC representatives at a cost of approximately $7,200 for individual field gear and $6,500 for mission equipment [excluding that available through the WPS program and International Maritime Satellite (INMARSAT) communications]. In the body of this report, we identify some alternative sources for the manpower spaces and funds required by this and each of the other two scenarios.

Unimproved Port

In this scenario, much of the unit equipment and sustainment cargo would be delivered by self-sustaining ships because the port either could not support the volume or lacks the necessary pier or offload capability. The port could also lack some of the infrastructure, such as material handling equipment, labor, or communications, to support the offload function. Under these circumstances, the 7th Transportation Group, Marine Corps landing support battalions, or Navy ELSF would have the responsibility for offloading the ships and providing most of the stevedoring and other hands-on services. Under the single port manager concept we propose, MTMC's role would include not only those functions outlined under the bare beach scenario, but also.

- provide documentation services, including outturn reports, vessel papers, and billing;
- develop and supervise contracts for port operations, including equipment, stevedoring, and materials;
- coordinate customs clearance based on established procedures and policies with host nations; and
- manage containers, including accountability, tracking, and reporting.

We estimate that providing these services at each unimproved port would require approximately 26 full-time MTMC representatives and $31,200 for individual field gear. Other mission equipment would cost another $79,200, again exclusive of the equipment available through WPS and INMARSAT.

As the port facilities are upgraded, MTMC could assume additional operational responsibilities after the initial surge, which would free the 7th Transportation Group to move either inland or to a new area.

Fixed Port

In this scenario, all unit equipment and sustainment cargo would flow through a large commercial port with container and breakbulk capabilities. Stevedore companies would be available to offload the ships, and the port's infrastructure would be adequate to support all requirements for special equipment or services. This type of port is comparable to those that MTMC now operates throughout the world. To capitalize upon that experience, the single port manager concept that we propose calls for MTMC to perform the full range of port functions that it currently provides largely through commercial contracts. Therefore, in addition to those functions outlined for an unimproved port, MTMC would provide

- stevedoring and pier operations,
- cargo staging to warehouse and intransit storage locations,
- security of cargo, and
- traffic control within the port.

We estimate that providing these services at each fixed port would require 45 full-time MTMC representatives and a maximum of $54,000 for individual field gear. Mission equipment would cost an additional $118,800, exclusive of the equipment available through WPS and INMARSAT.

Retrograde Shipments

When the military action is completed, unit equipment and cargo must be returned to CONUS or redeployed to another theater. Since the steps involved in reprocessing equipment through a port are identical to those that MTMC followed in outloading the units originally, it is the logical organization to assume responsibility for that important function. MTMC's responsibilities would include arranging for shipping services, developing stowage plans, staging the equipment and cargo, calling forward the equipment and cargo for loading, and serving as the ocean cargo clearance authority.

Port Operations Support Recommendations

It is important for MTMC to institutionalize this concept of expanded responsibilities in port operations during contingencies. As first steps toward realizing that objective, we recommend the Commander, MTMC take the following actions:

- *Request CINCTRANS renegotiate existing Command Arrangement Agreements (CAAs) with individual theater CINCs to specify MTMC's role in port predeployment planning and port operations support, and propose specifications to the CAAs that could serve as the basis for discussion of these renegotiations.*

- *Request CINCTRANS propose that MTMC be included in the Joint Chiefs of Staff Training Program for purposes of establishing training opportunities in each theater.*

- *Establish a training relationship with the 7th Transportation Group and others, particularly in planning for and participating in bare beach operations, port opening exercises, and operating WPS.*

- *Propose specific modifications to joint doctrine that embody the concepts of MTMC performing various port operations functions during contingencies.*

SUMMARY

The single port manager concept for expanding MTMC's role beyond its traditional peacetime practices embodies both planning for port operations during contingencies and providing port operations support during operations. The above recommendations for accomplishing that expansion build from the predeployment planning function. Formal representation on the theater CINCs' staffs is a key step. Additionally, MTMC's role in port operations should be defined through CAAs and joint doctrine.

We also envision the theater CINCs making the best possible use of the unique capabilities of MTMC and other military organizations in opening and supporting port operations during contingencies. Our recommendation for MTMC to initiate joint training arrangements with the 7th Transportation Group is aimed at establishing a partnership between these two key organizations, with an ultimate goal of enhanced port operations in contingencies and war.

Contents

Contents (Continued)

CHAPTER 1

Introduction

STATEMENT OF PROBLEM

The Military Traffic Management Command (MTMC) operates 24 common user ports worldwide. It also routinely books Department of Defense (DoD) cargo with commercial carriers; contracts for terminal services; interfaces with host nations on port-related issues; prepares ship manifests and other documentation; develops and operates port management systems; and, when requested, conducts surveys of port capabilities throughout the world. As a consequence of those activities, MTMC can be considered the DoD's expert on port operations and capabilities. In spite of that expertise, theater Commanders-in-Chief (CINCs) often do not call upon MTMC to assist in planning for port operations in support of military contingencies; MTMC's role in aiding the execution of those plans is also inconsistent. We believe these oversights need to be corrected.

PURPOSE OF REPORT

This report presents a concept for expansion of MTMC's role in predeployment port planning and in the management and operation of ports during contingencies and war. Although referred to as the "single port manager" concept, it does not propose any changes to the authority of the theater CINCs who establish the actual command, control, and operational relationships within their areas of responsibilities. Instead, the concept envisions the Commander, MTMC taking a number of actions to create the necessary foundation for expanding MTMC's responsibilities in port planning and operations through normal command and doctrinal channels.

BACKGROUND

Doctrine

Department of Defense (DoD) Directive 5158.4, "United States Transportation Command," 8 January 1993, charges the CINC of the United States Transportation Command (CINCTRANS) with providing "...air, land, and sea transportation for the Department of Defense; both in time of peace and time of war." It also designates CINCTRANS as the DoD's "single manager for transportation, other than Service unique or theater-assigned transportation assets."

MTMC is the Army component of the United States Transportation Command (USTRANSCOM).

A draft of Joint Pub 4-01, "Joint Doctrine for the Defense Transportation System," prescribes that ". . . Under the combatant command of USTRANSCOM, MTMC provides common user terminal services . . . to deploy, employ, and sustain US forces on a global basis." It also indicates that the establishment of seaport cargo discharge and cargo clearance capability is the responsibility of the CINC's Army component transportation units, which may include MTMC representation. The publication further states that the theater CINCs are responsible for requesting MTMC support in the operation of overseas ports through CINCTRANS.

Joint Pub 4-01.5, "Joint Tactics, Techniques, and Procedures for Water Terminal Operations," 16 June 1993, expands on CINCTRANS' (and consequently MTMC's) responsibilities for terminal or port operations. It states that CINCTRANS is responsible for the selection and operation of water terminals in CONUS, while the theater CINCs have similar responsibility in overseas areas. It does note, however, that theater CINCs, through Command Arrangement Agreements (CAAs), may "allow" CINCTRANS to operate some or all terminals in their theaters.

These documents clearly assign CINCTRANS substantial responsibility in the areas of port operations, but that responsibility does not include predeployment planning and subsequent execution in support of military contingencies.

Current Relationships

CINCTRANS has established a variety of relationships on port-related matters with the theater CINCs (as well as the Atlantic Command), as the following synopses illustrate.

- *European Command (EUCOM).* MTMC has a liaison officer on the CINC's staff. That officer primarily addresses command issues involving freight and household goods shipments, but seldom participates in deliberate or crisis planning functions. MTMC also has an O-6 commanding MTMC Europe (MT-EUR). The MT-EUR commander oversees the operation of all MTMC ports in the theater and serves as a port-planning advisor to the CINC's staff when requested. (Table 1-1 identifies the 24 ports that MTMC operates on a daily basis throughout the world, with 9 in EUCOM.) However, since MT-EUR and the CINC's staff are not collocated, the MT-EUR commander is not routinely involved in CINC planning tasks.

- *Pacific Command (PACOM).* Although MTMC does not have a liaison officer assigned to the CINC's staff, an O-6 commands MTMC Pacific (MT-PAC). The MT-PAC commander oversees the day-to-day operations of MTMC ports in the Pacific theater and, when called upon, advises the CINC's staff

on port-related issues. The MT-PAC commander and the CINC's staffs are both located in Oahu, Hawaii.

- *Southern Command (SOUTHCOM).* The senior MTMC representative in SOUTHCOM is an O-5, who is dual hatted as the commander of the port at Balboa and MTMC's liaison office. As MTMC's liaison, the officer may be requested to participate in port planning exercises.

- *Central Command (CENTCOM).* MTMC has neither a representative on the CINC's staff nor a port commander in the theater. MTMC does not operate any ports in CENTCOM.

- *Atlantic Command (ACOM).* MTMC has no representative on the CINC's staff, but has provided liaison officers during contingencies.

These relationships, despite MTMC's knowledge and expertise, suggest that MTMC's involvement in predeployment planning for port operations during contingencies and war, along with the actual operation of those ports, has not been effectively used in many cases.

Table 1-1.
MTMC Ports — Peacetime

CONUS	OCONUS	
Bayonne	Balboa	Iskenderun
Baltimore	San Juan	Pusan
Sunny Point	Azores	Yokohama
Charleston	Felixstowe	Okinawa
Cape Canaveral	Mannheim	
New Orleans	Rotterdam	
Beaumont	Bremerhaven	
Compton	Leghorne	
Oakland	Pireaus	
Seattle	Izmir	

Recent Experience

Sealift transported approximately 85 percent of all dry cargo tonnage required in support of Desert Shield/Storm. That percentage was even higher during World War II, Korea, and Vietnam. Although MTMC did not have a significant role during the initial stages of planning for in-theater ports for Desert Shield/Storm, it eventually was assigned increased responsibility, culminating in the complete takeover of all waterport management and operations for redeployment and retrograde shipments.

The recent world situation has thrust the nation into a number of humanitarian support roles, such as those required in Somalia, Rwanda, and Haiti. The result has been military involvement in opening and operating ports in overseas areas, much as would occur during military contingencies. However, in spite of processing approximately 8.2 million measurement tons of dry cargo through its ports in FY93, MTMC was not tasked to support the Somalia/Mogadishu contingency and its mission in Haiti was unclear at the outset. Nonetheless, it was involved in the Rwanda support, primarily assisting in the predeployment planning for port operations at Mombassa and then managing the actual port operations at Mombassa.

The inconsistency of MTMC involvement in port predeployment planning and the management and operations of ports during contingencies and war could result in difficult transitions when MTMC is tasked to replace military organizations running the ports, particularly for redeployment and retrograde movements. More importantly, the DoD is not capitalizing upon MTMC's expertise in port operations during the crucial predeployment planning phase. The proposed single port manager concept is designed to eliminate these shortcomings.

Organization of Report

Chapter 2 presents our concept for a single port manager. To aid in describing the operations portion of that concept, we use three different types of ports — bare beach, unimproved, and fixed — as described in Joint Pub 4-01.5 — to illustrate the various responsibilities that MTMC could assume.

Chapter 3 shows the resources required to implement the single port manager concept, again using the different types of ports for illustrative purposes. It also addresses the training requirements of the single port manager concept.

Chapter 4 provides a detailed plan for MTMC to follow if it elects to implement the single port manager concept.

A series of appendices provide supporting details.

CHAPTER 2

Operating Concept

OVERVIEW

Succinctly stated, the single port manager concept embodies the philosophy that MTMC has the necessary port operations expertise that warrants it being involved in all predeployment planning for military contingencies and in the subsequent operation of the ports during the actual military engagement. However, since the port operations function varies widely from one scenario to another, the degree of MTMC involvement also varies, depending on the capabilities of the ports being used. As a consequence, the specific responsibilities of MTMC in the port operations portion of the single port manager concept can only be illustrated using notional ports.

PREDEPLOYMENT PLANNING

The central feature of the single port manager concept is MTMC representation on the CINC's staffs to aid in the planning for military contingencies. Those staffs perform much of the planning for specific military contingencies. This planning consists of predeployment planning for operational plans (deliberate); for contingency (execution) planning; and on the ground in the area of operations for port assessment and redeployment planning. In addition to determining the force packaging; command relationships; and requirements for troops, unit equipment, and sustainment cargo; they perform detailed evaluations of the

- physical capability of various ports to support the throughput of unit equipment and sustainment cargo,
- availability of host nation labor and equipment to offload ships, and
- adequacy of rail and road networks serving the ports.

These and related evaluations focus on issues that MTMC routinely performs in support of its normal peacetime responsibilities.

As noted previously, however, MTMC has a variety of relationships with the theater CINCs, ranging from liaison officers and terminal commanders to no representation within a given CINC's area of responsibility. Before the single port manager concept can become a reality, this situation needs to be corrected.

We recommend that the Commander, MTMC take the following actions:

- *Request CINCTRANS offer CINCCENTCOM a permanent or part-time MTMC representative to serve on his staff for purposes of aiding in the predeployment planning for port openings, management, and operations.*

- *Evaluate MTMC representation on the other CINCs' staff to determine if it is adequate predeployment port planning. At a minimum, the role of the current MTMC representatives must be more clearly defined and strengthened.*

Ideally, all staff assignments should be in the CINC's J-4 office. Such assignments would enable the MTMC representatives to develop close working relationships with the CINC's staffs and become familiar with the theater Operational Plans. They would also facilitate establishing relationships with host nation personnel; requesting port-assessment and throughput assessment capabilities from the Transportation Engineering Agency; and drawing upon the port infrastructure intelligence data available in the USTRANSCOM Joint Intelligence Center. The specific predeployment planning responsibilities of the MTMC representatives should include evaluating port requirements; assessing the capabilities of road and rail networks, telecommunications, host nations, and alternative ports; identifying shortfalls in capabilities; recommending solutions to those shortfalls; relaying the CINC's priorities to port managers; and coordinating transportation requirements with USTRANSCOM, Air Mobility Command (AMC), and Military Sealift Command (MSC).

PORT OPERATIONS SUPPORT

The function of operating ports during contingencies is complex and highly dependent on the size of the operation, the political climate, the availability of commercial support, and the sophistication of existing facilities. As a consequence, the specific types of port operations support that MTMC would provide under our single port manager concept depends upon the requirements of the contingency. Figure 2-1 illustrates graphically, this notion of varying MTMC support, using three categories of ports based on their physical facilities – a bare beach, an unimproved port, and a fixed port as defined in Joint Pub 4-01.5. The far left of the figure indicates that MTMC would have few responsibilities in a bare beach operation because military units, particularly the U.S. Army 7th Transportation Group, would offload the unit equipment and sustainment cargo. However, as ports become more developed and commercial capability becomes available (indicated by the unimproved and fixed ports), MTMC's role would expand to eventually encompass all aspects of port management and operations.

In the balance of this section, we examine how MTMC's single port manager role would vary in each of these three scenarios. We also address MTMC's role in retrograde and redeployment shipments.

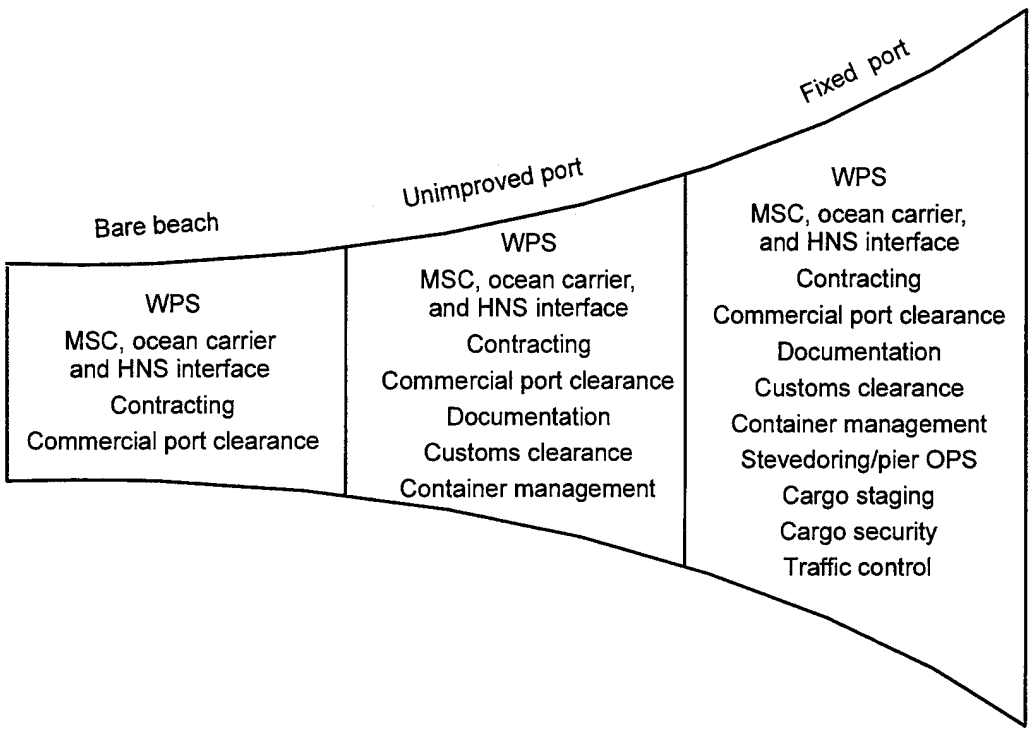


Figure 2-1.
Single Port Manager Concept — MTMC's Role in Port Operations Support

Bare Beach

The low end of the spectrum of port operations support would consist of an austere environment with no existing port facilities. This situation could be considered the worst case, especially if the level of hostility compounds the demands for supporting United States or friendly forces in the form of area security, antiaircraft protection and waterside surveillance and defense. A basic commercial infrastructure would not exist, piers and wharves would either not be available or not support the draft requirement of arriving ships. Unit equipment and sustainment cargo would be brought ashore via lighters from ships at anchor, discharged at the beach or shallow draft piers, and staged for clearance to inland destinations. This is the environment for which the Army's 7th Transportation Group; the Navy's Expeditionary Logistics Support Force (ELSF); and to a lesser extent, the Marine's landing support battalions are trained and equipped to support.

In this environment, MTMC would have relatively few responsibilities. Since its Worldwide Port System (WPS) is now the DoD's standard port operating system for use at all common user ports, including logistics-over-the-shore (LOTS) operations, MTMC would supplement the military capability operating WPS; arranging for host nation support, as required; interfacing with MSC and ocean carriers on shipping related issues; providing any needed contracting

support for port services and equipment; and arranging for port clearance when commercial transportation services are used. (As manager of the CONUS seaports of embarkation, MTMC would also be responsible for submitting in-transit visibility information to the Global Transportation Network for eventual transmission to the theater seaports.) As the situation matures, MTMC could assume a more active role in the traffic management process.

Unimproved Port

In some contingencies, port operations would be conducted at existing ports that are considerably less advanced than those in CONUS and in other developed countries. Container discharge capability would either be very limited or not available; containers would need to be discharged from ships at anchor or delivered by self-sustaining ships; drafts at existing berths would probably not be adequate; and the piers or quays would not be long enough for modern ocean going cargo ships. Although commercial shipping would exist at a rudimentary level, the infrastructure of the port, including labor, materials handling equipment, and communications, would be inadequate. Under these types of conditions, the 7th Transportation Group, Navy ELSF, or Marine Corps landing support battalions would be responsible for offloading the ships and providing most of the stevedoring and other hands-on services.

However, MTMC would have an expanded role beyond that envisioned for a bare beach operation. It could even be similar to that performed in Mombassa, where MTMC arrived early to perform a detailed port assessment, coordinated with the host nation and the task force commander, and identified personnel and equipment required to perform the mission. MTMC also managed the port, and both military stevedore units and host nation commercial contractors. In addition to those functions proposed under the bare beach scenario, MTMC would provide documentation services, to include preparing outturn reports, processing of vessel papers, and billing; preparing performance work statements for stevedoring and related port contracts; determining custom clearance procedures and policies with the host nations; and managing containers, including accountability, tracking, and reporting.

As the port facilities are upgraded, MTMC could assume additional responsibilities after the initial surge, which would free military units, such as the 7th Transportation Group, to move either inland or to a new area of operations.

Fixed Port

In this scenario, all unit equipment and sustainment cargo would flow through a large commercial port with container and breakbulk capabilities. Stevedoring companies would be available to offload the ships, and the port's infrastructure would be adequate to support all requirements for special equipment and services. This type of port is comparable to those that MTMC now operates

throughout the world. To capitalize upon that experience, our single port manager concept calls for MTMC to perform the full range of port functions that it currently provides largely through commercial contracts. In addition to those functions outlined for an unimproved port, MTMC would provide stevedoring and pier operations, cargo staging to warehouse storage locations, cargo security, and traffic control within the port area.

Navy Ports

MTMC's port responsibilities are for common user ports. Navy unique ports are established for fleet support. They are designated by theater CINCs in consultation with the Navy. However, the Navy has agreed to use MTMC's WPS as its port management information system. Therefore, when another Military Service or DoD agency ships cargo through a Navy port, it will be documented, managed, and reported through WPS, similar to all common user cargo. Hence, MTMC's role as single port manager encompasses all common user cargo passing through Navy ports, by the use of WPS.

Retrograde and Redeployment

MTMC is especially well suited to handle all retrograde and redeployment operations. Upon completion of the military action, unit equipment and cargo must be returned to CONUS, shipped to another overseas location, or placed aboard ships as afloat preposition cargo. The port operations functions associated with those tasks are identical to those that MTMC performed at the seaport port of embarkation when the equipment and cargo were outloaded and deployed, and mirrors what occurs in MTMC's operational ports today.

In support of retrograde and redeployment operations, MTMC's responsibilities would include the whole gamut of port operations to include booking the equipment and cargo with ocean carriers, controlling its flow to the port, preparing stowage plans, staging the equipment and cargo, calling it forward to the ships for loading, preparing the ships' manifests, and serving as the ocean cargo clearance authority. MTMC is eminently qualified to perform these functions.

Since the Transportation Coordinators Automated Command and Control Information System (TC ACCIS), which MTMC developed, is used to document unit cargo for deployment, it should also be used to document the movement of units out of theaters. As a result of its expertise in the use of TC ACCIS, MTMC could be of great assistance to the units and ensure that quality documentation is prepared and the information entered into WPS, which ultimately feeds the Global Transportation Network.

Multiport Scenario

Previously, we discussed MTMC's single port manager responsibilities assuming one port is in operation. In some contingencies however, multiports may be in operation and MTMC's responsibilities would expand further to include

- monitoring the backlog of ships and cargo to be discharged or loaded;
- adjusting workload in accordance with port operations capability;
- monitoring and expanding contract arrangements; and
- providing situation reports on the loading, receipt, and discharge of units and cargo.

Under this multiple port scenario we envision that a management organization would be formed that falls between the theater staff and port operations, and be the link to the theater J-4 MTMC representative and to the joint task force commander. To estimate MTMC's staffing requirement under this scenario, we assumed the number of personnel required to operate MTMC's terminal command in Europe would be required, less the overhead and housekeeping elements. As shown in Table 2-1, such an operation would require approximately 26 people.

Table 2-1.
MTMC Personnel Requirements Under a Multiport Scenario

Staff section	Personnel
Command group	4
Contract management	3
Safety/hazardous cargo	1
Administration	2
Operations	8
Ocean cargo clearance authority	6
Legal	2
Total	26

Recommendations

Our proposed concept for expanded MTMC responsibility in port operations during contingencies can only be made a reality if the Commander, MTMC takes a series of actions. At a minimum, we recommend that the Commander, MTMC:

- *Identify those functions that MTMC is best qualified to perform in predeployment planning and various port operations.*
- *Request CINCTRANS renegotiate existing CAAs with individual theater CINCs to specify MTMC's role in port predeployment planning and port operations support and propose specifications to the CAAs that could serve as the basis for discussion of these renegotiations.*
- *Propose specific modifications to joint doctrine, such as Joint Pubs 4-01 and 4-01.5, that embody the concept of MTMC performing various port responsibilities during contingencies.*

SUMMARY

This chapter presents a proposed single port manager concept for MTMC that addresses predeployment planning and port operations functions during contingencies. It also provides a series of recommendations that, if acted upon, would help to formalize the concept with theater CINCs and in joint doctrine.

CHAPTER 3

Training and Resources

INTRODUCTION

This chapter identifies the training and resource requirements of our proposed single port manager concept for MTMC. The training requirements primarily address the joint training implications of the concept, while the resource requirements examine the associated personnel, equipment, and funding issues.

Training

To serve effectively as a single port manager, MTMC must participate in a variety of exercises that entail the use of ports, whether joint, Military Service, command post, or field exercises. It should also include routine, but less formal training with the Military Services.

One of the most important training opportunities for MTMC is the Joint Chiefs of Staff (JCS) Training Program. The planning, programming, and budgeting for joint exercises are accomplished in accordance with the normal budget cycle, and detailed exercise planning begins approximately two years out. As a consequence, MTMC needs to work with the CINCs when they are preparing their long-range training plans. Additionally, MTMC needs to seek participation in the CINCs' annual war games, particularly those that involve the use of ports. To ensure that MTMC has the appropriate access to joint training opportunities, we recommend the Commander, MTMC take the following action:

- *Request CINCTRANS propose that MTMC be included in the JCS Training Program for purposes of establishing training opportunities in every theater.*

In concert with the joint training exercises, MTMC needs to establish a training relationship with the Army's 7th Transportation Group, and, to a lesser extent, with the Navy's ELSF and Marine Corps' landing support battalions. The key is to develop training relationships with organizations that they could share port responsibilities with during contingencies. During those training exercises, MTMC should strive to perform many of the functions referred to in the notional scenarios presented to illustrate the proposed single port manager concept, as

appropriate. We believe that such relationships warrant recommending that the Commander, MTMC:

- *Establish a training relationship with the 7th Transportation Group, and other organizations as appropriate, with emphasis on planning for and participating in bare beach operations and port opening exercises, and operating WPS.*

As a means of complementing the official training exercises, MTMC should also routinely visit the 7th Transportation Group, ELSF units, and landing support battalions. The purpose of those visits should be threefold: observe unit training, understand the capabilities of those organizations, and get to know the senior leaders.

Looking at training opportunities from another perspective, MTMC personnel are highly experienced in placing and monitoring port-related contracts, processing shipping documents, and using WPS. Some of the military members of MTMC's training partners could benefit from that experience. We propose that MTMC offer to provide training on activities that its personnel perform on a daily basis, particularly those that military members have difficulty maintaining proficiency because they have few opportunities to perform them regularly. This type of training could be conducted either at the unit's site or a MTMC area command or port. In particular, MTMC can help to train Army contract supervision teams, automated cargo accounting detachments, and cargo documentation teams (J-Teams).

Resources

The proposed single port manager concept will have an effect on MTMC's resources. This section describes that effect and suggests alternatives for its resolution.

Personnel

Since MTMC has already incurred a significant reduction in authorized personnel, it has relatively few options for providing the personnel required to plan, open, manage, or operate overseas ports during a contingency. The additional requirement to support two major regional contingencies further compounds the situation. As a consequence, we believe MTMC needs to consider the use of civilians, reserve, active duty, and contractor personnel.

Military Reserve Components

The President has the authority to activate up to 200,000 members of the Selective Reserve for an initial period of up to 90 days. Members of the MTMC Individual Mobilization Augmentees (IMAs) are included in that call up, and they could serve as a source for the personnel required to support the single port

manager concept. (IMAs may also volunteer for 139 days of active duty in contingencies short of a mobilization or Presidential call up; the time period can also be extended.) However, additional training may be required for IMAs if they are to become members of a port deployment team.

The use of reservists is further complicated because the MTMC reserve Tables of Distribution and Allowance (TDAs) units are established for duty in commercial ports in CONUS. They can and have been deployed overseas as demonstrated during Desert Storm, however, such deployments are made at the expense of operating CONUS ports.

The primary drawbacks of any reserve call up include the time constraint and the administrative processing requirement, which make it an unresponsive source of personnel augmentation. In addition, the reserves may not be activated. Nonetheless, the voluntary activation of reservists appears to have some potential. We recommend that the Commander, MTMC:

- *Explore the possibility of using voluntary activation of selected reserve personnel during a contingency to meet the personnel requirements of the single port manager concept.*

J-Teams

The Army force structure has active and reserve detachment-size transportation units organized under Table of Equipment 55-560, "J-Teams." (See Appendix A for the composition and status of J-Teams.) Those teams, particularly in the active force, are used in a variety of peacetime roles, other than those they would perform during a contingency.

Three of the teams that would be helpful to MTMC are Contract Supervision (JD); Automated Cargo Accounting Detachment (JI); and Cargo Documentation (JB). These teams have difficulty maintaining proficiency during peacetime because they do not perform their primary functions on a daily basis. MTMC, however, routinely performs those functions. If one or more of the teams were routinely trained by MTMC, they would be able to maintain proficiency. We recommend that the Commander, MTMC:

- *Assess the implications on civilian manpower authorization levels of MTMC routinely training J-Teams.*

- *If those implications are manageable, request CINCTRANS seek approval from the Department of the Army to routinely assign J-Teams to MTMC for training.*

"Tiger" Teams

All single port manager requirements for additional personnel beyond those satisfied through the above alternatives will have to be met from existing MTMC

resources. One way of satisfying the personnel requirement would be through the establishment of standby, deployable teams of regular MTMC personnel. Often referred to as tiger teams, they would function much like the teams designated to open CONUS ports during contingencies. One disadvantage of using tiger teams for operating overseas ports is that it would require the use of civilians for deployment missions. The teams would also need to be trained, plus their deployment would deplete their parent organizations. Nonetheless, we believe that tiger teams could be a viable source of personnel to support implementation of the single port manager concept. Consequently, we recommend the Commander, MTMC:

- *Assess the legal and regulatory impediments to assigning civilian personnel to tiger teams for overseas missions; propose changes, as required; and modify the position descriptions of those individuals assigned to tiger teams.*

- *Assess the potential impact of deploying tiger teams on CONUS operations.*

Effect of Different Scenarios

The personnel requirements associated with the single port manager concept are clearly dependent upon the types of ports being used. To satisfy the planning requirements in a scenario similar to Mogadishu, MTMC would need to operate a single discharge berth on a 24-hour per day basis, with assistance from either the 7th Transportation Group or contract stevedores. A cadre team of 20 to 25 personnel would be required to satisfy that requirement. The team would include MTMC management personnel, systems operators, contract specialists, communications specialists, and others.

The suggested staffing for supporting three notional port scenarios is provided in Appendix B, while Appendix C compares existing contingency plans and actual deployments.

We derived the staffing for operating a fixed port in support of a contingency by eliminating all positions associated with functions that could be accomplished by contract and all nonessential positions in two existing MTMC terminal organizations – a TDA reserve battalion and the Bremerhaven terminal. (Appendix D provides supporting details.) The positions eliminated included some in the vessel operations section from the battalion (the stevedore contractor would perform its functions) and the privately owned vehicle processing division from the terminal. The results eventually resulted in a total requirement of between 43 and 45 personnel to operate a fixed port.

EQUIPMENT

As an Army TDA unit, MTMC is not authorized any additional equipment other than that for a peacetime, business environment. Its military members are also not authorized any special equipment, such as weapons, protective masks,

or field gear. As a consequence, all deploying MTMC personnel would need to be issued personal gear and various operational items. In addition, except for mission-unique equipment, no MTMC element would be self supporting, so all base operations support would need to be provided by theater units.

If communications could not be assured in the theater, the deploying MTMC element would need to bring mobile equipment, such as that already available using the INMARSAT system. It would also need to bring portable facsimile and reproduction machines. WPS hardware would also be required. However, WPS hardware has already been approved for 55 Army and 15 Navy units by the end of FY96, so MTMC should be able to identify the necessary hardware. The planned worldwide distribution of WPS will soon enhance MTMC's ability to quickly set up a capability at any port. A small team with a WPS "carryaway" kit dispatched from an overseas MTMC element could be operational within hours. Appendix F presents the fielding schedule for WPS.

Appendix G provides additional detail on other mission-unique equipment items (such as LOGMARS computers, bar code printers and scanners, and personal computers) that MTMC elements would require to carry out their responsibilities under the single port manager concept. The equipment requirements for larger or multiple operations can be obtained through either extrapolation or selective additions.

The overall cost of individual gear and mission equipment to support each of the three notional scenarios — bare beach, unimproved port, and fixed port — is summarized in Table 3-1 below. It shows that the cost of equipment for MTMC to support the bare beach scenario would be approximately $13,700, the cost to support port operations at an unimproved port would total $110,400, and the cost at a fixed port would total $172,800. However, these are initial estimates for single site operations and need to be refined and updated as the single port manager concept becomes more developed. Consequently, we recommend that the Commander, MTMC:

- *Task his staff to identify all equipment necessary to support the single port manager concept for the bare beach, unimproved port, and fixed port scenarios and the potential sources of funding for that equipment.*

Although WPS hardware is also required to support the opening of new ports, it is already funded. In addition, MTMC is using Army Strategic Mobility Program funds to procure "flyaway" kits of administrative-use computers and site-support items for deploying personnel. Therefore, the costs of that equipment are not considered part of the single port manager concept.

Table 3-1.
Individual Gear and Equipment Requirements by Scenario

Scenario	Number of personnel	Individual gear ($000)[a]	Mission equipment ($000)[b]	Total ($000)
Bare beach	6	7.2	6.5	13.7
Unimproved port	26	31.20	79.2	110.4
Fixed port	45	54.0	118.8	172.8

[a] Individual gear shown is for military personnel. Civilian personnel require only climatic and protective gear at reduced cost per individual. An average of $1,200 per individual used in table.

[b] Will be reduced further if CONUS Tiger Team equipment is used.

FUNDING

All operations funds in support of the single port manager concept would be obtained through the Defense Business Operating Fund. The costs would be captured through existing procedures and billed to either a Military Service or theater CINC.

MTMC has one other potential source of funding to support various aspects of the single port manager concept – CINCTRANS Initiatives Funds. Those funds are made available to the various CINCs to meet high priority requirements not funded by other means. The single port manager concept could qualify as such a requirement.

NEXT STEPS

In Chapter 2, we described the proposed single port manager concept and recommended several actions for making that concept a reality. We then detailed in this chapter some of the training necessary for a successful implementation of the concept and identified the resources required if the concept is ever employed during a contingency. In the following chapter, we lay out a plan for MTMC to actually implement the concept.

CHAPTER 4

Implementation

The implementation of the single port manager concept will require extensive support from CINCTRANS, particularly to champion requests for joint doctrine changes and revisions to CAAs. CINCTRANS will also be instrumental in obtaining MTMC representation on the staffs of the theater CINCs to support the key predeployment planning function. However, before seeking CINCTRANS support for the proposed concept, MTMC needs to review and finalize the single port manager concepts outlined in this report.

This chapter aides the Commander, MTMC in moving forward with the single port manager concept by providing a compendium of tasks, with schedules, for implementing the proposed concept. It also assigns responsibility for completing each task. Although we recognize that many of the tasks are beyond MTMC's control, we still provide estimated completion times as a means of displaying the full scope of the required actions. Figure 4-1, which appears at the end of this chapter, summarizes the tasks, action agents and milestones associated with implementing the single port manager concept.

DETAILED TASKS

1.0 Review and Staff Report

The first step in implementing the single port manager concept entails MTMC's Chief of Staff staffing this report throughout MTMC Headquarters. The comments from headquarters elements will help to shape the proposed concept into a viable alternative to current practices.

Lead: Chief of Staff; Support: Staff

2.0 Finalize Single Port Manager Concept

In this task, MTMC will finalize the single port manager concept to include selection of all predeployment planning and port-related functions that the command should perform, both at the theater and individual port levels. It will also consider the realities imposed by available resources. The decisions in this task will drive the remaining tasks.

Lead: Command Group; Support: Staff

2.1 Select Predeployment Planning and Port Operations Support Functions

In this subtask, MTMC will identify the specific functions that it will perform under the single port manager concept, including predeployment planning and port operations support. MTMC also needs to identify those functions it would perform under a multiport environment.

Lead: DCSPLANS[1]; Support: Staff

2.2 Finalize Resource Requirements

In this subtask, MTMC will review and finalize the manpower, equipment and funding resource estimates provided in this report. MTMC also needs to identify the source for personnel to fill those manpower spaces.

Lead: DCSRM; Support: DCSPAL, DCSIM, DCSPLANS

2.3 Formulate Staff Recommendations

In this task, MTMC's command group will finalize all decisions on the single port manager concept and balance the desire to perform selected functions against the personnel, equipment and funding resources required.

Lead: Command Group; Support: Staff, Area Commands

3.0 Obtain CINCTRANS Final Approval

CINCTRANS has given his support to the single port manager concept. Nonetheless, once MTMC has selected the specific functions that it would perform and determines how to satisfy the personnel, equipment, and funding requirements, it needs to present the finalized concept to CINCTRANS.

LEAD: DCSPLANS; Support: Staff

3.1 Prepare and Submit Concept Paper

In this subtask, MTMC will prepare a detailed concept paper that outlines its responsibilities under the single port manager concept and then submit it to the USTRANSCOM staff for review and comment. At a minimum, the paper should

[1] Throughout the remainder of this chapter, we call out a number of MTMC offices as having either lead or support responsibility for implementing specific features of the single port manager concepts. Those offices are Deputy Chief of Staff Plans (DCSPLANS); DCS Resource Management (DCSRM); DCS Personnel and Logistics (DCSPAL); DCS Information Management (DCSIM); DCS Operations (DCSOPS); and Staff Judge Advocate (SJA).

cover functions, resources, changes required to doctrine, and how CINCTRANS could assist in the process of securing acceptance for the single port manager concept in the joint community.

Lead: DCSPLANS; Support: Staff

3.2 Present Briefing to CINCTRANS

In this task, MTMC will brief the single port manager concept to CINCTRANS. The briefing should include a summary of the concept paper, identifying the functions that MTMC would perform, the required resources, and the proposed changes to doctrine. It should also include the support required from CINCTRANS.

Lead: DCSPLANS; Support: Staff

4.0 Inform JCS of Single Port Manager Concept

The JCS needs to be informed of the single port manager concept before MTMC submits its recommended changes to joint doctrine. Such information should come directly from CINCTRANS. In this task, MTMC will prepare a paper for USTRANSCOM to use as a basis for a communication to the JCS that outlines the single port manager concept. The paper should provide sufficient explanation and detail indicating that the concept does not establish command relationships of ports in overseas theaters, but focuses on functions that can be accomplished to improve predeployment planning and port operations support to theater CINCs.

Lead: DCSPLANS; Support: Staff

5.0 Modify JCS Publications

Full acceptance and concurrence for the single port manger concept comes with the approval of joint doctrine. The concept paper enlisting JCS support is a key step in gaining that approval. However, MTMC can obtain full acceptance for the single port manager concept only through the full staffing and coordination process within the joint community, which is required for changes to joint doctrine. The implementation plan shows MTMC preparing these changes over a two-month period. We assume final approval of joint doctrine will occur in December 1995.

5.1 Submit Changes to Joint Doctrine

In this subtask, MTMC will propose desired changes to joint doctrine, submit those changes to USTRANSCOM for review, comment, and eventual

submission to the JCS. Several joint publications should be considered for change, including

- Joint Pub 4-0, "Doctrine for Logistics Support of Joint Operations";
- Joint Pub 4-01, "Joint Doctrine for the Defense Transportation System";
- Joint Pub 4-01.2, "Joint Tactics, Techniques, and Procedures (JTTP) for Sealift Support to Joint Operations";
- Joint Pub 4-01.5, "JTTP for Water Terminal Operations";
- Joint Pub 4-01.6, "JTTP for Joint Logistics Over the Shore"; and
- Joint Pub 4-01.7, "JTTP for Use of Intermodal Containers in Joint Operations."

Lead: DCSPLANS; Support: DCSOPS

5.2 Receive Approved Joint Doctrine Changes

In this subtask, the Joint Staff, specifically J-4, will staff and coordinate proposed joint doctrine changes with the Military Services and the joint community. Upon approval, changes to joint doctrine will be published.

Lead: Joint Staff J-4; Support: USTRANSCOM, DCSPLANS

6.0 Prepare Support Documentation

After receiving approval from the JCS, MTMC needs to prepare a number of administrative actions and documents requesting changes to existing agreements. Although MTMC will prepare those documents, most of the required final actions will be outside of its control.

Lead: DCSPLANS; Support: Staff

6.1 Draft Changes to CAAs

Since each CINC has the authority to define all command relationships in his theater, CAAs are vital to establishing the role of MTMC as the single port manager. In this subtask, MTMC will coordinate with CINCTRANS and the theater CINCs to draft new CAAs that expand MTMC's responsibilities under the single port manager concept.

Lead: DCSPLANS; Support: DCSOPS

6.2 Prepare Proposal for Participation in JCS Training Program

For the single port manager concept to succeed, MTMC needs to become more involved with the theater CINCs, particularly in the area of training. In this subtask, MTMC will prepare and forward to CINCTRANS a request to intercede with the joint staff and theater CINCs for purposes of increasing MTMC's participation in the JCS Training Program.

Lead: DCSPLANS; Support: DCSOPS

6.3 Prepare Request for Training with Military Services

In this subtask, MTMC will submit a request to USTRANSCOM outlining a training program that it could accomplish with the Military Services. The purpose of the training program is to establish a routine training relationship with organizations that it would work with during contingencies.

Lead: DCSPLANS; Support: DCSOPS, DCSIM

6.4 Prepare Changes to Army Doctrine

In this subtask, MTMC, as the Army component command to USTRANSCOM and an Army major command, will draft recommended changes to Army doctrinal publications and field manuals that address water terminal operations. Those publications and field manuals include

- FM 55-1, "Army Transportation Services in a Theater of Operations";
- FM 55-17, "Terminal Operations Coordinators Handbook";
- FM 55-60, "Army Terminal Operations";
- FM 100-17, "Mobilization, Deployment, Redeployment, and Demobilization"; and
- FM 100-17-1 (Draft), "Army Prepositioned Afloat."

MTMC can submit these changes directly to the Army staff, but they need to be predicated on changes to joint doctrine.

Lead: DCSPLANS; Support: DCSOPS

7.0 Obtain Resources

Obtaining the resources needed to support implementation of the single port manager concept will require careful preparation of detailed justifications,

budget requests, and reprogramming actions. This task is key to MTMC's overall success in moving forward with the proposed concept.

Lead: DCSPAL; Support: DCSRM, DCSPLANS, DCSOPS

7.1 Prepare Personnel and Manpower Documentation

In this subtask, MTMC will identify, prepare, and submit all required documents necessary to support manpower additions (or transfers) in support of the single port manager concept. It also could include identifying spaces within MTMC for attachment to theater CINCs.

Lead: DCSRM; Support: DCSPAL

7.1.1 Prepare Standby Plan to Activate MTMC Reservists

In this subtask, MTMC will develop a plan to solicit voluntary activation of reservists to support a military crisis in which the President has not called up any reserve units or personnel.

Lead: DCSPLANS; Support: SJA

7.1.2 Formulate Tiger Team Concept

In this subtask, MTMC will identify the positions and skills required to form tiger teams for deployment OCONUS. It will also develop revised position descriptions that incorporate duties for the elements subject to deployment; identify special requirements and constraints in the use of civilian employees, and initiate administrative personnel actions to resolve any special requirements.

Lead: DCSPAL Support: DCSRM, SJA

7.1.3 Prepare Changes to Manning Authorizations

In this subtask, MTMC will prepare and submit changes to manpower documents that support the approved single port manager concept.

Lead: DCSRM; Support: DCSPAL

7.2 Purchase Equipment

In this task, MTMC will determine the source of funds to purchase both personal and mission support equipment required to carry out the single port manager concept, and then purchase the needed equipment.

Lead: DCSPAL; Support: DCSRM

8.0 Draft MTMC Implementing Instructions

The new and expanded role for MTMC in predeployment planning and port operations support need to be incorporated into standing policy and procedural documents and then disseminated to command elements. In this task, we assume MTMC will receive JCS approval and in advance will conduct a review of each functional area to ensure that the single port manager concept is incorporated into standing instructions and other documents, including those used in area commands, as required.

Lead: Chief of Staff; Support: Staff, Area Commands

9.0 Implement Single Port Manager Concept

This milestone is contingent on publication of approved joint doctrine for the single port manager concept. We estimate such approval will take 10 months from the time CINCTRANS informs JCS of its intent.

Task	Lead	Schedule 1995											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.0 Review and staff report	Chief of Staff												
2.0 Finalize single port manager concept	Command Group												
2.1 Select predeployment planning and port operations support functions	DCSPLANS												
2.2 Finalize resource requirements	DCSRM												
2.3 Formulate staff recommendations	Command Group												
3.0 Obtain CINCTRANS final approval	DCSPLANS												
3.1 Prepare and submit concept paper	DCSPLANS												
3.2 Present briefing to CINCTRANS	DCSPLANS												
4.0 Inform JCS of single port manager concept	DCSPLANS												
5.0 Modify JCS Publications	DSCPLANS												
5.1 Submit changes to joint doctrine	DCSPLANS												
5.2 Receive approved joint doctrine changes	Joint Staff J-4												
6.0 Prepare support documentation	DSCPLANS												
6.1 Draft changes to CAAs	DCSPLANS												
6.2 Prepare proposal for participation in JCS training program	DCSPLANS												
6.3 Prepare request for training with Military Services	DCSPLANS												
6.4 Prepare changes to Army doctrine	DCSPLANS												
7.0 Obtain resources	DCSPAL												
7.1 Prepare personnel and manpower documentation	DCSRM												
7.1.1 Prepare standby plan to activate MTMC reservists	DCSPLANS												
7.1.2 Formulate Tiger Team concept	DCSRM												
7.1.3 Prepare changes to manning authorizations	DCSPAL												
7.2 Purchase equipment	DCSPAL												
8.0 Draft MTMC implementing instructions	Chief of Staff												
9.0 Implement single port manager concept	All												▲

Figure 4-1.
Single Port Manager Implementation Plan

APPENDIX A

J-Teams

The active Army and reserve components structure has provisions for detachment-sized teams of specialists in transportation contract supervision and cargo documentation. Personnel authorizations for these units, organized under Table of Organization and Equipment (TOE) 55-560 series, are shown in Tables A-1, A-2 and A-3. This information is shown because assignment of one or more of these authorizations could form the nucleus of a Military Traffic Management Command (MTMC) deployment package under the single port manager concept.

Table A-1.
Transportation Contract Supervision (JD Team)

Title	Grade	Specialty	Number	Remarks
Team chief	05	88A00	1	TC
Transportation officer	04	88A97	1	TC
Purchasing/contract officer	03	97A00	1	
Marine/term operations officer	02	88C00	1	TC
Chief movements supervisor	E7	88N40	1	
Personal property NCO	E5	88N20	1	
Cargo checker/handler	E4	88H10	2	
Personal property specialist	E4	88H10	1	
Cargo checker/handler	E3	88H10	1	
Personal property specialist	E3	88H10	2	
Total	–	–	12	–

Note: Six units in the Active Force, including two activating in 1995; 12 units in the Army Reserve, including one activating in 1996; and two Army National Guard units both deactivating in 1997.

Table A-2.
Automated Cargo Accounting Detachment (JI)

Title	Grade	Specialty	Number
Team chief	WO	741A0	1
Chief documentation supervisor	E7	88N40	1
Programmer/analyst	E6	74F30	1
Programmer/analyst	E4	74F10	1
Light wheel vehicle mechanic	E4	63B10	1
Utility equipment repairman	E4	52C10	1
Wire installer	E4	31K10	2
Clerk typist	E3	71L10	1
Computer repairman	E6	34C30	1
Computer repairman	E5	34C20	1
Chief documentation supervisor	E6	88N30	2
Documentation specialist	E5	88N20	2
Documentation specialist	E4	88N10	8
Documentation specialist	E3	88N10	8
Total	–	–	31

Note: Three units in the Active Force and three units scheduled to activate in the Army Reserve in 1996.

Table A-3.
Cargo Documentation Team (JB)

Title	Grade	Specialty	Number
Documentation supervisor	E6	88N30	1
Traffic management NCO	E5	88N20	1
Traffic management coordinator	E4	88N10	3
Traffic management coordinator	E3	88N10	3
Total			8

Note: Fourteen units in the Active Force, including two activating in 1995. Two units are in the Army National Guard and 11 are in the Army Reserve.

APPENDIX B

Staffing for Notional Scenarios

Table B-1 shows an estimated staffing for each of the three notional scenarios described in the body of this report.

Table B-1.
Staffing for Notional Scenarios

Position or skill	Bare beach	Unimproved port	Fixed port
Section			
Command			
Commander	1	1	1
Deputy commander		1	1
Administrative/support			
Supervisor		1	1
Clerical/communications		2	3
Operations			
Operations officer		1	1
Operations supervisor		2	5
Vessel/pier operations		2	8
Container management		1	2
Plans/prestowage		1	1
Movements control			2
Hazardous cargo/ammunition		1	1
Cargo booking		1	2
Documentation			
Supervisors	1	2	3
Worldwide Port System/cargo documentation	3	6	10
Customs clearance		1	1
Contract management	1	2	2
Safety/security		1	1
Total	6	26	45

APPENDIX C

Comparison of Contingency Staffings

Table C-1 shows the staffing by functional area for several recent contingency plans and actual deployments. The staffing for the Savannah tiger team was at a maximum level and included positions that may not be required for the single port manager concept. The 1304th Concept of Operations (CONOP) staffing level increases from 15 to 25 as the situation matures, although the extra positions are not specified. The staffing levels of these four different situations are remarkably similar at about 25 to 28 persons, which compares favorably with our estimate for an unimproved port scenario of 26 persons.

Table C-1.
Contingency Staffing by Position

Section	Contingency			
	CONOP FYR93-1	Somallia	Savannah tiger team	1304th CONOP
Command				
Commander	1	1	1	1
Deputy commander/executive officer			1	
Administrative/support				
Supervisor			1	
Clerical	1	1	1	1
Supply/communications	1	1		
Public affairs			1	
Information management/ADP support			1	
Finance			1	
Operations				
Operations officer	1	1	1	1
Operations supervisor	5	5	5	1
Vessel/pier operations	4	4	11	2
Container management	2	1		
Plans/prestowage	2	3	2	
Movements control		3		
Hazardous cargo/ammunition	1		1	
Documentation				
Supervisors	2	2	2	
Cargo documentation	4	3	8	8
Contract management	2		1	1
Safety/security	2		1	
Total	28	25	39	15[a]

[a] Increases to 25 positions as situation matures.

APPENDIX D

Authorized Versus Minimum Essential Staffing

We reviewed the authorized staffings for two existing organizations, the Military Traffic Management Command Terminal at Bremerhaven and a Transportation Terminal Battalion in the Army Reserve, to assist in estimating the needs for a notional fixed port. The results are shown in Tables D-1 and D-2. In both of those organizations, we deleted nonessential positions, such as the peacetime Privately Owned Vehicle Processing Division in Bremerhaven. We also deleted positions whose duties could be performed by contract personnel in a fixed port scenario. The remainder, 43 and 45 positions, support our estimate of 45 persons as detailed in Appendix B.

Table D-1.
Authorized Versus Minimum Esssential Staffing — Transportation Terminal Battalion (Reserve Corps)

Unit	Authorization	Possible deletion	Minimum essential
Section			
Command group	7	– 3	4
Operations division	8		8
Cargo documentation	13		13
Terminal operations	12		12
Vessel operations	30	– 24	6[a]
Total	70	– 27	43

[a] Only contract supervision personnel are retained.

Table D-2.
Authorized Versus Minimum Esssential Staffing — 1305th Major Port Command (Bremerhaven)

Unit	Authorization	Possible deletion	Minimum essential
Section			
Command group	5	– 1	4
Support services	2	– 2	0
Personnel and administration	7	– 6	1
Contract administration and accounting	9	– 7	2
ADP systems	7	– 2	5
Operations division	2		2
Plans and training[a]	8	– 8	0
Cargo branch	21	– 6	15
Vehicle processing[a]	53	– 53	0
Traffic management	4	– 2	2
Import branch	14	– 6	8
Export branch	13	– 13	0
Documentation	7	– 1	6
Logistics/headquarters detachment[a]	5	– 5	0
Total	157	– 112	45

[a] Peacetime functions.

APPENDIX E

Items of Individual Equipment

The two Major Regional Contingencies concept envisions deployments to Climatic Zones II and VI. As an aid in estimating the costs associated with such deployments, the items authorized by zone and their costs have been extracted from the applicable Army authorization tables and are shown in Table E-1. Any deploying civilian personnel would require only climatic and protective gear. The cost of equipping an individual deploying with protective mask to Zone II and armed with an M-16 rifle would be approximately $1,258; if armed with a 9mm pistol, the cost would be approximately $1,090; for Zone IV the costs would be approximately $1,598 and $1,434, respectively.

Table E-1.
Authorized Individual Equipment

Line item	Item	Cost ($)	Number authorized	
			Zone VI	Zone II
B15825	Bag, clothing, waterproof	8.50	1	1
A92145	Body armor, fragmentation project	39.05	1	1
C08119	Boots, cold weather, rubber	10.55	1 pair	
C07440	Boots, hot weather, duck	38.50		1 pair
C96810	Canteen, water, steel, cold weather	30.60	1	
C96536	Canteen, water, plastic, hot weather	0.85		1
D01857	Cap, cold weather, cotton	9.75	1	
D11812	Carrier, entrenching tool	2.25	1	1
D64043	Case, field, 1st aid	1.40	1	1
C43484	Coat, camouflage, desert	19.55		2
C64956	Coat, camouflage, woodland	20.95	2	
C28038	Cover, body armor, desert camouflage	33.40		1
F28747	Cover, helmet, camouflage	2.40	1	1
C28997	Cover, individual, camouflage, desert	9.60		1
C29133	Cover, individual, camouflage, woodland	9.45	1	
F29980	Cover, water canteen	3.35	1	
F30391	Cover, water canteen	7.05	1	
F54680	Cup, water canteen, steel	7.65	1	
F54817	Cup, water canteen, steel	5.65		1
D49418	Drawers, cold weather	12.75	1	
H39835	Field pack, combat, medium	30.45	1	1
H90705	Frame, field pack w/straps	21.60	1	1
H20256	Hat, camouflage, desert	7.40	1	
K34733	Helmet, ground troops	124.60	1	1
K46058	Hood, extreme cold weather	15.85	1	
L00210	Entrenching tool	23.22	1	1
L70172	Liner, cold weather coat	9.35	1	
L72022	Liner, cold weather trousers	10.20	1	
M37042	Mat, sleeping	5.80	1	1
M52829	Mitten set, Arctic	25.00	1 pair	
M5255	Mitten inserts, wool	5.25	1 pair	
M53240	Mitten, shells	3.00	1 pair	
P56983	Coveralls, cold weather	26.00	1	
N39985	Overshoes, rubber cold weather	22.15	1 pair	
N53095	Pan	5.67	1	1
P69449	Parka, camouflage, desert	29.65		1

Table E-1.
Authorized Individual Equipment (Continued)

Line item	Item	Cost ($)	Number authorized	
			Zone VI	Zone II
P69699	Parka, cold weather	27.85	1	
P17415	Poncho, wet weather	19.05	1	1
T00150	Shelter, half tent	48.55	1	1
T04205	Shirt, cold weather wool	20.05	2	
T71673	Sleeping bag, Type 1	64.25		1
T71706	Sleeping bag, Type 2	120.15	1	
J61584	Sunglasses, nonprescription	3.20	1	1
B59567	Belt, individual equipment	7.40	1	1
U73323	Suspenders, individual equipment	8.35	1	1
T34401	Trousers, camouflage desert, night	21.50		1
T35238	Trousers, camouflage desert, day	26.95		2
T35160	Trousers, camouflage woodland	18.75	2	
T35375	Trousers, cold weather, camouflage	75.85	2	
X86839	Undershirt, cotton/wool	6.60	3	
Total	—	—	998.79	654.94

Note: Cost figures extracted from the Army Master Data File.

Table E-2.
Authorized Individual Equipment — Additional Items

Line item	Item	Cost ($)	Number authorized	
			Zone VI	Zone II
M11895	Mask, chemical, bacteriological, radiological (CBR) protection	93.32	1	1
R95035	Rifle, 5.56 mm, M16A2	506.00	1	1
P98152	Pistol 9 mm semiautomatic	342.00	1	1

Note: Cost figures extracted from the Army Master Data File.

APPENDIX F

Worldwide Port System Fielding Schedule

The Military Traffic Management Command (MTMC) developed an automated port operating system (Worldwide Port System) that has been approved as the Defense Department standard. Thirteen systems were fielded in FY94 and are in use in overseas terminals and CONUS training locations. Forty-six additional units are to be fielded by the end of FY96, completing the schedule for MTMC, Reserve, and Navy units as shown in Table F-1.

Table F-1.
Worldwide Port System (WPS) Fielding Schedule

Fiscal year	Assignment
FY94	13 units
	4 – 7th Transportation Group
	4 – MTMC elements in Europe
	– MTMC TTCE Headquarters
	– Rotterdam, Bremerhaven, and Fleixstowe terminals
	4 – MTMC elements in the Far East
	– MTMC PAC Headquarters
	– Pusan, Naha, and Yokohoma terminals
	1 – U.S. Army Transportation School
FY95	26 units
	2 – MTMC Gulf Ports
	– New Orleans and Beaumont
	4 – MTMC West Coast Elements
	– MTMC-WA Headquarters
	– Bay Area, Pacific Northwest, Southern California terminals
	2 – Navy West Coast Ports
	– Concord and Port Hueneme
	2 – West Coast Reserve Terminal Battalions
	2 – Gulf Coast Reserve Terminal Battalions
	2 – Navy East Coast Ports
	– Earle and Norfolk
	1 – MTMC Terminal Puerto Rico
	4 – East Coast Reserve Terminal Battalions
	6 – MTMC East Coast Elements
	– MTMC-EA Headquarters
	– Bayonne, Baltimore, Sunny Point, Charleston, and Cape Canaveral terminals
	1 – MTMC Headquarters
FY96	20 units
	5 – East Coast Reserve Terminal Battalions
	4 – Reserve Transportation Brigades
	3 – Reserve Automated Cargo Accounting Detachments
	8 – MTMC terminals overseas
	– Rhine River, Panama, Pireaus, Leghorn, Lisborne, Izmir, Iskenderun, and Azores

Note: TTCE = Transportation Terminal Command Europe; PAC = Pacific; WA = Western Area; EA = Eastern Area.

APPENDIX G

Equipment Requirements by Scenario

For each scenario, we assume that supported U.S. forces will provide basic housekeeping and logistics support. If this support is not provided, then the Military Traffic Management Command (MTMC) must identify its additional vehicular, housing, and other provisioning needs and determine how to obtain them.

Acquisition of new Worldwide Port System (WPS) hardware will not be required because of the flexibility in the planned geographic placement of WPS units (see Appendix F, Table F-1 for fielding schedule) and the availability of "carryaway" sets that could be used in a crisis.

Commercial off-the-shelf equipment would not be purchased and stored because of its rapid obsolescence and deterioration in storage; teams would deploy with equipment now in use, which enhances the currency in user training and software. Prepositioned equipment in MTMC area commands for opening CONUS ports not now manned with MTMC personnel could be used if time constraints or funding priorities dictated their diversion.

BARE BEACH OPERATION

Under this scenario, MTMC presence would be minimal. The size of the team would depend on the situation, estimated to be a maximum of six. Equipment not expected to be provided by supported U.S. forces would include the following:

- Personal gear, to include weapons and gas masks; see Appendix E, Table E-1
- Communications equipment (INMARSAT or comparable satellite capability, cellular telephones, etc., as the situation dictates)
- WPS carryaway field set with accessories
- Minimal expendable supplies
- Laptop computer, battery pack, printer, and secure communications.

UNIMPROVED PORT

This scenario encompasses ports where some local facilities exist, but they are not up to modern standards. Because of MTMC's expanded single port manager role, additional equipment requirements include the following:

- Personal gear to include weapons and gas masks as listed in Table E-1. (U.S. civilian employees require only climate unique and protective items of issue.)
- WPS terminal level system.
- LOGMARS computers (2) with bar code printers.
- Scanners (20) with chargers.
- INMARSAT or comparable satellite capability, when applicable.
- Radios (10) and chargers.
- Telephones (12), but use equipment already on hand.
- Computers (386/486 w/monitor, use equipment already on hand).
- Printers (use equipment already on hand).
- FAX machines, secure and nonsecure (use equipment already on hand).
- Typewriters (2), use equipment already on hand.
- Expendable supplies not available from theater forces or local economy.

FIXED PORT

In this scenario MTMC would operate a port that is modern and has the full range of commercial facilities and equipment as well as local contractors to provide all stevedoring, port support, and port clearance services. In most cases, local national personnel would be hired for nonsupervisory functions. MTMC would manage and operate, through contract arrangements, every facet of port operations. Contractors would provide most equipment; however the following should be considered:

- Personal gear, as listed in Table E-1, may be reduced based on the situation for military personnel; U.S. civilian employees would require only climate unique items of issue.

- Equipment, as in the preceding scenario, may be reduced if some items are locally available or not required; mission-unique equipment, such as LOGMARS, may be provided to contractors as government-furnished equipment when the situation dictates.

Appendix H

Tiger Team Equipment

The Military Traffic Management Command (MTMC) has seven sets of equipment in storage for use by tiger teams in opening MTMC terminal operations in CONUS commercial ports with no current MTMC presence. These standard sets cost approximately $79,200 each. A listing of the individual items in each set and their costs are provided in Table H-1.

Table H-1.
Tiger Team Equipment

Quantity per team	Item description	Suggested make/model	Estimated cost each ($)	Total cost ($)
1	Unsecure FAX	Pan AFEX VF 260	1,300	1,300
2	Secure FAX	RICOH R2112T	3,500	7,000
3	STU III phone	AT&T	2,150	6,450
4	End user computer	386/20 80 MB HD w/mouse, SGVA monitor	1,800	7,200
1	Laptop computer	386/33 80 MB HD w/ VGA monitor	2,900	2,900
1	Battery pack	TRIPPE BC1200	750	750
1	4800 Baud modem	Trail blazer 19.2	600	600
1	High speed printer	Texas Instrument	550	550
1	File server	486/35 300 MB HD w/mouse, SVGA monitor	12,600	12,600
1	Printer	ALPS 2000+	700	700
8	ADP case	Zenith Systems	900	7,200
5	LAN cards	Novell	150	750
1	LAN software	Novell network for 20 users	1,500	1,500
1	Software pack	should include: – MultiMate v4.0 – Freelance v4.0 – Easylink	5,000	5,000
20	Hand-held scanners	PTC701 TELXON	820	16,400
1	Barcode printer	IMTEC 8646	1,800	1,800
10	Hand-held radio	Motorola H33 HMU1124A	450	4,500
10	Battery charger	110/220 volts	200	2,000
Total	–	–	–	79,200

Source: Military Traffic Management Command — Eastern Area.

APPENDIX I

GLOSSARY

Bare beach. A discharge site where no existing facilities are available. A LOTS operation must be conducted to bring cargo ashore.

Berth assignment. Selection of a specific location at a port for the discharge (or loading) of a vessel, based on the ship's characteristics, the port's capabilities, on-going operations, and mission priorities.

Cargo booking. The assignment of cargo to a specific vessel for delivery to a particular destination.

Cargo staging. The placement of cargo in assigned areas to facilitate vessel loading or port clearance, taking into consideration of warehouse and open storage areas, nature of cargo, consignee, and physical security.

Common-user-transportation. Transportation and transportation services provided on a common basis for two or more Department of Defense agencies and, as authorized, for non-DoD agencies.

Contract supervision. Monitoring the performance of the contractor to assure that the elements of the Performance Work Statement are met using performance indicators and standards as yardsticks.

Contract requirements. Mission needs that can be accomplished by contracting and form the basis for the Performance Work Statements in Stevedoring and Related Terminal Services contracts.

Customs clearance. The actions taken with host nation officials to allow U.S. cargo to enter a country.

Deep draft wharf/pier. A wharf or pier with a water depth of at least 32 feet at low tide; such wharves or piers can accommodate the receipt of most modern deep-draft break-bulk and container ships.

Fixed port. A water terminal where deep-draft vessels come alongside for berthing and discharge directly onto a wharf, pier, or quay. Fixed ports are characterized by a high degree of sophistication in facilities, equipment, and supporting organizations to handle large volumes of equipment and containerized cargo.

Host nation support. Civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, times of crisis/emergencies, or war based upon agreements mutually concluded between nations.

INMARSAT. The International Maritime Satellite is a system for navigating and positioning that can be accessed using commercially available equipment for communications from remote locations.

Logistics-Over-The-Shore (LOTS) operations. The loading and unloading of ships without the benefit of fixed port facilities, in friendly or nondefended territory, and in time of war, during phases of theater development in which there is no opposition by the enemy.

Ocean Cargo Clearance Authorities (OCCA). A MTMC management element that performs surface traffic management and contract administration functions for military traffic moving via surface intermodal transportation. It books cargo to commercial/government ships and administers ocean carrier agreements and contracts as Administrative Contracting Officer for the Military Sealift Command. In coordination with theater Commanders-in-Chief, they provide surface traffic management for cargo shipped through military and commercial ocean terminals worldwide.

Performance Work Statement (PWS). That portion of the contract that describes the work required of the contractor, also known as the Statement of Work.

Port selection. Designation of one or more sites for the receipt of unit and sustainment cargo based on a theater-level geophysical study of available ports, beaches, and supporting logistical networks.

Port and beach clearance. Clearing of cargo from a water terminal and the beach on which it is located. Ideally, cargo is discharged directly from ship to clearance transport.

Port infrastructure. The facilities, equipment, and port-support activities that determine a water port's capability to load or discharge vessels.

Self-sustaining ships. Ships equipped with the capability to discharge or load cargo to pier side or to lighterage without external assistance.

Single Manager. A military department or agency designated by the Secretary of Defense to be responsible for management of specified commodities or common service activities on a Department of Defense-wide basis.

Stevedoring operations. Those operations directly associated with vessel loading or discharge. The DoD Federal Acquisition Regulation Supplement defines stevedoring as "the loading of cargo from an agreed point of rest or a pier or lighter and its storage aboard a vessel, or breaking out and discharging of cargo from any space in the vessel to an agreed point of rest dockside or in a lighter."

Stevedoring and related terminal services. Those services that support the terminal and terminal operations. In addition to stevedoring, they include ordering, receiving, loading/unloading, releasing and dispatching railcars, containers,

and trucks. They also include container freight station operations, POV processing and terminal management, when applicable.

Stowage planning. The analytical steps for determining the optimum placement of cargo in a vessel taking into consideration ship characteristics, nature of cargo, and desired order of discharge.

Terminal throughput capacity. The estimated daily tonnage (breakbulk), personnel, and containers that can be brought into, discharged, and cleared through a terminal. Throughput capacity is determined by the reception capacity, discharge capacity, transfer capacity, storage capacity and clearance capacity of the terminal.

Traffic management. The direction, control, and supervision of all traffic, freight management, and transportation services' functions incident to the procurement and use of freight and passenger transportation services.

Traffic control. Those procedures and actions necessary to prevent congestion in the terminal area to allow the efficient movement of cargo to ship's side for loading and prompt clearance of the terminal of inbound cargo.

Unimproved port. A site not specifically designed for deep-draft cargo vessel discharge. It is lacking in water depth and berthing space and has inadequate equipment.

Workload scheduling. Assigning personnel and equipment to specific functions within a port to meet mission requirements in the most efficient manner.

Worldwide Port System. The standard automated system of hardware and software developed to document cargo through a port, account for and track its movement, provide management information to terminal and regional commanders, and to feed intransit visibility information to other DoD systems.

APPENDIX J

References

DoD Publications

DoD 4500.XX-R (Draft), "Management and Control of the DOD Intermodal Container System."

Department of Defense Directive 5158.4, "United States Transportation Command," 8 January 1993.

Joint Publications

Joint Pub 4-0, "Doctrine for Logistics Support of Joint Operations," 25 September 1992.

Joint Pub 4-01, "Joint Doctrine for the Defense Transportation System," draft.

Joint Pub 4-01.2, "JTTP for Sealift Support to Joint Operations," draft.

Joint Pub 4-01.3, "JTTP for Joint Movement Control," 26 January 1994.

Joint Pub 4-01.5, "JTTP for Water Terminal Operations," 16 June 1993.

Joint Pub 4-01.6, "JTTP for Joint Logistics Over the Shore (JLOTS)," 22 August 1991.

Joint Pub 4-01.7, "JTTP for Use of Intermodal Containers in Joint Operations," draft.

U.S. Transportation Command

USTRANSCOM Regulation 75-1, "Policies and Procedures for Implementing DoD Directive 5158.4," 1 March 1993.

Army Publications

Field Manual (FM) 55-1, "Transportation Operations," 30 November 1984.

FM 55-10, "Movement Control in the Theater of Operation," 8 December 1992.

FM 55-11, "Container Movement and Handling in the Theater of Operations," 31 October 1973.

FM 55-17, "Terminal Operations Coordinator's Handbook," 9 September 1990.

FM 55-60, "Army Terminal Operations," 18 May 1987.

FM 55-70, "Army Transportation Container Operations," 17 February 1975.

FM 100-17, "Mobilization, Deployment, Redeployment, Demobilization," 28 October 1992.

FM 100-17-1 (Draft), "Army Prepositioned Afloat," draft.

Military Traffic Management Command (MTMC) Publications

MTMC Regulation 56-69, "Surface Transportation Terminal Operations," 15 August 1989.

MTMC TEA[1] 94-700-2, "Logistics Handbook for Strategic Mobility Planning," April 1994.

MTMC TEA Report OA-90-4F-22, "Deployment Planning Guide," August 1991.

[1] Transportation Engineering Agency.