



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

MBA PROFESSIONAL REPORT

**An Analysis of Establishing a West Coast Training Site at Alameda,
California, to Maximize Training Efficiencies and Overall Readiness of
the Navy Expeditionary Logistics Support Group (NAVELSG)
Subordinate Units**

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December 2010**

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SUPPORT GROUP (NAVELSG) SUBORDINATE UNITS**

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Currently, there is only one training site for the entire cargo handling force in the U.S. Navy, and it is located on the East Coast at Williamsburg, Virginia (commonly referred to as Cheatham Annex). This study analyzes the cost and readiness implications of establishing a second cargo handling training site at Alameda, California. We investigate the training process and scheduling from the Fleet Readiness Training Plan (FRTP), and comment on how it aligns the lower echelon command with the strategic training objectives of the cargo handling force. The primary objectives of this study are to: (1) determine the necessary capacity, infrastructure, Table of Allowance (TOA), and asset utilization for an Alameda training site; (2) determine and establish the benchmark standard of the capacity, infrastructure, Table of Allowance (TOA), and asset utilization of the East Coast training site in Williamsburg, Virginia (CAX); and (3) recommend an efficient use of those assets to increase the mission readiness capability of the FIFTH Navy Expeditionary Logistics Regiment (NELR) units.

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LIST OF ACRONYMS AND ABBREVIATIONS

3-M	Material Maintenance Management
AC	Active Component
ACC	Air Cargo Company
ADCON	Administrative Control
ADT	Active Duty Training
AMC	Airlift Mobility Command
ANG	Army National Guard
AOR	Area of Responsibility
ARNG	Army Reserve National Guard
ASP	Ammunition Supply Point
AT	Annual Training
AT/FP	Anti-Terrorism Force Protection
ATLAS	All Terrain Lifter, Army System
BRAC	Base Closure and Realignment Commission
CART	Command Assessment of Readiness and Training
CAX	Cheatham Annex
CBA	Cost-Based Analysis
CBRD	Chemical Biological Radiological Defense
CENTCOM	Central Command
CESE	Civil Engineer Support Equipment
CLF	Combat Logistics Force
CM	Construction Mechanic
CNO	Chief of Naval Operations
CNRF	Chief of Naval Reserve Force
CO	Commanding Officer
COC	Chain of Command
COCOM	Combatant Command
CONOPS	Concept of Operations
CSS	Combat Service Support
CTC	Cargo Terminal Company

CTS	Contingency Tracking System
C2	Command and Control
DD/BB	Drop Deck/Break Bulk
DOD	Department of Defense
DRRS-N	Defense Readiness Reporting System-Navy
ECP	Entry Control Point
EOD	Explosive Ordnance Disposal
ESC	Expeditionary Support Company
FEP	Final Evaluation Problem
FFC	Fleet Forces Command
FOB	Forward Operating Base
FRP	Fleet Response Plan
FRTTP	Fleet Readiness Training Plan
FY	Fiscal Year
GSE	Ground Support Equipment
HA/DR	Humanitarian Assistance/Disaster Relief
ISIC	Immediate Supervisor in Command
ISO	International Organization for Standardization
JLOTS	Joint Logistics Over-The-Shore
LED	Light Emitting Diode
LRTP	Long Range Training Plan
LSSV	Light Service Support Vehicle
MARAD	Maritime Administration
MESF	Maritime Expeditionary Forces
METL	Mission Essential Task List
MET	Mission Essential Task
MHE	Material Handling Equipment
MHET	Medium Heavy Equipment Transporter
MKT	Mobile Kitchen Trailer
MMV	Millennia Military Vehicle
MOU	Memorandum of Understanding
MSC	Military Sealift Command

NAS	Naval Air Station
NAVELSG	Naval Expeditionary Logistics Support Group
NAVFAC	Naval Facilities
NCHB	Navy Cargo Handling Battalion
NECC	Naval Expeditionary Combat Command
NELR	Navy Expeditionary Logistics Regiment
NMETL	Navy Mission Essential Task List
NOC 2010	Naval Operations Concept 2010
NOLSC	Naval Operational Logistics Support Center
NOSC	Naval Operational Support Center
NPS	Naval Postgraduate School
OEF	Operation Enduring Freedom
OIC	Officer in Charge
OIF	Operation Iraqi Freedom
OPLAN	Operational Plan
OPORDER	Operational Order
OPTEMPO	Operating Tempo
POC	Point of Contact
POE	Projected Operating Environment
PQS	Personnel Qualification Standard
PRFTA	Camp Parks Reserve Forces Training Area
QDR	Quadrennial Defense Review
RC	Reserve Component
ROC	Required Operational Capabilities
ROE	Rules of Engagement
RO/RO	Roll-On Roll-Off
RT	Rough Terrain
RTCH	Rough Terrain Container Handler
SIPR	Secret Internet Protocol Router
SME	Subject Matter Expert
TEU	Training Evaluation Unit
TRAMAN	Training Manual

TRAINORG	Training Organization
ULT	Unit Level Training
ULTRA	Unit Level Training Readiness Assessment
USAFR	United States Air Force Reserve
USAR	United States Army Reserve
USCGR	United States Coast Guard Reserve
USMCR	United States Marine Corps Reserve
USN	United States Navy
USNG	United States National Guard
USNR	United States Naval Reserve

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We have many people to thank for the encouragement and support throughout this project. We initially embarked upon our project with the goal to find efficiencies in the cargo force for COMNAVELSG. We witnessed extreme dedication on the part of all the reserve personnel with whom we had the pleasure of working. We would be remiss if we didn't mention the reserve force as a whole, who steadfastly display a fervent passion and desire to their units and to their cause.

The NAVELSG and TEU commands provided exceptional support and motivated us throughout the project. Specifically, Captain Mark Hellman, Commander Jason Parkhouse, and Lieutenant Christopher Eckols, provided countless hours aiding us.

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The faculty and staff of the Naval Postgraduate School were extremely helpful and provided the necessary framework for us to achieve this result. Specifically, Professors Keenan Yoho and Philip Candreva were instrumental from the beginning to the end. Without their leadership and expertise, we would still be working on five different projects. Their direction to limit our scope was absolutely vital.

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EXECUTIVE SUMMARY

Currently, there is only one training site for the entire cargo handling force in the U.S. Navy and it is located on the East Coast at Williamsburg, Virginia (commonly referred to as Cheatham Annex, CAX). There are many advantages and disadvantages to having a single training center. This study analyzes the costs and readiness implications of establishing a second cargo handling training site at Alameda, California, and finds that such a secondary site can provide an equivalent level of capability as Cheatham Annex and could potentially result in long-term cost reductions and readiness improvements as the United States shifts its strategic posture from the Atlantic to the Pacific.

In order to establish a secondary training site in Alameda there are two categories of cargo handling force support requirements that need to be addressed: (1) Life Support/Tent Camp and (2) Civil Engineer Support Equipment (CESE). Alameda offers two location options for tent camp construction. In terms of CESE, only a small portion of a reserve NCHB's actual allowance is located in Alameda. Two emergent costs result from establishing a second training site: (1) redirected travel and (2) CESE relocation. Conducting training for NCHB 3, 5, and 14 in Alameda instead of routing these battalions to Williamsburg, can potentially save \$2.5 million in travel costs over the course of a Fleet Readiness Training Plan (F RTP) cycle. The relocation of CESE requires a onetime expenditure of approximately \$17,000; however, this relocation would necessitate an increase in billeted mechanics to maintain the larger inventory of equipment.

Although costs alone should not drive the decision to establish a complementary training site at Alameda, the site would provide long-term cost savings in travel expenditures. Most of the costs associated with Alameda will exist whether a training unit is established there or not. The large savings recognized in this report stem from reducing the number of cross-country airline flights for the purpose of training. Basic and maintenance phase training could be accomplished in Alameda by flying a limited number of TEU instructors to the site.

Based upon the analysis and conclusions made in this report, it is recommended that NAVELSG establish a West Coast training site in Alameda, California, to increase force readiness and reduce expenditures associated with moving personnel to the training site. The following specific actions are recommended:

- Transfer CESE to Alameda as manning grows.
- Do not duplicate the TEU in Alameda.
- Conduct basic and advanced cargo courses at Alameda for West Coast units.
- Leverage NCHB SME knowledge.
- Establish training event teams.
- Execute with deliverables.
- Implement Control Measures.

I. DEFINITION OF PROBLEM AND RATIONALE

A. BACKGROUND

The nation's leaders are responsible for maintaining warfighting readiness to meet strategic objectives and safeguard the country's security. Admiral Gary Roughead, Chief of Naval Operations (CNO), issued *CNO Guidance for 2010* stating, "[m]y focus areas remain to build the future force, maintain our warfighting readiness, and develop and support our Sailors, Navy civilians, and their families. These focus areas will endure throughout my tenure."¹ His posture builds from the overarching maritime strategy set forth in *A Cooperative Strategy for 21st Century Seapower* (CS-21), the primary tenets of which are critically dependent upon a persistently capable and ready maritime organization.²

The Department of Defense (DoD) and the United States Navy (USN) continue to search for efficiencies in readiness and the budget that applies to it. The senior leadership of Navy Expeditionary Logistics Support Group (NAVELSG) commands a force of 2,900 active and reserve sailors spread throughout the United States, is in charge of the mission readiness of the entire cargo handling force of the U.S. Navy, and has the responsibility of establishing and implementing guidance and policy for logistics, operational asset management, and allocation.

NAVELSG asked the Naval Postgraduate School (NPS) to conduct a study to determine the cost and readiness implications of establishing a second cargo handling training site in Alameda, California. This MBA report forms the second in an anticipated series of studies conducted by NPS for the continued improvement of NAVELSG. The original project used simulation modeling to explore major time and capacity constraints experienced within the NAVELSG instructor and assessor qualification process. As a

¹ Gary Roughead, "CNO Guidance for 2010: Executing The Maritime Strategy" (Washington, D.C., 2010), 1.

² James T. Conway, Gary Roughead, and Thad W. Allen, "A Cooperative Strategy For 21st Century Seapower (CS-21)." (Washington, D.C., 2010), 1–20.

result of the report's recommendation, the organization now conducts more remote assist visits to minimize classroom instruction and has hired civilian instructors to increase capacity and limit retraining.³

NAVELSG and the Training Evaluation Unit (TEU) have been effectively training cargo handlers to perform missions worldwide for years. With two wars currently in progress, and the demand for cargo movement capability being extremely high, the reserve mobilizations and operations tempo continue to remain elevated. The NAVELSG and TEU are searching for ways to increase efficiencies while maintaining the highly sought after capabilities of their force. There have been dramatic transformations in the reorganization of its command elements and units, all of which were the first stages of aligning their forces to meet mission readiness, manning, and capability sources for combatant commanders.

B. RESEARCH OBJECTIVE

Currently, there is only one training site for the entire cargo handling force in the U.S. Navy, and it is located on the East Coast at Williamsburg, Virginia (commonly referred to as Cheatham Annex, CAX). The CAX site, where the TEU is located, is a single-point training center for the cargo force. It is a robust site located in the midst of a major fleet concentration area. There are many advantages and disadvantages to having a single training center. This study analyzes the cost and readiness implications of establishing a second cargo handling training site at Alameda, California. This analysis is one option for NAVELSG's continued search for increased readiness.

This study required numerous site visits and the analysis of a vast array of data. The focus centered on the current laydowns and assets at both the Williamsburg and Alameda sites. The strategic objectives of the nation were incorporated into the analysis of this study. Additionally, the Chain of Command (CoC) develops intent, objectives, guidance, and policies and was consulted throughout the study. In order to limit the scope of the study and provide value to the Navy, we used the training resources at

³ Christopher W. Eckols and Jeffrey A. Tomaszewski, "Naval Expeditionary Logistics Support Group, Training and Evaluation Unit: An Analysis of Current Operations while Searching for Training Efficiencies," (Professional Report In Business Administration, 2009), 40.

Williamsburg as a baseline with respect to capabilities and then determined what it would take to replicate those capabilities at the Alameda site.

C. SCOPE AND RESEARCH METHODOLOGY

The guidance and policies at all levels within the CoC were essential to constructing an accurate picture of an Echelon IV command, such as the NAVELSG. This study was limited to the analysis of the NAVELSG's training organization (TRAINORG), which is their TEU. The TEU standardizes the training processes, programs, and procedures of the NAVELSG units. The TEU also manages and provides training for the cargo handling battalions and serves as the Point of Contact (POC) and coordinator to validate and ensure consistency in training and curricula for the formal cargo handling schoolhouse. For consistency of training, it is essential that a second training site has the capability to train sailors to the same standards as those in CAX. This study required the establishment of a benchmark standard for CAX's infrastructure and training assets so that the Alameda site could be evaluated against this benchmark. We also took a thorough inventory of the Alameda infrastructure and assessed its current capability to meet current training needs. The review of all relevant instructions and policies, as well as the formulation of cost estimates, was critical for making a balanced and thorough assessment of the Alameda site to match the Williamsburg site capabilities. The recommendations in this study are based upon an analysis of the infrastructure, training assets and cost to complement the capability of the Williamsburg site at Alameda.

The remainder of this report is organized as follows. Chapter II introduces a framework for linking mission objectives of the cargo handling force to the nation's maritime strategy; it details the complete command structure and each particular element's role and how it impacts readiness. Chapter III discusses the assets necessary to effectively conduct training at the Alameda site that is equivalent to the standards at CAX in Williamsburg, Virginia. Chapter IV emphasizes the cargo handling force support requirements needed to conduct cargo operations, and the associated TOA is described in detail. Chapter V discusses the Fleet Readiness Training Plan (FRTP) and the costs

associated with training an Echelon V Navy Cargo Handling Battalion (NCHB). Chapter VI summarizes our conclusions, makes several recommendations and identifies opportunities for future research.

II. MISSION OBJECTIVES AND SUPPORTING ORGANIZATIONS

This chapter establishes a framework of the mission objectives of the cargo handling force within the scope of the nation's maritime strategy. It details the complete command structure and each particular element's role impacting readiness.

A. MISSION OBJECTIVES/RESERVE FORCE

The Naval Operations Concept 2010 (NOC 2010) describes in detail how USN forces play a vital role in preventing and winning wars. The cargo handling force, in particular, performs missions that directly contribute to the effectiveness of the Navy and is a sustaining factor in the establishment of a geographic theater.

The strategic gaze of the United States has shifted from the Atlantic to the Pacific. As operations and exercises focus on and take place in the Pacific and Asian rim, the U.S. Navy must be able to generate and sustain forces in this region to meet future missions requirements. In addition to projecting power and winning kinetic conflicts, the NOC 2010 describes Humanitarian Assistance/Disaster Relief (HA/DR) operations as a essential core capability.⁴ Every mission, operation, and exercise requires supplies, sustainment materiel, and equipment that is likely to be managed, secured, or unloaded by cargo handlers.

The cargo handling force is tasked with a diverse list of missions requiring it to operate in every environment, on land and sea, on airfields and ships, on all seven continents. The capability of the cargo handling force hinges on their state of readiness and given the current level of uncertainty in the world, the USN has substantially increased the mobilization of reservists to meet the security demands of the nation. Forty-eight percent of the NECC force is comprised of Reserve Component (RC) members. Admiral Debbink, Chief of Naval Reserve Force (CNRF), addressed the Senate Committee of Appropriations in March 2009 focusing on the capabilities,

⁴ James T. Conway, Gary Roughead, and Thad W. Allen, "Naval Operations Concept 2010." (Washington, DC, 2010), 47.

capacity, and the readiness of the Navy's Reserve Component (RC). He emphasized the vital role it plays to the total force concept stating that:

[I]n 2008 alone, nearly 2,300 RC members from 17 NECC units deployed globally, with more than 95 percent of the deployed units and personnel supporting Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) in the Central Command (CENTCOM) Area of Responsibility (AOR). NECC RC forces continue to support operations that include: construction/engineering operations with the Naval Construction Forces (e.g., Construction Battalions, or SEABEES), maritime expeditionary landward and seaward security with Maritime Expeditionary Security Forces (MESF), Customs Inspections and port/cargo operations with Navy Expeditionary Logistics Support Group (NAVELSG), war fighting documentation with Combat Camera, document and electronic media exploitation with Navy Expeditionary Intelligence Command, and Anti-Terrorism/Force Protection (AT/FP) training with the Expeditionary Training Command.⁵

Providing the necessary and relevant reservists' training to meet those security demands remains a top priority. This study evaluates the cost and impact of establishing a second, complementary training site to meet the training needs that will support a highly ready reserve force that is prepared to execute its mission.

The Quadrennial Defense Review (QDR) of February 2010 focused on the ongoing reform and the changes within the USN. The QDR prioritizes budgeting, policy, and program priorities to meet current demands and future posture requirements. With this focus in mind, the U.S. leadership has instituted sweeping reforms to maximize capability, programs, and budgets to meet those demands. A large number of forces will likely continue operating in Afghanistan and Iraq while providing presence throughout the globe. The QDR notes that the USN will experience higher deployment rates and briefer dwell periods for the next several years thus requiring the mobilization of reserve components. These global demands have required reserve units to be remobilized frequently.⁶ Figure 1 shows the significant reserve force activations that have taken place from September 11, 2001, to September 21, 2010.

⁵ Senate Committee on Appropriations, Subcommittee on Defense, "Statement of Vice Admiral Dirk J. Debbink, Chief of Navy Reserve," 111th Cong., 1st sess., March 25, 2009, 5.

⁶ U.S. Department of Defense, "2010 Quadrennial Defense Review Report" (Washington, DC, 2010), vii.

Activated as of 9/21/10: 103,875
Deactivated Since 9/11/01: 682,114
Total: 785,989

Reserve Component	* Current Involuntary Activations		** Current Voluntary Activations		Total Currently Activated		Total Deactivated Since 9/11		Total Activated Since 9/11	
ARNG	43,293	(+3,041)	5,070	(-7)	48,363	(+3,034)	285,939		334,302	
USAR	19,029	(-65)	9,297	(-120)	28,326	(-185)	165,379		193,705	
USNR	6,829	(+8)	107	(+1)	6,936	(+9)	40,317		47,253	
USMCR	2,233	(-27)	1,795	(+4)	4,028	(-23)	53,153		57,181	
ANG	2,749	(-58)	5,896	(-9)	8,645	(-67)	77,548		86,193	
USAFR	2,353	(+4)	4,515	(-24)	6,868	(-20)	52,905		59,773	
USCGR	332	(-89)	377	(+7)	709	(-82)	6,873		7,582	
TOTAL	76,818	(+2,814)	27,057	(-148)	103,875	(+2,666)	682,114		785,989	

Differences are based upon changes from previous week

Notes:

* Includes members placed on Active Duty under 10 USC Sections 688, 12301(a), 12302 and 12304

** Includes members placed on Active Duty under 10 USC 12301(d) and members categorized as unknown in CTS statute code

Figure 1. Unique Reserve Component Activations
(From Defense Manpower Data Center, 2010)

The CNO issued the Defense Readiness Reporting System-Navy (DRRS-N) instruction in January 2008.⁷ The purpose of this instruction was to specify the policy, procedures, and responsibilities of the USN in regards to readiness. The DRRS-N system measures and reports the readiness of Navy forces through the construct of Mission Essential Tasks (METs). A MET is a basic task constrained under given conditions and performed at a specific standard. A grouping of organizational METs make up a Mission Essential Task List (METL) and forms an organization's framework of those tasks essential to the accomplishment of assigned or anticipated missions.⁸ Table 1 identifies the primary and/or secondary missions required of a NCHB. A full listing of an NCHB's operational capabilities is found in Appendix A.

⁷ Office of the Chief of Naval Operations, OPNAVINST 3501.360: Defense Readiness Reporting System – Navy. (Washington, DC).

⁸ Navy Expeditionary Combat Command, COMNECCINST 3500.3: Navy Mission Essential Task List. (Williamsburg, VA).

Table 1. NCHB Mission Areas
 (From Office of the Chief of Naval Operations, 2008)

Mission Area
Rapidly deploy and/or mobilize personnel as mission-tasked detachments, independent units, or groups responding to worldwide requirements.
Load and discharge cargo carried in Military Sealift Command (MSC) owned and chartered commercial ships, either via in-stream or pier-side operations.
Load and discharge passengers, mail, and cargo from Airlift Mobility Command (AMC) or military-controlled aircraft, including transporting bulk mail to a distribution center.
Operate an expeditionary ocean and air cargo terminal.
Report and handle ordnance including the receipt and transshipment of ordnance from Combat Logistics Force ships, MSC ships or MSC-chartered commercial ships at an Ammunition Supply Point (ASP).
Operate aircraft/ground support equipment (GSE), such as refueling systems.
Operate and maintain bulk fuels storage facilities and laboratories.
Provide a forward Command and Control (C2) element to augment Theater Task Forces/Groups to facilitate logistics requirements for forward-deployed NCHB
Provide Combat Service Support (CSS). This function is typically organic to NAVELSG units but can augment external forces if directed.
Assist NELR in Adaptive Planning and Crisis Action Planning processes when required.
Provide feedback on training curricula.

When analyzing the benefits of establishing a training area in Alameda, these mission areas and the training necessary to perform them are considered.

B. COMMAND STRUCTURE

1. Navy Expeditionary Combat Command (NECC)

In September 2005, the CNO established NECC headquartered in Little Creek, Virginia, subordinate to Fleet Forces Command (FFC). This organization structure aligned all expeditionary forces under NECC in order that it may serve as the core manager of the readiness, resourcing, manning (active and reserve), training and equipping of such naval forces.⁹ The NAVELSG is the cargo handling force subordinate component of NECC. The NECC has a wide range of capabilities and is comprised of sailors that are trained in those areas described in Table 2.

Table 2. NECC Force Capabilities
(From Navy Expeditionary Combat Command, 2010)

Riverine	Establishes and maintains control of rivers and waterways for military and civil purposes, denies their use to hostile forces and destroys waterborne hostile forces as necessary. The Riverine force combats sea-based terrorism and other illegal activities, such as transporting components of weapons of mass destruction, hijacking, piracy and human trafficking.
Naval Construction (Seabees)	Provides a wide range of construction in support of operating forces, including roads, bridges, bunkers, airfields and logistics bases; provides responsive support disaster recovery operations; performs civic action projects to improve relations with other nations; and provides anti-terrorism and force protection for personnel and construction projects. There are seven Naval Construction Regiments that exercise command and control over the twenty one battalions and other specialized units, including two Underwater Construction Teams. “We Build, We Fight.”
Explosive Ordnance Disposal	Conducts counter-IED operations, renders safe explosive hazards and disarms underwater explosives such as mines. EOD specialists can handle chemical, biological and radiological threats and are the only military EOD force that can both parachute from the air to reach distant targets or dive under the sea to disarm weapons. EOD’s Mobile Diving and Salvage Units clear harbors of navigation hazards, engage in underwater search and recovery operations, and perform limited

⁹ Navy Expeditionary Combat Command, COMNECCINST 5440.3: Mission, Functions, and Tasks for Commander, Navy Expeditionary Logistics Support Group. (Norfolk, VA), 1.

	underwater repairs on ships.
Maritime Expeditionary Security	Supplies highly trained, scalable, and sustainable security teams capable of defending mission critical assets in the near coast environment. Expeditionary Security units provide worldwide maritime and in-shore surveillance, security and anti-terrorism force protection, ground defense, afloat defense, airfield/aircraft security and a wide range of secondary tasks from detention operations to law enforcement.
Expeditionary Intelligence	Delivers flexible, capable and ready maritime expeditionary intelligence forces that respond rapidly to evolving irregular warfare area intelligence requirements. Intelligence teams supply expeditionary warfighters with timely relevant intelligence to deny the enemy sanctuary, freedom of movement and use of waterborne lines of communication while supported forces find, fix and destroy the enemy and enemy assets within the operational environment.
Expeditionary Logistics	Delivers worldwide expeditionary logistics with active and reserve personnel to conduct port and air cargo handling missions, customs inspections, contingency contracting capabilities, fuels distribution, freight terminal and warehouse operations, postal services and ordnance reporting and handling.
Maritime Civil Affairs	Is an enabling force working directly with the civil authorities and civilian populations within a Combatant Commander's maritime area of operations to lessen the impact of military operations imposed during peace time, contingency operations and periods of declared war.
Security Force Assistance	Supports the efforts of the Combatant Commanders' Theater Security Cooperation by delivering timely, focused, and customizable training to designated host nations. Security Force Assistance draws training expertise from NECC forces and DoD to support in training delivery. Host nation training also supports critical regional stability by helping improve the nation's capabilities in exercising maritime sovereignty.
Expeditionary Combat Camera	Generates video and still documentation of combat operations, contingencies, exercises and Navy events of historical significance. COMCAM is a visual information acquisition unit, dedicated to providing rapid response aerial, surface and subsurface visual documentation of wartime operations.
Expeditionary Combat Readiness	Coordinates and oversees all administrative processing, equipping, training, deployment and redeployment of Sailors assigned as Individual Augmentees, In-Lieu of forces and to Provisional Units committed to Joint and Maritime Operations.

The NECC promulgates and sets policy for the training of all expeditionary units. The primary reference applicable to achieving war fighting readiness, as previously noted, is the Navy Expeditionary Combat Command Training Manual (NECC

TRAMAN).¹⁰ The training manual is comprised of references and principle instructions from FFC and NECC and provides the necessary guidance for the execution and administration of their training continuum. The TRAMAN also provides overall governing rules for assessment events and determining certification levels to execute the F RTP, which is discussed in Chapter V.

2. Navy Expeditionary Logistics Support Group (NAVELSG)

NAVELSG is located in Williamsburg, Virginia (Echelon IV), commonly referred to as Cheatham Annex (CAX). NAVELSG's mission is to deliver expeditionary logistics capabilities to theater commanders with active duty and mobilization-ready naval reserve sailors and the equipment required by operational plans (OPLANS), joint task force contingency operations, and in support of national military strategy. COMNAVELSG also provides logistic support during emergent task force missions, humanitarian aid and disaster relief operations. COMNECC has delegated authority to COMNAVELSG to provide expeditionary logistic support, disaster relief operations, and to conduct port and air cargo handling missions worldwide. COMNAVELSG is the Immediate Supervisor in Command (ISIC) with Administrative Control (ADCON) to oversee the inspection and assessment for the performance and readiness of its subordinate regiments and battalions.

NAVELSG develops policies, guidance, and procedures to optimize the readiness, employment and placement of active/reserve component (AC/RC) personnel. These actions are vital to ensuring the readiness of current and future force structure. COMNAVELSG assists COMNECC in concept development, planning, and budgeting for current and future navy expeditionary missions to meet requirements across the full range of military operations. NAVELSG utilizes the NECC TRAMAN as the basis for its own training manual and provides supplemental guidance to its units. This NAVELSG TRAMAN is specific in nature and includes the training requirements for the cargo handling force under the NAVELSG cognizance.

¹⁰ Navy Expeditionary Combat Command, COMNECCINST 3502.1A: Navy Expeditionary Combat Command Training Manual. (Williamsburg, VA).

To limit the scope of this analysis, this report will focus on one of those regiments, 5th Navy Expeditionary Logistics Regiment (NELR). COMNAVELSG is vital to three main aspects of this analysis because it:

- a) has budget authority to fund a West Coast training site;
- b) is intimately involved in all aspects of training from beginning to end, and;
- c) established a subordinate schoolhouse, the Training Evaluation Unit (TEU), which provides all schooling, assessments, and certification of reserve NCHBs.

3. Navy Expeditionary Logistics Regiment (NELR)

A NELR serves as the Immediate Supervisor in Command (ISIC) for assigned NCHB(s) and Expeditionary Communications Detachments (ECD). Comprised of twenty six personnel, each NELR provides administrative oversight and command and control (C2) over its assigned battalions. The regiment maintains units to provide multi-function capabilities with organic C2 to support expeditionary logistics, cargo handling and pier and terminal operations whenever and wherever demanded. Specifically, the NELR is responsible for mentoring, training, supervising, and assessing its subordinate units. Figure 2 provides a line diagram of the NELRs' hierarchy as well as their physical location.

The 5th NELR is the regiment that would be most impacted by the creation of a West Coast training unit. Figure 3 depicts the regional footprint of the 5th NELR. Although each of its NCHBs are established in three distinct locations, each NCHB operate companies apart from its headquarter unit. It should be noted that the organizational structure and authority from NAVELSG in the administration of training has not been determined. In the event that the training unit is stood up, those decisions and framework would be established by NAVELSG. The analysis of this report is limited to conducting training on the West Coast in accordance with current infrastructure standards of Williamsburg.

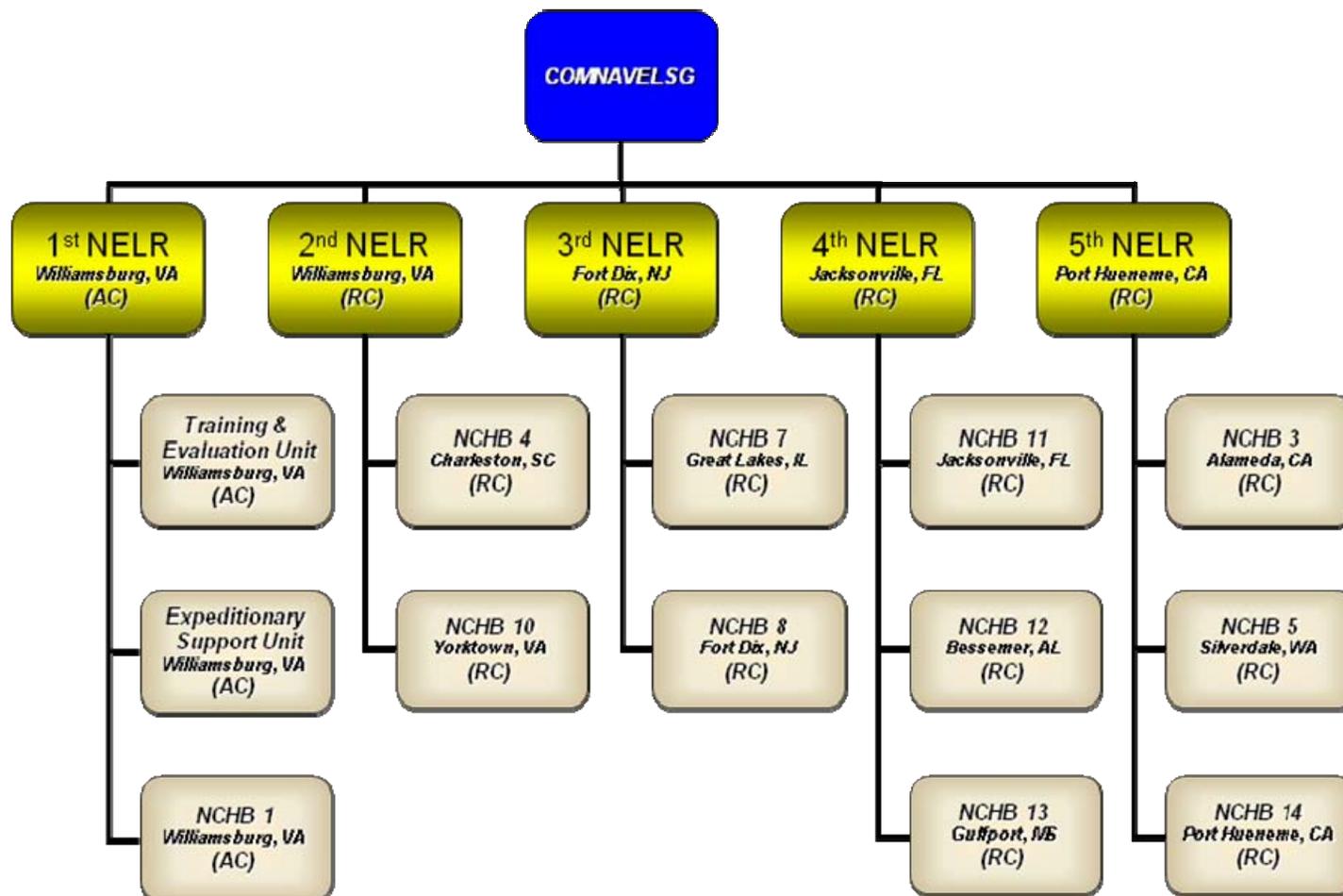


Figure 2. COMNAVELSG Organizational Structure
 (From Navy Expeditionary Logistics Support Group, 2009)

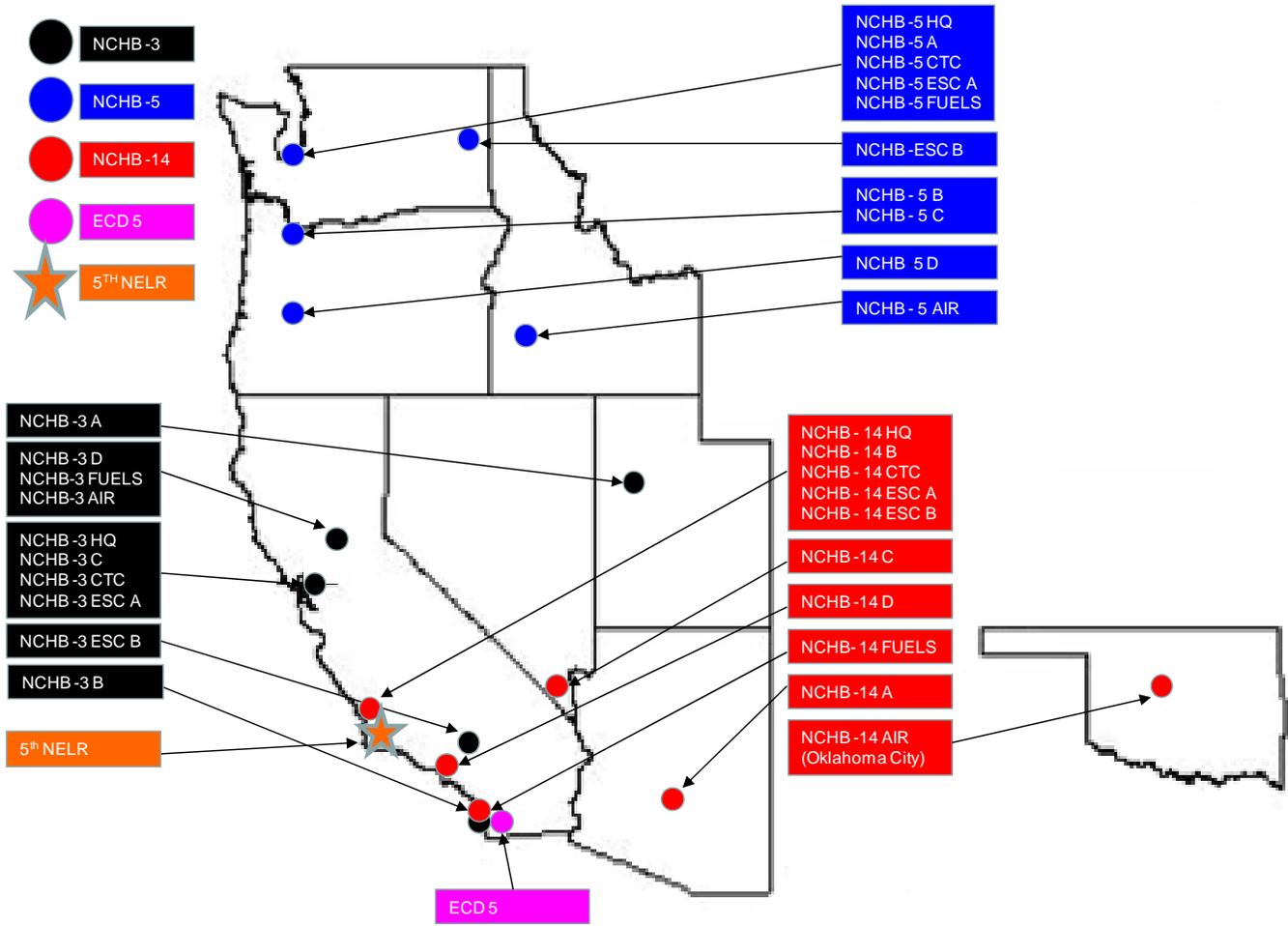


Figure 3. Fifth Navy Expeditionary Logistics Regiment Laydown

4. Navy Cargo Handling Battalion (NCHB-3,5,14)

NAVELSG commands eleven NCHBs: one active component, ten reserve components. Each battalion consists of personnel assigned to Headquarters Company, Surface Cargo Companies, Air Cargo Companies (ACCs), Expeditionary Support Companies (ESCs), Cargo Terminal Companies (CTC), and Fuel Companies. The manning level of each unit is annotated in parentheses in Figure 4. The NCHBs can rapidly deploy or mobilize as mission-tasked detachments or independent units in response to worldwide requirements to load and discharge cargo and ordnance from Military Sealift Command (MSC) ships, MSC-controlled commercial ships and Combat Logistics Force (CLF) ships in-stream or pier-side. NCHBs can also load and discharge Passengers, Mail, and Cargo (P/M/C) from Air Mobility Command (AMC) or military controlled aircraft.

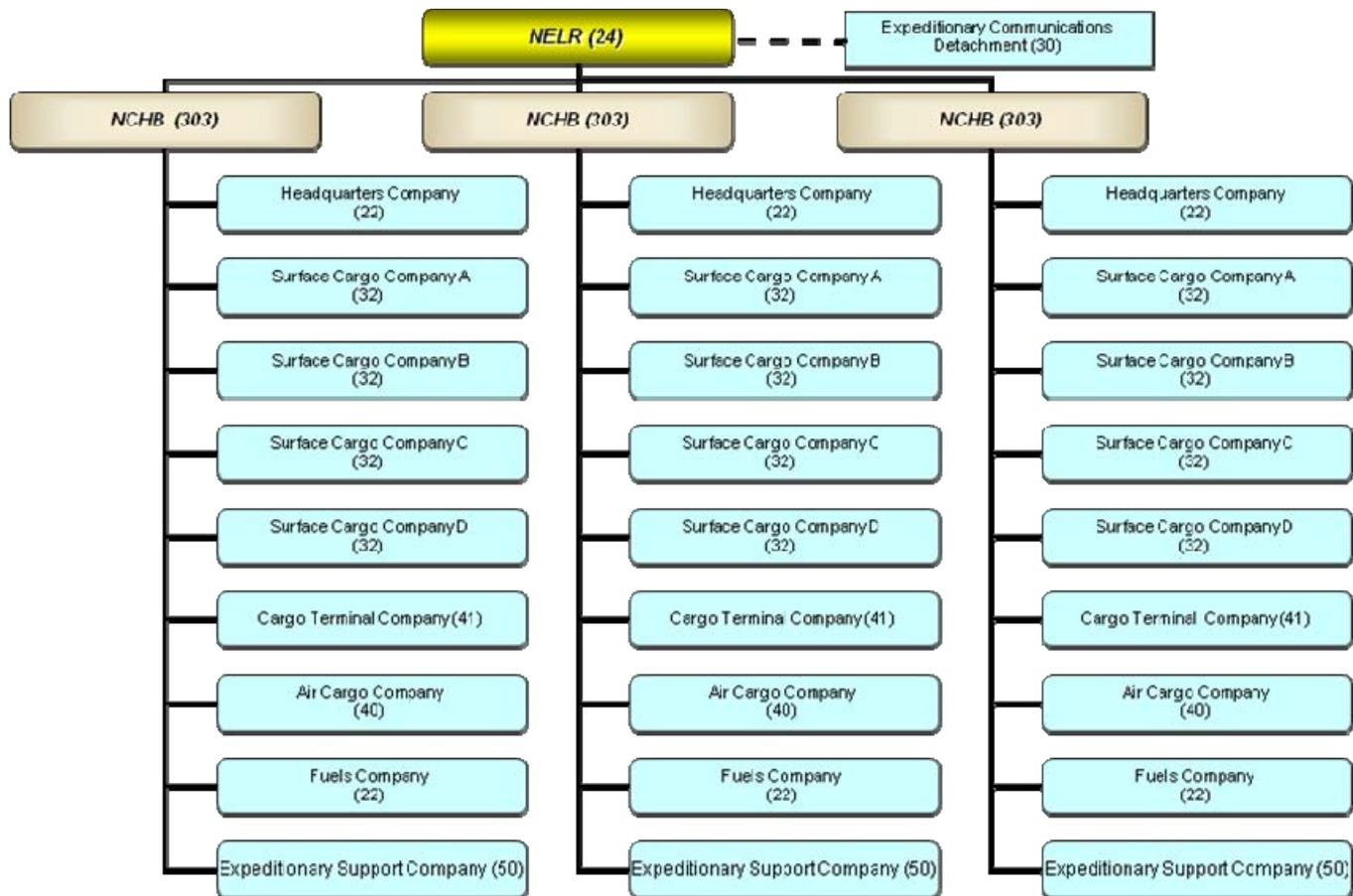


Figure 4. Navy Expeditionary Logistics Battalion Structure
 (From Navy Expeditionary Logistics Support Group, 2009)

C. SUPPORT STRUCTURE

1. Training Evaluation Unit (TEU)

The Training Evaluation Unit (TEU) is NAVELSG's "Executive Agent" for training and evaluation of its subordinate units. The TEU evaluates unit readiness through the FRTP and represents NAVELSG's training organization (TRAINORG). The FRTP is a de-conflicting schedule of major milestones and events that a unit must perform to achieve the appropriate level of readiness in order to deploy on mission. The TEU ensures standardization in conducting and assessing training and mission proficiencies and is the centralized point of contact for all of NAVELSG's units regarding training. Training is conducted through formal courses as well as mobile training teams.

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III. INFRASTRUCTURE

This chapter will discuss the assets necessary to effectively conduct training equivalent to the standards at CAX in Williamsburg, Virginia, at the Alameda site. The term “infrastructure” as it applies to this report will be limited to that portion of the infrastructure that is necessary to properly train a NCHB. The infrastructure includes lay down areas, training sites, buildings, ship assets, aviation assets, crane assets, and miscellaneous structures required to conduct the applicable training venue. When evaluating the capabilities of the Alameda training site, CAX is considered the standard against which we will benchmark.

Consistency across the force in all training aspects provides NAVELSG with the ability to surge and merge forces from various battalions. This flexibility has enabled NAVELSG to successfully conduct its missions worldwide. We will first identify the current CAX infrastructure, followed by the Alameda infrastructure, and then finally discuss the similarities and differences between the sites. This comparison will highlight key decision variables in the establishment of an Alameda training site.

A. CHEATHAM ANNEX (CAX) OVERVIEW

The CAX training site has been operational since the 1940s. The analysis of the CAX site is limited to the infrastructure use during the training. The FRTP encompasses key milestones and events used to achieve the proper readiness for a deployable battalion. Two important training events are Unit Level Training (ULT) and the Unit Level Training Readiness Assessment (ULTRA). ULT is specific training designed to prepare a battalion for an ULTRA. The two are conducted in sequence with the ULT preceding the ULTRA. The ULTRA is the most stringent of the training phases and serves as the final exam and certification of a NCHB to conduct full scale cargo operations in an austere environment.¹¹

¹¹ Navy Expeditionary Logistics Support Group, “Training Evaluation Unit Functions and Structure” (NECC Commander’s Conference Powerpoint Presentation, Williamsburg, VA, December 2009), 3–4.

Although certain conditions cannot be replicated, such as a foreign country's environment and weather conditions, the TEU maximizes its resources to facilitate the most realistic scenario possible.



Figure 5. Cheatham Annex (CAX) Overview (From Google Maps, 2010)

Figure 5 shows CAX as a robust open area encompassing numerous training assets with the freedom to perform transport trucking and other cargo operations. Having training areas to conduct large scale and simultaneous operations is invaluable. In addition to the opportunities afforded within the perimeter of CAX, there are other nearby sites, such as Newport News, that provide expanded environments in which to carry out exercises. These sites are not all inclusive; however, it should be noted that due to past training events held at various locations they all would be construed as infrastructure.

As one can see from Figures 6 through 13, operations can be conducted simultaneously without impact to one another. These operations include but are not limited to:

1. Pier operations;
onload/offload of ships
2. Marshalling yards
3. Crane operations
4. Ammo operations
5. Air cargo operations
6. Tent camp operations
7. Winch and stay operations
8. Various MHE operations; Kalmar, K-Loader and 10k Rough Terrain (RT) operations
9. Maintenance facilities
10. Cargo transport trucking
11. Entry Control Point (ECP) exercises
12. Expeditionary convoy operations
13. 463L Pallet building
14. Emergency Helo evacuation
15. HMMV operations
16. Large scale land navigation
17. Joint operations
18. Chemical Biological Radiological Defense (CBRD) training
19. Forward Operating Base (FOB) perimeter defense
20. Higher Echelon interaction due to location
21. Secure radio/SIPR communications



Figure 6. Cheatham Annex Pier
(From Google Maps, 2010)

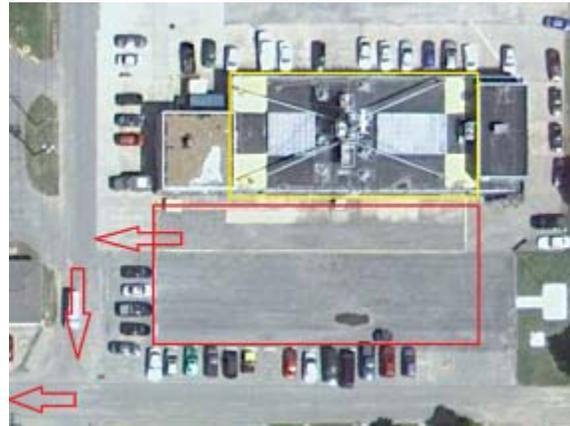


Figure 7. Landship Site
(From Google Maps, 2010)



Figure 8. C-130 Site
(From Google Maps, 2010)



Figure 9. Hagglund Crane Site
(From Google Maps, 2010)



Figure 10. Crane Site (From Google Maps, 2010)



Figure 11. Peninsula Overview (After Google Maps, 2010)



Figure 12. Newport News Ship Berths (From Google Maps, 2010)



Figure 13. Ship/Mini Marshalling Yard (From Google Maps, 2010)

B. ALAMEDA OVERVIEW

In 1995, Naval Air Station (NAS) Alameda was closed as a result of the congressional Base Closure and Realignment Commission (BRAC) process. The majority of the base facilities and assets were bought in 2006 by the city of Alameda for \$108 million.¹² Key assets needed by a reserve NCHB to conduct an ULTRA or scalable training remain available. The most important assets are the ships that belong to the Maritime Administration (MARAD). The MARAD was intimately involved with decisions made by the city of Alameda to ensure that they had a long-term lease to utilize the piers. The importance of this lease cannot be overstated and the existence of this lease is a key assumption supporting the analysis; without the ships available at Alameda, a reserve battalion would be unable to conduct shipboard training and thus not meet the requirements of their primary mission.

Over the course of the last ten years, the city has planned the complete revitalization of the land that was once NAS Alameda. Due to current economic conditions and legal disputes with the development company contracted with constructing the new site plan, timelines continue to shift to the right.¹³ These delays actually benefit the Navy cargo handling force. The Navy cargo handling force with MARAD has established Memorandum of Understandings (MoUs) to conduct training on the south end of what was once NAS Alameda. The cost in utilizing a MARAD ship for training are the same whether it is on the East Coast or West Coast. The most recent MARAD pricing from a summer exercise is found in Appendix B. MARAD ships in the ready reserve are located throughout the country. The laydown of those ships is found in Appendix C.

The Alameda infrastructure is robust and allows for numerous training opportunities. Unlike Williamsburg, the various sites associated with Alameda are not collocated in the same location; however, the majority of the vital assets to conduct complex training are within five miles of each other. It is important to note that any

¹² City of Alameda. "Alameda Point Community Partners Declines To Proceed With Developing Alameda Point." (Press Release, Alameda, CA, Sept 21, 2006), 1.

¹³ Michele Ellson, "SunCal Sues The City Of Alameda," The Island, August 5, 2010.

analysis associated with Alameda has to be considered from a reserve perspective. With CAX being manned by AC 365 days out of a year, that site provides consistency and less room for error. The proper planning and execution of utilizing the infrastructure to the fullest is essential. To understand the scope of difference, one should consider Alameda being utilized for two different two-week Annual Training (AT) exercises. The infrastructure would support a 365-day presence, if needed.

Figure 14 shows the laydown and training areas afforded to the reserve battalions. Of course no permanent structures or facilities can be built, however the old structures are available for use. One cannot predict the future relationships between the city of Alameda and MARAD; however, there is currently a twenty-year lease between the two that would indicate a long-term commitment.¹⁴



Figure 14. Alameda Waterfront (From Google Maps, 2010)

¹⁴ City of Alameda, Alameda Reuse and Redevelopment Authority, “Recommendation to Approve a 20 year Lease with the Department of Transportation Maritime Administration (MARAD).” (Memorandum, Alameda, CA, Feb 1, 2006), 3-B.



Figure 15. Alameda Crane Ships

NCHB3 has been conducting reserve operations at its local Navy Operational Support Center (NOSC) for a number of years. The NOSC compound itself is relatively new and has sufficient space, lay down and facilities to support the five hundred Navy and Marine Corps reservists. When discussing the NOSC infrastructure it will be divided into two areas; main building and maintenance/warehouse facilities. The main building has ten classrooms, in excess of the five classrooms needed to conduct classroom training. It also has conference rooms, hygiene facilities, and an array of other amenities. At the time of writing this analysis, it would be appropriate to say the classroom facilities are in better condition than any of the classrooms in CAX. The accuracy of this statement will be short-lived due to a multi-million dollar training facility currently under construction in CAX.

In order to have the capability of providing effective training, the maintenance infrastructure must be considered. The maintenance/warehouse facilities are minimal but appropriate for the current Civil Engineering Support Equipment (CESE) and supplies on location. The maintenance facility floor plan is provided in Appendix D. To conduct a

full ULTRA that CESE inventory would need to increase. The current maintenance facility would require additional assets, tools, and miscellaneous equipment. No analysis is conducted in this paper to establish the additional costs associated with increasing manning to perform maintenance. That analysis would be outside the scope of establishing a training site in Alameda mainly due to the myriad combinations of different CESE packages the higher echelon would deem necessary to be located in Alameda. The analysis of the associated maintenance costs of additional CESE located in Alameda is recommended as future research.

To alleviate any confusion, an example is provided. Consider the total requirements for an entire reserve battalion, which is seven M-915 trucks. It would be unrealistic to have those seven trucks located in Alameda when the usage would only require three or four based on a reasonable training scenario. Those cost differences for maintenance from three to seven are different and decisions regarding whether to analyze and direct the movement of additional CESE to Alameda from Williamsburg will be made by the staff at NAVELSG.



Figure 16. Navy Operational Support Center (NOSC), Alameda
(From Google Maps, 2010)

Figures 17 and 18 depict the three main infrastructure locations applicable to establishing an Alameda training site, which are the Alameda NOSC, Alameda Waterfront, and Camp Parks Reserve Forces Training Area (PRFTA). The PRFTA is a potential tent camp basing area and will be discussed in Chapter IV.

This chapter has identified the infrastructure existing in both Williamsburg and Alameda. Without proper Alameda infrastructure to complement the existing Williamsburg site, this project would be difficult to support. It is determined that the three Alameda sites (Waterfront, NOSC, Camp Parks) can provide equivalent level of capability as that of Williamsburg.

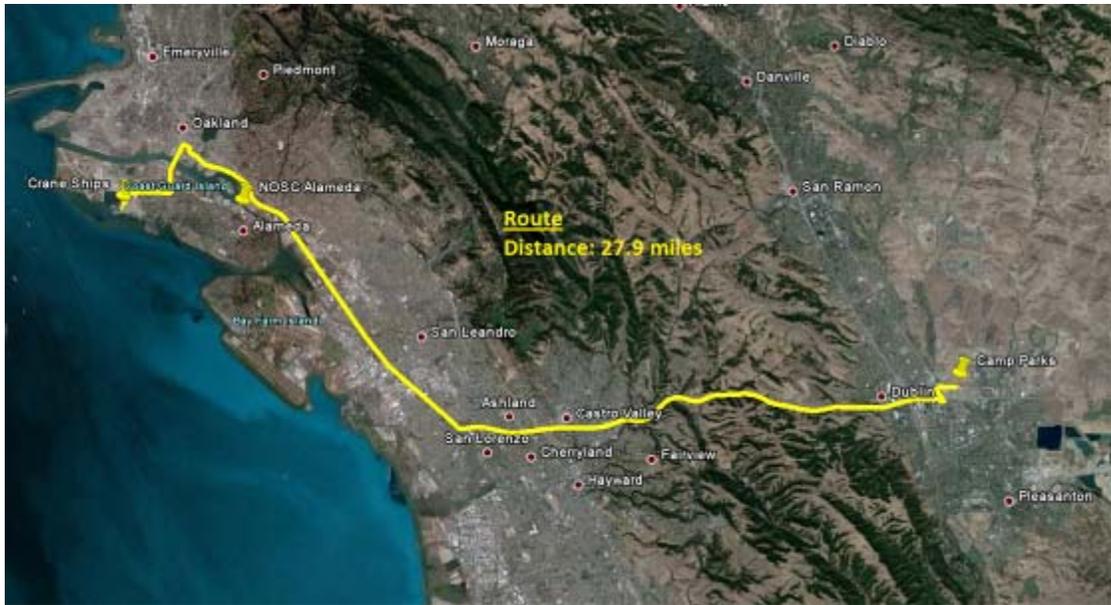


Figure 17. Waterfront to Camp Parks (After Google Maps, 2010)



Figure 18. Waterfront to NOSC (After Google Maps, 2010)

IV. SUPPORT EQUIPMENT

This chapter emphasizes the cargo handling force support requirements necessary to conduct cargo operations. A NCHB performs both primary and secondary missions. A primary mission of rapidly deploying personnel as detachments, independent units, or groups responding to worldwide requirements is scalable. Another mission is the ability to perform Combat Service Support (CSS), which includes: (1) field messing and billeting for internal/organic camp staffing, (2) vehicle maintenance and dispatch, to include 3M and TOA management, (3) camp maintenance, capable of providing organic tent camp support, which includes establishment of camp power distribution trouble desk management, and utilities for assigned units, and (4) armory personnel to establish and manage a field armory for assigned units.¹⁵

A typical battalion requires Civil Engineer Support Equipment (CESE) and life support equipment to operate in austere environments; however, because each battalion has different capabilities any particular mission may be different. The TOA encompasses the entire allowance of organizational equipment and material required for mission accomplishment. These missions are set up in adaptive force packages requiring portions or all of the TOA allotted to be utilized.

A. TENT CAMP/LIFE SUPPORT

Due to diverse operations throughout the world, NCHBs must have the ability to construct a tent camp for all of its personnel during deployments. A tent camp encompasses all aspects of life support for the troops. A basic Base X tent is illustrated in Figure 19, although it is possible that one unit may have a different version or model of tents in their TOA.¹⁶ The key takeaway is that all models are of similar size and function that utilize the same square footage. The standard benchmark for the appropriate tent

¹⁵ Office of the Chief of Naval Operations, OPNAVINST 3501.101D: Projected Operational Environment and Required Operational Capabilities for Navy Expeditionary Logistics Support Group. (Washington, DC). (Appendix A).

¹⁶ The TOA for each NCHB unit was not analyzed to determine whether the exact national stock number (NSN) was the same for every unit.

camp is the existing laydown area associated with CAX referenced in Figure 20. Tent camps can be constructed to support thousands of troops and have been in past exercises. A recent example was the Joint Logistics Over-The-Shore (JLOTS) exercise at Camp Pendleton in 2009. Referencing this exercise is of importance due to the fact that the cargo handlers were supported by the Army, thus they fell into an already established tent camp. It will not always be the case that Navy cargo handlers will be supported by a different Service or a larger unit and therefore the NCHB requirement of tent camp construction exists in the ROC/POE.



Figure 19. Base X Tent (From Kristin McHugh, 2007)

Illustrated in Figure 20 is the current tent camp at CAX, and is used as the Alameda requirement. It is noted that this tent camp does not efficiently use the land on which it is built, mainly because of the availability of space at CAX. There are two options to establish a tent camp in Alameda: Option A at Camp Parks and Option B at the NOSC (Figures 21 and 22). Option A is preferable as it provides greater laydown area between the two. The NOSC option is viable but would require personnel parking at the waterfront and bussing them to the NOSC.



Figure 20. Cheatham Annex (CAX) (After Google Maps, 2010)

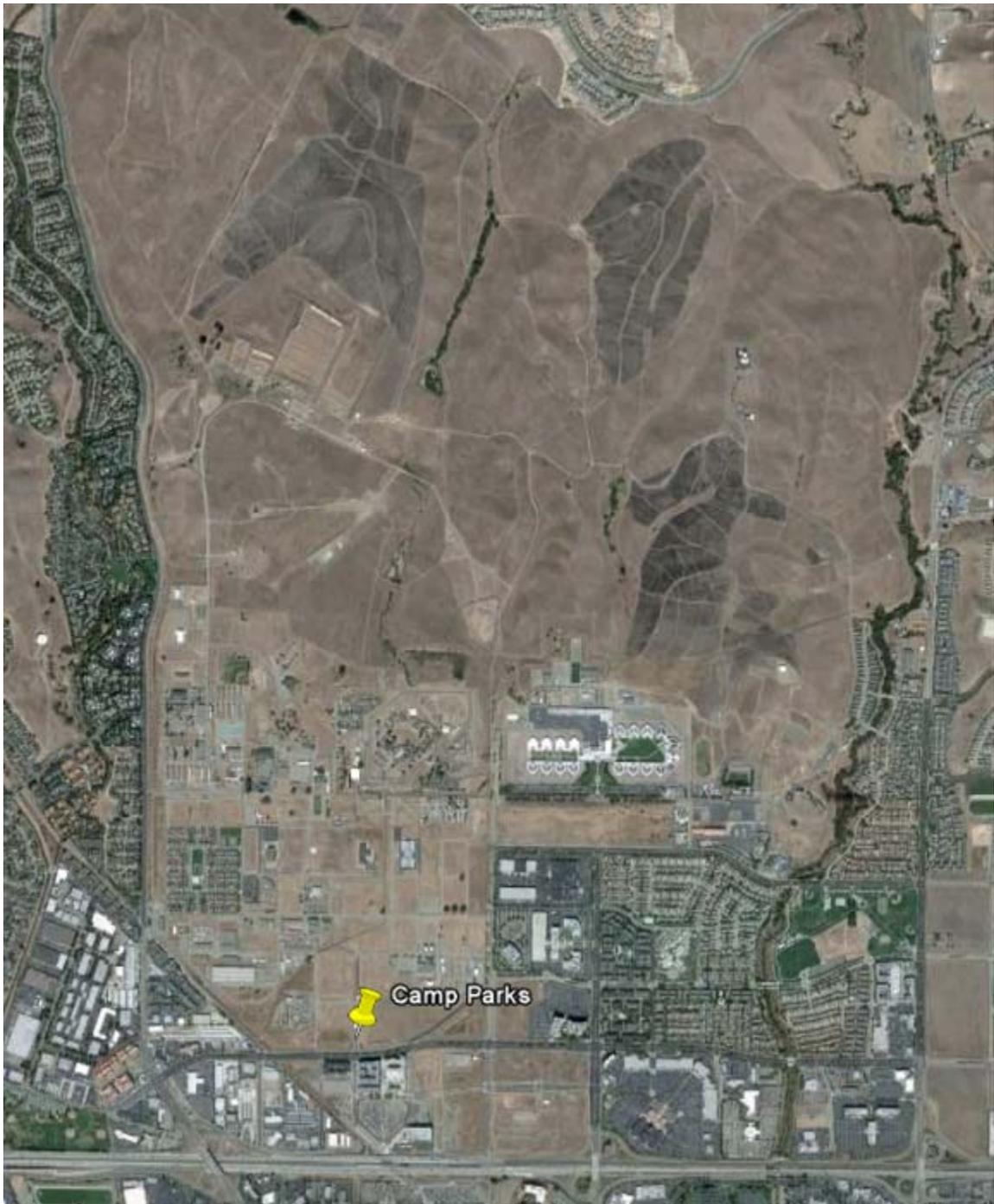


Figure 21. Alameda Option A – Camp Parks (From Google Maps, 2010)

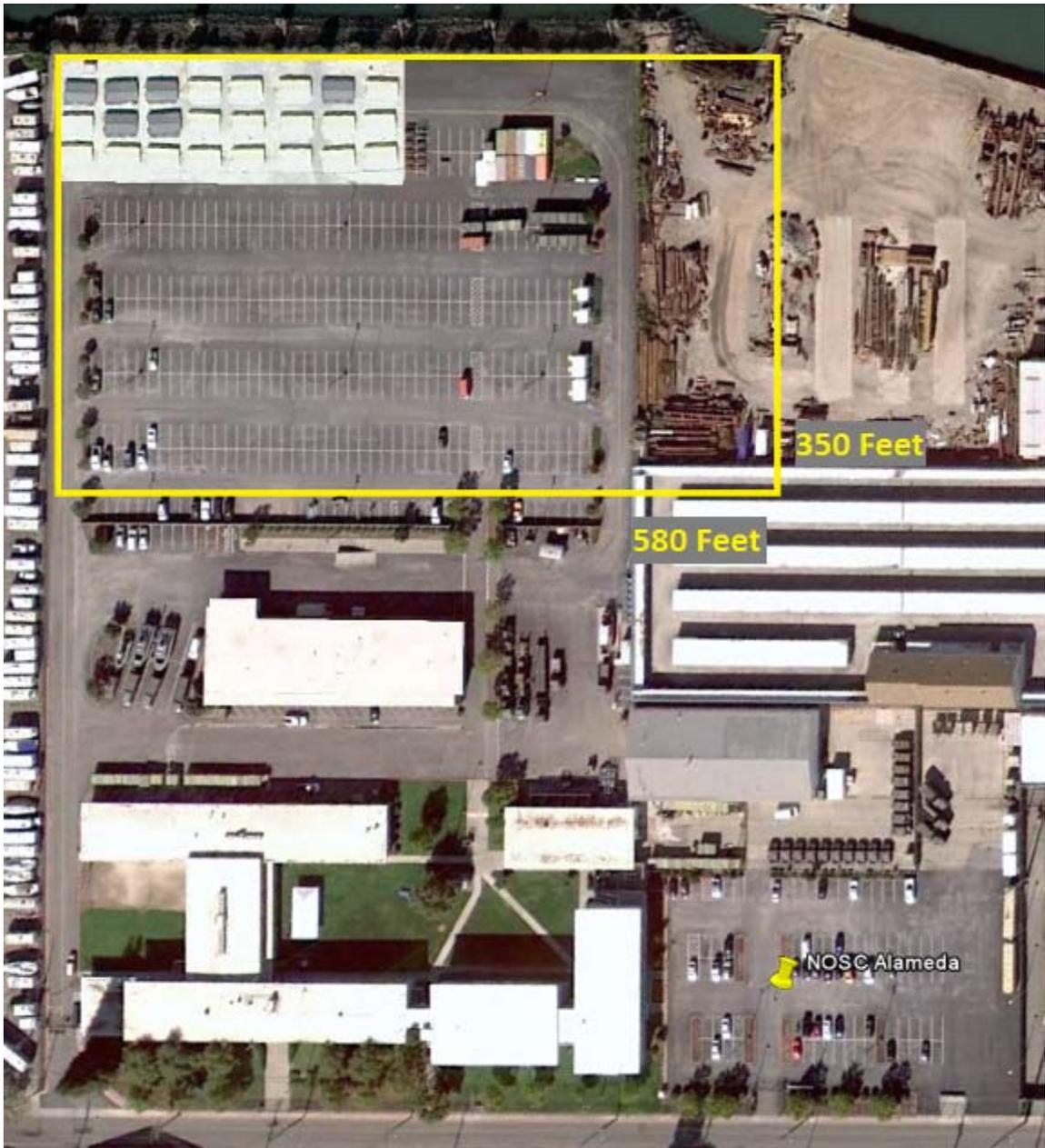


Figure 22. Alameda Option B – NOSC (After Google Maps, 2010)

The following functional areas will serve as a basic guideline to enable the reader to understand the associated TOA required from the existing CAX site. During the course of this study, we encountered the perception that a “training TOA” existed apart from the main TOA. Technically, there is no such thing as a “training TOA.” There are training assets that are utilized from an existing complete TOA associated with the

equipment, parts and supplies needed for a NCHB to conduct its mission anywhere in the world. Those assets that are taken from the actual TOA are referred to as a “training TOA.” The term “training TOA” is simply the assets used to train a NCHB.

The operational support areas that are organic expeditionary logistics support are field messing, billeting, and camp maintenance. The field messing and billeting requirement is to provide berthing and messing services are up to 350 personnel. The camp maintenance requirement is to provide tent camp set-up, support, and maintenance, including the power distribution, shower units, potable water production, Trouble Desk management and a limited vertical construction for a 350 personnel.

B. CIVIL ENGINEER SUPPORT EQUIPMENT (CESE)

The success of establishing a second training site at Alameda, and the effectiveness of that site in creating and maintaining a ready cargo handling force, hinges on the repositioning of Civil Engineer Support Equipment (CESE) from CAX to Alameda, CA. The principle tasking and capabilities of a NCHB are classified in six operational areas, which include: (1) MPS cargo handling operations, (2) cargo terminal operations, (3) ordinance reporting teams, (4) air cargo operations, (5) warehouse operations, and (6) fuels operations.¹⁷ Each of these operations utilizes a portion of the entire allotted TOA. Each specific mission requires a variety of CESE, and serves the vital purpose of moving cargo from one location to another. Individual fact sheets on each piece of equipment are contained in Appendix E.

Table 3 provides a full listing the standard CESE TOA needed to perform all cargo operations required of a NCHB by the ROC/POE. The data in this table was constructed from information in the NAVFAC (Naval Facilities) Expeditionary Logistics Center Advanced Base Functional Component/Table of Allowance Relational Database, an online relational database for the management of all expeditionary allowances. Each piece of equipment has its own support, maintenance, training and qualification

¹⁷ Office of the Chief of Naval Operations, OPNAVINST 3501.101D: Projected Operational Environment and Required Operational Capabilities for Navy Expeditionary Logistics Support Group. (Washington, DC). (Appendix A).

requirements. An important concept to understand it that when a NCHB is tasked to deploy to an austere environment, the amount of CESE allocated to a particular mission is tailored to that mission.

The majority of NAVELSG's TOA is located at CAX, the same location as the TEU and the TOA managers. Centralization provides consistent, comprehensive management of the assets for the use by NCHBs. Centralizing also affords the maintenance capacity to maintain a large inventory of CESE. When a battalion is called upon to deploy, they are mobilized at CAX. From CAX, all CESE and TOA needs are distributed in a manner conducive to mission success.

Currently, only a small portion of a reserve NCHB's actual TOA is located at their particular home station. This abbreviated allocation is listed in Table 4. From a training perspective, each NCHB must be provided some minimal allowance in order to train their sailors for operational and maintenance proficiency. This allowance, however, is limited by the number of Construction Mechanics (CM) assigned to the unit. Effective vehicle maintenance, dispatch and licensing require an appropriate level of manning of those who have skills to perform preventative and corrective maintenance actions.

To conduct the training needed at Alameda, the inventory of CESE must be increased. Of the numerous exercises and training applications that utilize CESE, the ULTRA demands the greatest, and it is therefore the standard. Table 5 identifies the equipment needs of a battalion conducting a ULTRA at CAX. Requirements of an Air Cargo Company and a Fuel Company have been omitted from the analysis because from a cost efficiency standpoint, any duplication or complement to Williamsburg for such a small manning group is not advantageous. These units utilize Air Force bases, fuel depots and other assets of opportunity co-located in their respective home regions.

Table 5 is extensive and is not the norm of the ULTRAs performed for the last two years; however, it does reflect the maximum equipment needed for certification of a fully manned NCHB of 304 personnel. ULTRA's can be and have been scaled to employ less than the full manning requirement. Table 6 illustrates the appropriate level of CESE required to perform a full scale ULTRA in Alameda given the equipment presently on site.

Table 3. NCHB Total Allocated CESE

	ACC	CTC	ESC	FUEL	HQCO	SCC #1	SCC #2	SCC #3	SCC #4	Total	
2320-LL-LCA-0206	LSSV CARGO CREWCAB 4X4 TROOP SEATS	2	2	4	2		3	3	3	3	22
2320-01-195-0532	TRUCK STAKE 6X6 DED AUTOMATIC TRANSMISSION ISO	2	6	2							10
2320-01-339-8009	TRUCK TRACTOR 6X4 DED AUTOMATIC TRANSMISSION 15	1	6								7
2330-01-113-8658	SEMI-TRAILER HIGHBED 20T ROLLER/CONVEYOR DECK 40FT	1									1
2330-01-331-5417	SEMITRAILER STAKE BREAKBULK/ISO CONTAINER		6								6
2330-LL-LC3-2757	SEMITRAILER LOWBED 55T DED HYDRAULIC POWERED		6								6
2320-01-195-0531	TRUCK DUMP 6X6 DED AUTOMATIC TRANSMISSION 10CU			1							1
2320-01-179-0669	TRUCK WRECKER 6X6 DED AUTO TRANS 25 TON FRONT/			1							1
2320-01-240-2835	TRUCK TANK FUEL 4X4 DED 1500 GALLON			1							1
2330-01-108-7367	TRAILER TANK 400 GALLONS STAINLESS STEEL TANK 2			8							8
3825-01-198-1233	DISTRIBUTOR WATER 2 000 GAL TRUCK MOUNTED 6X6			1							1
2420-01-318-9186	TRACTOR WHEELED INDUSTRIAL 4 X 2 60 NET HP MIN			1							1
2320-LL-LC3-2750	TRUCK CLEANER SEPTIC TANK MTD			1							1
2320-01-090-7811	TRUCK TANK AIRCRAFT REFUELING UNIT 6X4 DED				1						1
2320-LL-LC3-2805	HMMWV M1151A1B1 ARMNT CARRIER FULL ARMOR					2					2
6230-LL-LCA-0220	FLOODLIGHT SET MLT5060MIT	4	6	6	3		2	2	2	2	27
3930-01-508-0886	TRFK FORKLIFT RT 11K EXT BOOM	3	4	2			1	1	1	1	13
3930-LL-LC3-2772	TRUCK FORKLIFT 20000 LB CAP ROUGH DED	1									1
3930-01-522-7364	FORKLIFT 53K CAPABILITIES DIESEL RT CONT HANDLER		3								3
3930-LL-LCA-0178	TRUCK FORKLIFT 6 000 LB ELECTRIC SOLID RUBBER					1	1	1	1	1	4
3930-00-955-3293	TRUCK K-LOADER 25K ELEVATING PLATFORM	2									2
7360-LL-LCA-0199	KITCHEN FLD TFK 250 TRLR MTD EXPAND SELF-CONTAINED			2							2

Table 4. NCHB Training CESE

		TRAINING
2320-LL-LCA-0206	LSSV CARGO CREWCAB 4X4 TROOP SEATS	1
2320-01-195-0532	TRUCK STAKE 6X6 DED AUTOMATIC TRANSMISSION ISO	1
2320-01-339-8009	TRUCK TRACTOR 6X4 DED AUTOMATIC TRANSMISSION 15	1
2330-01-331-5417	SEMITRAILER STAKE BREAKBULK/ISO CONTAINER	1
2330-LL-LC3-2757	SEMITRAILER LOWBED 55T DED HYDRAULIC POWERED	1
6230-LL-LCA-0220	FLOODLIGHT SET MLT5060MIT	1
3930-01-508-0886	TRFK FORKLIFT RT 11K EXT BOOM	1
3930-LL-LCA-0178	TRUCK FORKLIFT 6 000 LB ELECTRIC SOLID RUBBER	1

Table 5. ULTRA Required CESE

	ACC	CTC	ESC	FUEL	HQCO	SCC #1	SCC #2	SCC #3	SCC #4	Total
2320-LL-LCA-0206		2	4							6
2320-01-195-0532		6	2							8
2320-01-339-8009		6								6
2330-01-113-8658										
2330-01-331-5417		4								4
2330-LL-LC3-2757		4								4
2320-01-195-0531										
2320-01-179-0669										
2320-01-240-2835			1							1
2330-01-108-7367			8							8
3825-01-198-1233										
2420-01-318-9186			1							1
2320-LL-LC3-2750										
2320-01-090-7811										
2320-LL-LC3-2805										
6230-LL-LCA-0220		6	6			2	2	2	2	20
3930-01-508-0886		4	2							6
3930-LL-LC3-2772										
3930-01-522-7364		2								2
3930-LL-LCA-0178						1	1	1	1	4
3930-00-955-3293										
7360-LL-LCA-0199			2							2
2310-01-394-8309		2								2

Table 6. Training Site Shortfall

		REQUIREMENT	EXISTING	Δ
2320-LL-LCA-0206	LSSV CARGO CREWCAB 4X4 TROOP SEATS	6	1	5
2320-01-195-0532	TRUCK STAKE 6X6 DED AUTOMATIC TRANSMISSION ISO	8	1	7
2320-01-339-8009	TRUCK TRACTOR 6X4 DED AUTOMATIC TRANSMISSION 15	6	1	5
2330-01-113-8658	SEMI-TRAILER HIGHBED 20T ROLLER/CONVEYOR DECK 40FT			
2330-01-331-5417	SEMITRAILER STAKE BREAKBULK/ISO CONTAINER	4	1	3
2330-LL-LC3-2757	SEMITRAILER LOWBED 55T DED HYDRAULIC POWERED	4	1	3
2320-01-195-0531	TRUCK DUMP 6X6 DED AUTOMATIC TRANSMISSION 10CU			
2320-01-179-0669	TRUCK WRECKER 6X6 DED AUTO TRANS 25 TON FRONT/			
2320-01-240-2835	TRUCK TANK FUEL 4X4 DED 1500 GALLON	1		1
2330-01-108-7367	TRAILER TANK 400 GALLONS STAINLESS STEEL TANK 2	8		8
3825-01-198-1233	DISTRIBUTOR WATER 2 000 GAL TRUCK MOUNTED 6X6			
2420-01-318-9186	TRACTOR WHEELED INDUSTRIAL 4 X 2 60 NET HP MIN	1		1
2320-LL-LC3-2750	TRUCK CLEANER SEPTIC TANK MTD			
2320-01-090-7811	TRUCK TANK AIRCRAFT REFUELING UNIT 6X4 DED			
2320-LL-LC3-2805	HMMWV M1151A1B1 ARMNT CARRIER FULL ARMOR			
6230-LL-LCA-0220	FLOODLIGHT SET MLT5060MIT	20	1	19
3930-01-508-0886	TRFK FORKLIFT RT 11K EXT BOOM	6	1	5
3930-LL-LC3-2772	TRUCK FORKLIFT 20000 LB CAP ROUGH DED			
3930-01-522-7364	FORKLIFT 53K CAPABILITIES DIESEL RT CONT HANDLER	2		2
3930-LL-LCA-0178	TRUCK FORKLIFT 6 000 LB ELECTRIC SOLID RUBBER	4	1	3
3930-00-955-3293	TRUCK K-LOADER 25K ELEVATING PLATFORM			
7360-LL-LCA-0199	KITCHEN FLD TFK 250 TRLR MTD EXPAND SELF-CONTAINED	2		2

V. FLEET READINESS TRAINING PLAN AND COST-BASED ANALYSIS

Establishing a West Coast training site at Alameda, California requires a comprehensive analysis of the costs coupled with the Fleet Readiness Training Plan (FRTP) framework. This chapter has two key parts: (1) FRTP and (2) cost-based analysis. The FRTP and the costs associated with training are intricately woven together. The more training events scheduled in Williamsburg during a FRTP cycle, the greater the travel costs to West Coast battalions. The goal of this cost-based analysis is to quantify the total costs of conducting FRTP training events in Alameda for West Coast battalions. With improving training readiness being the ultimate goal of establishing any training site, it is extremely important to understand how the FRTP schedule impacts costs.

We limited the cost-based analysis to quantifying current costs against potential cost savings. By identifying the baseline costs in the tables and figures of this chapter, we could more easily present the potential cost savings. There will be nominal and unexpected costs that are not included. Costs such as fuel, berthing, and messing are irrelevant as they are incurred irrespective of where they are physically expended.

A. FLEET READINESS TRAINING PLAN

It is central that the goals of a unit's CoC remain in line with the cargo handling force's strategic goal of increasing its mission readiness. The FRTP schedule is the administrative tool by which this is accomplished.

The Navy's Fleet Response Plan (FRP)¹⁸ is developed by FFC to meet the strategic and operational objective of national security and the nation's interests. Operational plans (OPLANS) are put into place to respond to a myriad of real world contingencies in various geographical locations across the planet. Based upon the FRP, NECC establishes a comprehensive design of how exactly training is to be conducted and

¹⁸ Office of the Chief of Naval Operations, OPNAVINST 3000.15: Fleet Response Plan. (Washington, DC).

measured. This plan must produce a proficient force ready to execute any OPLAN on relatively short notice. Because each of NECC's forces possesses differing capabilities, each FRTP is uniquely tailored to that particular component. All NECC ISIC commands develop structures to support the overall total force concept in the execution of their respective missions.

As noted in Chapter I, NAVELSG is the ISIC designed specifically with cargo handling capabilities. NAVELSG provides policy and guidance inputs to the NECC TRAMAN as they relate to training and implementation of the FRTP for its cargo forces.

Spanning forty eight months, the NAVELSG FRTP is divided into four phases punctuated by various milestones and certifications. The four phases include: Maintenance, Basic, Advanced, Sustainment. Figure 23 is a graphical representation of the FRTP, with each battalion identified by a diamond at the top of the graphic. Dependent on the particular phase of the FRTP cycle, differing battalions are at differing stages of readiness at any one point of time.



UNCLASSIFIED

Navy Cargo Handling Battalion FRTPT (48-Month Training/Employment Cycle)

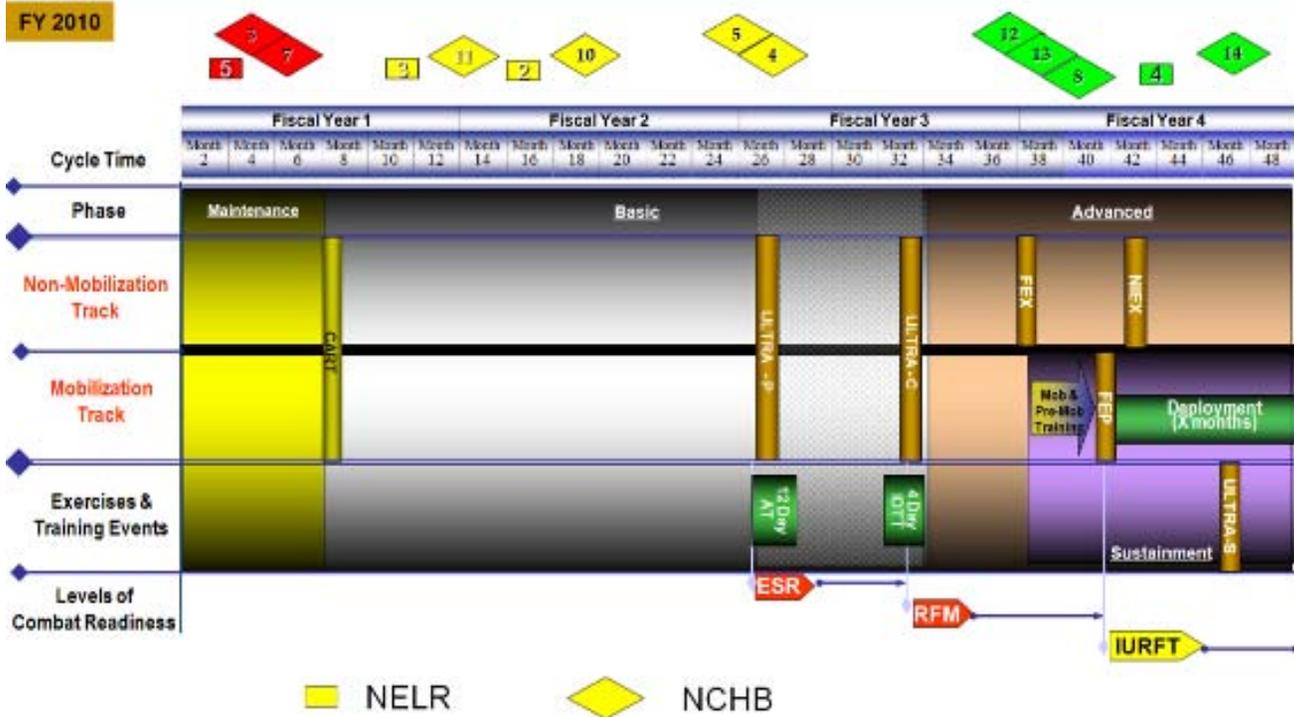


Figure 23. Fleet Readiness Training Plan (FRTPT) Phases
(From Navy Expeditionary Logistics Support Group, 2009.)

As stated in Chapter II, the TEU is NAVELSG’s executive agent for standardized training. The TEU’s core mission revolves around enhancing and developing a NCHB’s readiness throughout the entire FRTP cycle. The maintenance and basic phases, however, are particularly school house intensive.

Table 7. Formal TEU Courses

LIST OF COURSES	LENGTH	# INSTRUCTORS	STUDENTS		PRE- REQ'S
			MIN	MAX	
TECHNICAL SKILLS					
Basic Air Cargo Handling	5 days	3	6	25	NEC 2821/9502 OR 9502 w/SME
Advanced Air Cargo Handling	5 days	3	6	25	NEC 2821/9502 OR 9502 w/SME
Basic Shipboard Cargo Handling	10 days	4	10	30	NEC 9570/9502 OR 9502 w/SME
Advanced Shipboard Cargo	5 days	2	6	25	NEC 9570/9502 OR 9502 w/SME
MPS Hagglunds Crane	10 days	5	6	25	NEC 9502 OR 9502 w/ SME
Expeditionary Cargo Operations	10 days	2	4	25	NEC 9502 OR 9502 w/ SME
Explosive Driver	5 days	2	4	12	NEC 9502 OR 9502 w/ SME
Explosive Forklift	5 days	2	4	12	NEC 9502 OR 9502 w/ SME
Field Messing	10 days	2			NEC 9502 OR 9502 w/ SME
NON-TECHNICAL SKILLS					
BUS driver	5 days	1		15	NEC 9502 OR 9502 w/ SME
MMVs	3 days	1		12	
Field Communications	4 days	1		25	
Combat Skills (Perimeter Defense)	1 day	2		25	
Hatch Team Training	1 day	2		*	* 1-3 Hatch teams (7-9 pax each)
Explosive Driver Recertification	2 days	1		12	
Explosive Forklift Recertification	.5 day	1		12	
Chemical/Biological/Radiological Def	1 day	2		25	
Basic Convoy	1 day	2		25	
FATS	.5 day	2		25	
Small Arms Familiarization	.5 days	2		25	
HMMWV	2 days	2		20	
Stake/Tractor/Trailer	4 days	3		10	

The thirteen formalized school house courses instructed by the TEU are listed in Table 7. These courses have a variety of requirements and/or prerequisites. Each course is required to be taught by a certified 9502 instructor. Even though a NCHB may have a unique and highly knowledgeable Subject Matter Expert (SME), the TEU maintains rigid standards by requiring formal 9502 instructor certification. Course standardization and curriculum certification prevents jeopardizing the quality of instruction.

The subjective decision whether or not to conduct classroom training in Alameda must be thoroughly vetted and analyzed so as not to place quantity over quality. To replicate the full CAX classroom schedule in Alameda is unrealistic and cannot be supported with the current TEU manning. In order that high quality instruction remains consistent and measurable, it is imperative that stability maintained by the consistent controls of the TEU staff.

Alameda has the classroom capability and resources for TEU personnel to teach these courses on site. This analysis focuses on the infrastructure capability and not the capacity of executing training. It recognizes that the TEU has limited manning may be prevented from conducting simultaneous classroom training on both coasts.

The TEU administers and assesses each unit during the course of the FRTP. This is done specifically during the ULT and ULTRA on location at CAX. ULT is introductory/refresher training designed to solidify basic unit level cohesion. The ULTRA is the most extensive exercise that certifies the unit's ability to deploy. It encompasses a full array of C2 operations with a focus on NELR integration, surface cargo, marshalling yard, and air cargo operations. The successful completion of the ULTRA marks the end of the basic phase.

B. COST-BASED ANALYSIS (CBA)

Our cost-based analysis (CBA) involves both sunk costs and emergent costs associated with personnel and equipment under the 5th NELR's guidance. We define sunk costs are those costs that NCHB-3 is currently spending on day to day operations such as facilities, land and equipment. Emergent costs are those costs that result from establishing a second training site. These emergent costs fall among two broad categories; travel and CESE relocation.

1. Travel Costs

Currently, there is one training site at CAX in Williamsburg, VA. All sailors from NCHB-3, 5, 14 and 5th NELR are required to travel between CAX and their permanent duty station (illustrated in Figure 24). They do so for a variety of reasons including schooling, training, and certifying events.

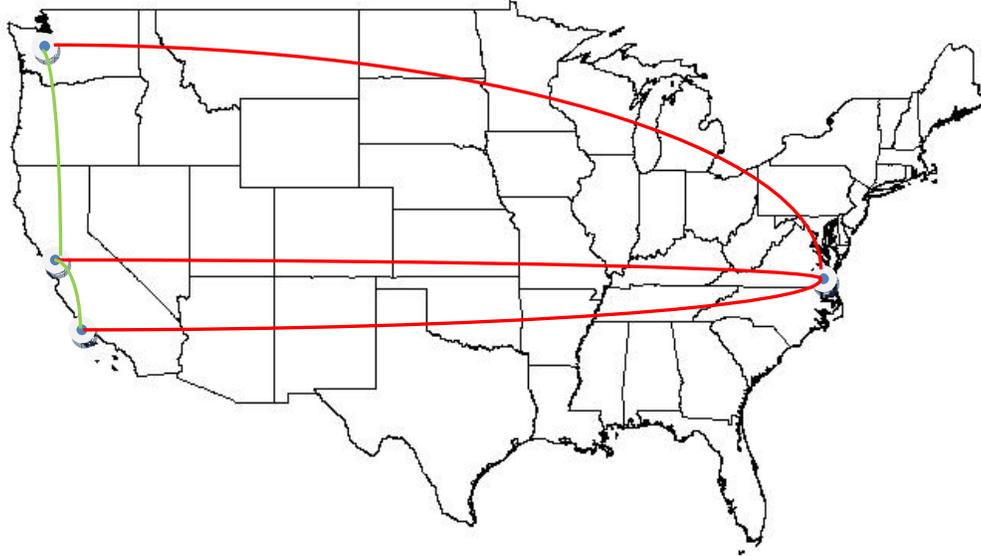


Figure 24. Training Travel Routes

Travel distances, time and costs are used to develop measurable means of evaluating the cargo force’s current operating expenses. Table 8 reflects these metrics as they relate to the stand up of an Alameda training site. The itineraries found in the table directly apply to the three NCHBs under the 5th NELR (NCHB-3, 5, 14). Average flight costs are calculated based on current market valuation and stem from historically used routes.

Table 8. Flight Time, Distance, and Round Trip Cost

Origin	Stop	Distance	Time	Stop	Destination	Time	Distance	Cost
Alameda (Oakland)	N/A	N/A	N/A	N/A	Seattle-Tacoma	2:00	672 miles	\$ 400
Alameda (Oakland)	N/A	N/A	N/A	N/A	Port Hueneme (Los Angeles)	1:15	336 miles	\$ 300
Alameda (Oakland)	Denver	954 miles	2:30	Denver	Richmond	5:30	1480 miles	\$ 800
Seattle-Tacoma	Chicago	1710 miles	4:15	Chicago	Richmond	2:00	640 miles	\$ 1200
Port Hueneme (Los Angeles)	Charlotte	2120 miles	4:30	Charlotte	Richmond	1:05	256 miles	\$ 700

Table 9 uses the fare structure constructed in Table 8 and calculates the round trip costs of transporting each 304 man battalion from their home station to one of two destinations. Were a single training event involving the three 5th NELR units held in Alameda vice Williamsburg, NAVELSG would recognize a savings of \$608,000.

Table 9. Summary of Unit Costs for Round Trip Travel

Unit	Cost to Williamsburg	Cost to Alameda	Difference
NCHB 3 (304 PAX)	\$ 243,200	\$ 0	\$ 243,200
NCHB 5 (304 PAX)	\$ 364,800	\$ 121,600	\$ 243,200
NCHB 14 (304 PAX)	\$ 212,800	\$ 91,200	\$ 121,600
Total	\$ 820,800	\$ 212,800	\$ 608,000

Tables 10 through 12 illustrate the cost savings afforded by reducing the need to fly the three West Coast NCHBs to Williamsburg, VA. Each table is individualized to a NCHB and reflects of the geographical concentration of that particular unit; NCHB-3 in the San Francisco Bay area, NCHB-5 in the Seattle area, and NCHB-14 in the Los Angeles area.

A typical unit must travel to Williamsburg for classroom training in the first year of the FRTP. This year is focused on completing those classes required to obtain qualification prerequisites. The second year of the FRTP includes additional class requirements and offers a makeup opportunity for those failing to complete classes during year one. The third year of the FRTP is travel intensive, requiring two visits for both the the ULT and ULTRA. Over the 48 month period of the FRTP cycle, a \$2,491,600 savings could be realized.

Table 10. Annual NCHB-3 Cost Savings

Unit: NCHB 3	F RTP Phase	Cost to Williamsburg	Cost to Alameda	Savings
FY1	School Focused	\$ 243,000	\$ 0	\$ 243,000
FY2	Post CART Basic Phase	\$ 243,000	\$ 0	\$ 243,000
FY3	ULT/ULTRA Phase	\$ 486,000	\$ 0	\$ 486,000
FY4	Mobilization/Advanced Phase	\$ 0	\$ 0	\$ 0
Total				\$ 972,000

Table 11. Annual NCHB-5 Cost Savings

Unit: NCHB 5	F RTP Phase	Cost to Williamsburg	Cost to Alameda	Savings
FY1	School Focused	\$ 364,800	\$ 121,600	\$ 243,200
FY2	Post CART Basic Phase	\$ 364,800	\$ 121,600	\$ 243,200
FY3	ULT/ULTRA Phase	\$ 729,600	\$ 243,200	\$ 486,400
FY4	Mobilization/Advanced Phase	\$ 0	\$ 0	\$ 0
Total				\$ 972,800

Table 12. Annual NCHB-14 Cost Savings

Unit: NCHB 14	F RTP Phase	Cost to Williamsburg	Cost to Alameda	Savings
FY1	School Focused	\$ 212,800	\$ 91,200	\$ 112,600
FY2	Post CART Basic Phase	\$ 212,800	\$ 91,200	\$ 112,600
FY3	ULT/ULTRA Phase	\$ 486,000	\$ 182,400	\$ 303,600
FY4	Mobilization/Advanced Phase	\$ 0	\$ 0	\$ 0
Total				\$ 546,800

Travel to Williamsburg is often necessitated by the need of a formalized course taught by a 9502 certified instructor. As an alternative to current practice, classroom instruction in Alameda could be facilitated by flying instructors from Williamsburg to Alameda. The more instructors conducting multiple classes, the more benefit to a battalion. A typical high volume course required by all battalions is the “Basic Shipboard

Cargo Handling” course. This course requires two instructors for every thirty to forty students. Most of the course is held inside of a classroom but some portion requires on-ship practical application. With an intelligent training plan in place, a course such as this could be supported in Alameda using the classrooms at the NOSC and a MARAD ship on the waterfront. Flying two instructors to Alameda instead of sending thirty to forty personnel to CAX would save large sums of money. This cost savings is the easiest to implement with the correct planning and scheduling. Table 13 and Figure 25 provide the cost analysis associated with instructors from the TEU flying to Alameda to teach applicable courses and conduct evaluations over the 48 month FRTP. For interpretation purposes, we note that Table 13 reflects a single trip of 8 instructors for schoolhouse training in FY1 and FY2 and two trips of 18 evaluators for the performance of ULT and ULTRA in FY03. There is no foreseen limitation as to how many trips per year instructors can make as long as the cost advantage is evaluated. To maximize training efficiency, it would be wise to schedule a two week classroom courses every six months. This concept will be explained further in Chapter VI.

Table 13. Travel Cost of 9502 Certified TEU Instructors:
Williamsburg to Alameda

Unit: TEU Instructors	FRTP Phase	Cost of 8 instructors to Alameda	Cost of 18 instructors to Alameda
FY1	School Focused	\$ 6,400	\$ 0
FY2	Post CART Basic Phase	\$ 6,400	\$ 0
FY3	ULT/ULTRA Phase	\$ 0	\$ 28, 800
FY4	Mobilization/Advanced Phase	\$ 0	\$ 0
Total			\$ 41,600

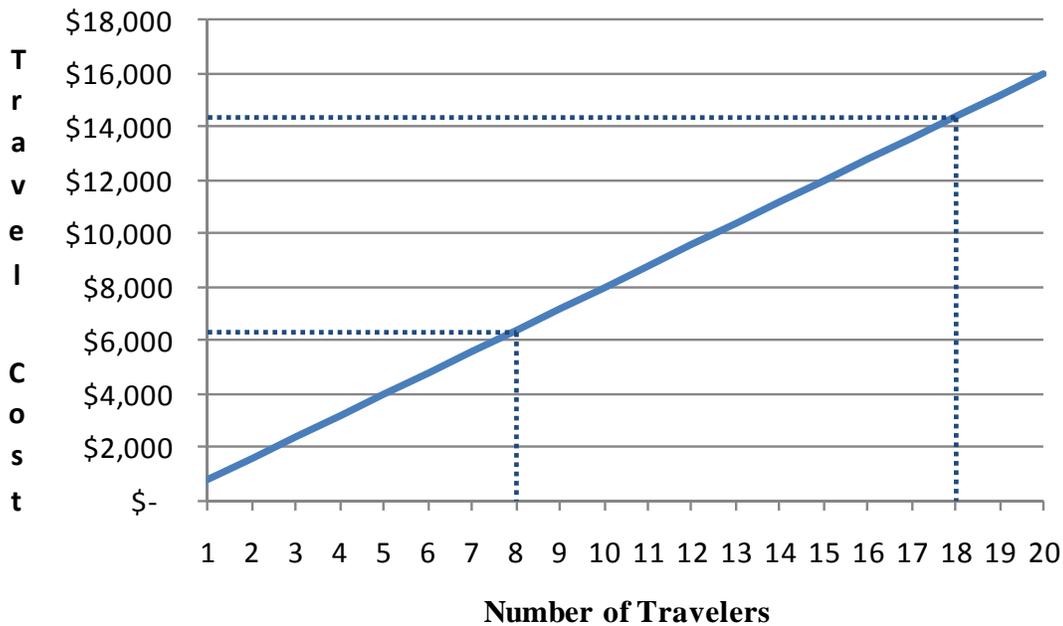


Figure 25. Round Trip Flight Cost: Williamsburg to Alameda

2. CESE Relocation

An Alameda training site will require a greater quantity of CESE on location to fully support larger scale training exercises. Table 14 illustrates the onetime cost of \$17,000 associated with transporting the deficient amount of CESE identified earlier in Table 6 from Williamsburg to Alameda. We established the baseline TOA and CESE requirements that are consistent with the intended design and framework that the higher echelon implemented. The TOA requirements were designed to meet the capability requirements of each battalion. We omitted the analysis of the associated maintenance cost that would be incurred with the increased TOA at Alameda. The entire cargo handling force has recently gone through a restructuring phase that has involved moving billets and manning requirements throughout the United States thus each battalion is not fully manned to the 304 billet authorization. This transition will continue through the course of the year as each battalion’s manning increases to meet that authorization. As the manning increases more CESE will be required to employ the battalion as a whole.

The key concept is increasing the readiness of the battalion, which can be done in numerous ways that involve training schedules, long range training plans, and drill weekend utilization of those assets.

A training officer for a particular battalion has the ability to increase the number of training events as their manning increases. As the manning increases, the CESE utilization increases thus the cost to maintain that equipment increases. Currently there is no battalion that is fully manned that would require the full TOA necessary to perform an ULTRA. It is important to note that the maintenance cost concept is a necessary follow on project that would need to be conducted.

It is likely that manning will increase over time and the following CESE analysis hinges on that assumption. The volume, weight and dimensions of each piece of equipment were gathered from the NAVFAC Expeditionary Logistics Center Advanced Base Functional Component/Table of Allowance Relational Database. The surface and air costs estimates were provided by the transportation division of the Naval Operational Logistics Support Center (NOLSC)¹⁹ (McNeeley, 2010). Air transport cost of \$98,000 would most like not be required but is provided for general information.

¹⁹,Donald McNeeley, “CESE Contracted Transportation Costs.” (Email, Norfolk, VA, September 10, 2010).

Table 14. CESE Transportation Costs

QTY	NSN	NAME	WT (LB)	CUBE (CF)	LTH (IN)	WTH (IN)	HGT (IN)	Truck Cost	Air Cost
5	2320-LL-LCA-0206	LSSV CARGO CREWCAB 4X4 TROOP SEATS	6301	868.9236	260	77	75	\$ 1,067.22	\$ 2,204.72
7	2320-01-195-0532	TRUCK STAKE 6X6 DED AUTOMATIC TRANSMISSION ISO	19555	1989	351	96	102	\$ 1,365.00	\$ 6,842.29
5	2320-01-339-8009	TRUCK TRACTOR 6X4 DED AUTOMATIC TRANSMISSION 15	16220	1529.208	252	98	107	\$ 1,365.00	\$ 5,675.38
3	2330-01-331-5417	SEMITRAILER STAKE BREAKBULK/ISO CONTAINER	14040	1493.333	480	96	56	\$ 1,365.00	\$ 4,912.60
3	2330-LL-LC3-2757	SEMITRAILER LOWBED 55T DED HYDRAULIC POWERED	20870	2496	624	96	72	\$ 1,365.00	\$ 7,302.41
1	2320-01-240-2835	TRUCK TANK FUEL 4X4 DED 1500 GALLON	15680	1473.333	260	96	102	\$ 1,365.00	\$ 5,486.43
8	2330-01-108-7367	TRAILER TANK 400 GALLONS STAINLESS STEEL TANK 2	2800	610.9241	161	83	79	\$ 570.65	\$ 1,169.70
1	2420-01-318-9186	TRACTOR WHEELED INDUSTRIAL 4 X 2 60 NET HP MIN	14500	1422.75	271	84	108	\$ 1,365.00	\$ 5,073.55
19	6230-LL-LCA-0220	FLOODLIGHT SET MLT5060MIT	2360	460.0781	151	81	65	\$ 480.98	\$ 1,111.56
5	3930-01-508-0886	TRFK FORKLIFT RT 11K EXT BOOM	30500	1322.093	248	98	94	\$ 1,365.00	\$10,671.95
2	3930-01-522-7364	FORKLIFT 53K CAPABILITIES DIESEL RT CONT HANDLER	118500	5801.25	585	144	119	\$ 3,201.66	\$41,463.15
3	3930-LL-LCA-0178	TRUCK FORKLIFT 6 000 LB ELECTRIC SOLID RUBBER	12310	305.6666	131	48	84	\$ 1,313.74	\$ 4,307.27
2	7360-LL-LCA-0199	KITCHEN FLD TFK 250 TRLR MTD EXPAND SELF-CONTAINED	5480	780.0919	158.3	84.9	100.3	\$ 975.30	\$ 1,917.45
								\$17,164.55	\$98,138.46

VI. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The objective of this study was to introduce the Navy's cargo handling force, describe the capability it delivers, and explore the cost and readiness implications of establishing a second Navy cargo handling training site at Alameda, California. Having a ready, capable cargo force is a crucial component of providing flexible options to the nation's maritime strategy.

NAVELSG has the opportunity to utilize infrastructure already in place in Alameda to create a secondary training site and by doing so would save costs on a year over year basis. Little additional money would be needed to emulate the current training infrastructure located in Williamsburg. Multiple spaces are available for classroom instruction at the NOSC, and MARAD ships will remain ported at the waterfront for years to come. The Alameda unit, NCHB-3, regularly utilizes these assets during their regular training exercises. The MARAD ships are specifically employed in the qualification of new personnel, running of unit level training evolutions, and proficiency hatch team drills. Leasing of a ship costs approximately \$30,000 for a two-week training event.

Tent camp laydown space is at a premium on site at the NOSC and, therefore, it is much better suited to be assembled at Camp Parks, a training area designed specifically for field exercises. While it lies twenty-eight miles from the waterfront, this is no farther than from CAX using the waterfront at Newport News in Virginia.

The maintenance facility and associated manning is the most limiting element of expanding the utilization of Alameda on the whole. There is sufficient laydown area to support an increase in inventory, however, the maintenance bays have limited capacity. In the event of the untimely failure of multiple pieces of material handling equipment, a back log of repairs would ensue with an accompanying reduction in unit capability for some period of time that would be a function of the types of repairs necessary. Although a new NCHB-5 CESE maintenance facility was recently completed at Joint Base Lewis-

McChord, Washington, the authors remain supportive of consolidation of CESE at the Alameda site because of the other assets, capabilities and characteristics that make it possible to perform an ULTRA. Transporting the full amount of CESE to support a 304 person ULTRA from Williamsburg would cost approximately \$17,000. This relocation would require an increase in billeted mechanics to maintain the larger inventory.

A two coast concept provides significant longer term cost savings. Most of this savings results from a reduction in travel costs. Chapter V highlighted these savings by conducting FRTP training in Alameda for all three of the 5th NELR's battalions. Basic and maintenance phase training could be accomplished by flying a limited number of TEU instructors to Alameda. The ULT and ULTRA training events demand progressively greater resources both in terms of evaluators/instructors and support equipment. Conducting training for NCHB 3, 5, and 14 in Alameda instead of routing these entire battalions to Williamsburg, potentially saves \$2.5 million in travel costs over the course of FRTP cycle.

Implementing a dual coast training site to achieve cost efficiency should not solely influence the decision making process, however most of the costs associated with Alameda will exist whether a training unit is established there or not. Choosing a complementary site option should not diminish the TEU's importance in cargo handling training; uniformity of training, assessment and certification under the auspice of the TEU is a critical responsibility of the organization.

The attractiveness of a West Coast training site lies in its potential to host cross-training under a combined 5th NELR training plan. It is clear that Alameda possesses the capabilities to conduct all levels of training for surface cargo operations but as with any training, having the assets available does not ensure their effective use. Consistent expectations and well known objectives must be clear for the development of each sailor to maximize NAVELSG's readiness.

B. RECOMMENDATIONS

Based upon our analysis and conclusions, we recommend that NAVELSG establish a West Coast training site in Alameda, California, which will result in maintaining or improving current levels of readiness, a reduction in costs for moving personnel to the training facility, and provide increased flexibility and robustness to cargo handling training. Having weighed the risks and rewards, we recommend the following actions.

- **Transfer CESE to Alameda as manning grows.** In our cost-based analysis, we identified that CESE necessary to conduct an ULTRA for a 304 man battalion. No NCHB is fully manned to their billeted allotment and therefore could not perform every capability to the full extent required of the ROC/POE. Over time, these manning deficiencies will improve and eventually the full complement of the CESE will be needed. We recommend moving that CESE to Alameda, which would provide immediate training benefit subject to reasonable utilization. We would like to note that NCHB-3 currently does not possess a MMV, a basic piece CESE. We recommend NAVELSG perform a complete analysis of CESE allocation and utilization for every battalion, especially before expanding a maintenance facility. We reviewed CESE hours and mileage of utilization of several battalions over the course of the last year and found it surprisingly low. We have no intention of offending anyone; hence the raw data was not included. Our focus is on finding the appropriate training avenues to achieve readiness efficiencies throughout the force.
- **Do not duplicate the TEU in Alameda.** Duplicating the TEU at Williamsburg in Alameda would not efficiently use NAVELSG resources nor would it provide the needed consistency. We recommend the Alameda training site be an augment to the existing TEU training site. There are numerous training events that can be conducted in Alameda that would save the cargo handling force substantial travel costs.

- **Conduct basic and advanced cargo courses at Alameda for West Coast units.** We estimate that an average of 140 students can attend courses in Alameda in a given year. This equates to conducting a basic and advance cargo handling class twice a year over a two week period. We recommend that these courses be taught during designated ship use training events of NCHB 3. This allows the students to obtain needed classroom training along with shipboard practical experience. Synchronizing these events together maximizes efficiencies. Benefits include the gaining of additional qualified operators, mass participation, battalion cohesiveness, maximization of time, and the leveraging of SME's under 9502 instructor supervision.
- **Leverage NCHB SME knowledge.** Throughout the cargo force, each unit possesses some of the most qualified and exceptional teachers of the cargo trade. The ability to leverage these personnel provides a thrust to readiness capability. This network of experience lies random and dispersed and should be used to its fullest potential. Arguments will be made that battalions can gain greater efficiency by teaching their own unique courses; however any step in that direction will completely hinder any form of a consistent training program. The TEU must remain at the core of training policy and decisions. The TEU is NAVELSG's executive agent for training and is the only entity able to execute Navy certified, formalized courses. This does not mitigate the importance of SME's for vital follow on training. Completion of a formal course is just the first step into obtaining seasoned qualified personnel. Utilizing battalion resources effectively provides TEU assessment teams with a substantial knowledge pool, enabling the TEU to tap the skilled professionals within all the 5th NELR subordinate units. Maintaining predetermined standards by which all training is conducted ensures critical success factors and ensures reliability across the force.

- **Establish training event teams.** These teams would consist of four to six sailors from each battalion that plan and execute training metrics. Currently, there are many tracking mechanisms in place for all the battalions; however none are real time training catalysts. They must monitor on a daily basis key aspects of training; “Is the intent of the training being met?” and “Is what was planned being executed?” This is a very dynamic process with every battalions training needs being slightly different. For example, one battalion may have plenty of Hold Boss qualified individuals but lack Crane Operators. This common sense monitoring by the training team would allow shifting more of a focus on remedying the battalion’s deficiencies and/or shortfalls.
- **Execute with deliverables.** Reserve battalions are faced with numerous challenges, one of which is the absolute finiteness of time available to complete all assigned tasking. A reservist’s drilling time is limited and any event that detracts from training such as administration duties, command visits, PFA, executing AT in non-supportive roles only hinders the overall readiness of each unit. This means that every training event must be thoroughly planned with expectations articulated for the intended outcome down to the individual level. All too often we observed the CESE not being utilized in the most efficient means or simply not being utilized at all. This statement is not intended to be viscously critical but to shed light on a cost that the cargo handling force incurs by having CESE located at all battalions. CESE assets should be maximized and utilized every drill weekend to ensure each battalion sustains a vast majority of qualified personnel. Maximizing time and assets, will pay huge dividends.
- **Implement control measures.** The 5th NELR should establish a standardized Long Range Training Plan (LRTP), focusing on the expectations of its battalions and the efficient usage of such a training site. Management controls are critical in all organizations. The Navy leadership in the cargo handling force is required to meet high standards

while improving all aspects of its command. Instituting proper controls and measures for the efficient use of resources and directing the proper training for the purpose of meeting the command's objectives are instrumental to increasing the readiness of that command.

C. SUGGESTIONS FOR FUTURE RESEARCH

Throughout the process of our analysis we identified various potential follow-on projects that would aid NAVELSG in increasing readiness and operations as a whole. We highly recommend continuing this series of potential thesis projects at the Naval Postgraduate School (NPS) focused on identifying efficiencies and effectiveness of all aspects of NAVELSG. The potential follow on projects that would make good NPS theses are listed below.

- The analysis of the manning and maintenance costs of all NCHBs in relation to effective training and readiness. Focus should be placed on additional CESE located in Alameda versus dispersed TOA.
- The analysis of proper control measures and asset utilization consistent with the objectives of the ROC/POE.
- The analysis of budget allowances with a direct relation to readiness. This is a “bang for the buck” concept.
- The analysis of life support capabilities. Specifically, the requirement of tent camp construction and maintenance in austere environments. Training and execution were observed to be mismatched.
- The analysis of reserve billets associated with each NCHB and those sailors filling those billets traveling from distant locations.
- The analysis of the appropriate TOA specific to each NCHB.

APPENDIX A. OPNAVINST 3501.101E (DRAFT)

REQUIRED OPERATIONAL MISSION AREAS AND READINESS CONDITION DESCRIPTIONS FOR THE NAVY EXPEDITIONARY LOGISTICS SUPPORT GROUP (NAVELSG)

1. Mission Areas. The primary mission of NAVELSG is to deliver expeditionary logistic capabilities to the geographic Combatant Commanders (CCDRs), Naval Component Commanders (NCCs), or other Service and functional component commanders based on Operational Plans (OPLANS), Concepts of Operation (CONOPs), Joint Task Force contingency operations and in support of the National Military Strategy. NAVELSG also provides Combat Service Support (CSS) during emergent task force missions, Stability, Security, Transition, and Reconstruction (SSTR) Operations and Humanitarian Assistance and Disaster Recovery (HA/DR) operations. NAVELSG organic units have the following primary (P) and secondary (S) mission areas:

Mission Area Acronyms

Acronym	Mission Area
AMW	Amphibious Warfare
CCC	Command, Control, & Communication
CON	Construction
C2W&IW	Command & Control Warfare and Information Warfare
EXW	Expeditionary Warfare
FSO	Fleet Support Operations
LOG	Logistics
MOB	Mobility
MOS	Missions of State
NCO	Non-Combat Operations
STS	Strategic Sealift

a. Navy Expeditionary Logistics Regiments (NELRs) provide administrative oversight and Command and Control (C2) over assigned Navy Cargo Handling Battalions (NCHBs) and ensure the manning, training and equipping of these units, providing programmed capabilities to support expeditionary logistics, cargo handling and port operations when required.

- (1) Operational Mission Areas: NELRs provide C2 over assigned units to support expeditionary logistics, cargo handling and port operations when require. If the size of the mission requires, a scalable NELR staff can deploy to provide C2 for expeditionary logistics, cargo handling and port missions. Each NELR also includes a

communication detachment that provides tactical and non-tactical voice/automated data information systems for assigned units.

Navy Expeditionary Logistics Regiment (NELR)									
AMW	CCC	CON	C2W&IW	EXW	FSO	LOG	MOB	MOS	NCO
P	P	S	S	P	P	P	P	S	S

b. Navy Cargo Handling Battalions (NCHBs) provide the following capabilities:

(1) Operational mission areas: Load and discharge cargo carried in Military Sealift Command (MSC) ships, MSC-controlled commercial ships, and Maritime Prepositioning Ship squadrons (MPSRON); conduct ocean terminal operations, including cargo transport from the pier to a marshalling yard/staging point; load and discharge passengers, mail, and cargo from Airlift Mobility Command (AMC) or military-controlled aircraft; report/handle ordnance, including receipt, stowage, and issue (RSI); operate aircraft/ground support equipment refueling systems; and operate/maintain bulk fuels storage facilities and laboratory. NCHBs will also provide for expeditionary mail support to transport bulk mail to a mail distribution center from an ocean or air terminal.

(2) Operational Support mission areas: Provide combat service support for itself and supported NELR. Capabilities include field messing and billeting for internal camp staffing; vehicle maintenance and dispatch, to include Maintenance and Material Management (3M) and Table of Allowance (TOA) management and vehicle distribution; organic tent camp support provided by a Camp Maintenance component, including establishment of camp power distribution, trouble desk management and tent camp utilities for assigned units; and armory personnel to set-up and manage a field armory for assigned units.

Navy Cargo Handling Battalion (NCHB)										
AMW	CCC	CON	C2W&IW	EXW	FSO	LOG	MOB	MOS	NCO	STS
P	P	S	S	P	P	P	P	S	S	P

2. Readiness States. Required Operational Capabilities (ROC) is reported under readiness conditions having major significance in determining the unit's total manpower requirements. The following summarizes conditions covered:

a. Readiness State I (Full Contingency Readiness): Significant strategic and/or tactical indications of imminent hostilities. While in Readiness State I, NAVELSG units shall be capable of full command deployment or in functionally tasked detachments. This state supports war and operations executed at Defense Conditions (DEFCON) I and II. Transition to this maximum state of readiness begins with the declaration of DEFCON II (heightened tensions and/or indications that an enemy force is taking actions which increase his readiness for attack) with an objective for full implementation prior to the onset of DEFCON I. All watch stations and vital positions will be manned to sustain operations in the designated command configuration indefinitely once implementation is complete. The units will take all measures necessary to ensure all primary and battle-redundant systems are maintained in a maximum state of readiness.

b. Readiness State II (Tailored Contingency Readiness): Significant strategic and/or tactical indications of potential limited hostilities or regional, localized civil assistance operations.

c. Readiness State III (Current Operations Readiness): Conducting current operations without augmentation or recalled reserve component assets. Watch stations and vital positions to sustain theater and local operations at DEFCON IV or III are manned and ready. Readiness State III indicates geopolitical instability exists in the area of operations which requires constant vigilance and monitoring for rapidly escalating adverse effects, and the possibility of force involvement exists. This readiness state is the sum total of those watch stations and vital positions required to support routine operations in DEFCON IV, plus the additional watch stations and vital positions required to immediately surge to a level to support DEFCON III. The active duty component, NCHB-1, is able to execute operations in advance of augmentation support. All personnel assets to support this readiness state shall be permanent unit's company assets. The unit and supporting commands will take all measures necessary to ensure all primary equipment is maintained in a maximum state of readiness and will perform routine organizational level maintenance.

d. Readiness State IV (Training Readiness): In a non-deployed environment monitoring the administrative, operational and material readiness of the unit and routinely conducting or participating in exercises. The unit participates in pertinent OPLAN/CONPLAN reviews. The unit will exercise/simulate surging to Readiness States I, II, and III. Permanent unit's company personnel will be afforded the opportunity to take leave and liberty consistent with exercise and regular work requirements. The unit will take all measures necessary to ensure all primary equipment is maintained in a maximum state of readiness and will perform routine organizational level maintenance.

3. ROC Symbols. ROC symbols are used to specify the desired level of achievement of readiness or other work during a particular readiness condition. Readiness normally applies to watches and/or evolutions, while other work refers to non-watch activities such as performing maintenance.

a. Capabilities:

(1) "F" = "Full." The capability is to be fully achieved. For operational functions (watches), this means that installed equipment or systems will be fully manned to design capability. For support functions, sufficient manning is provided to ensure effective accomplishment of all included tasks. The achievement is to be sustained for the duration of the condition unless modified by an "A" or "E."

(2) "L" = "Limited." The capability is to be only partially realized. Even though only limited capability is realized, it is to be sustained for the duration of the condition unless modified by an "A" or "E." Every "L" must be supported by a limiting statement specifying the limitation.

b. Modifiers:

(1) "A" = "Augmentation." The capability is to be either fully or partially achieved for a limited time during the condition. The capability is achieved by using off-watch or off-duty personnel. This symbol is always associated with an "F" or "L" and establishes a requirement for personnel to be trained, available and on call to augment existing watch stations as required.

(2) "E" = "Special Team." The capability is to be either fully or partially achieved for a limited time during the condition. The capability is achieved by using off watch special teams or details. This symbol is always associated with an "F" or "L" and denotes a capability which does not require continuous watch manning. Teams and details as set may either supplement or replace all or part of the existing watch organization.

Modifier	Capability	
	FULL (F)	LIMITED (L)
None	Manned to design capacity for duration of condition	Manned to less than design capacity for duration of condition
A	Temporarily manned to design capacity using off-watch personnel	Temporarily manned to less than design capacity using off-watch personnel
E	Temporarily manned to design capacity using a special team	Temporarily manned to less than design capacity using a special team

c. Unit's Own and External Personnel Resources: Normally, using an "A" or an "E" requires no amplifying statement, as their meanings are predefined. However, for host platforms or detachments which routinely embark external resources, the meaning may not be clear as to whether the augmentation should be provided by the unit's personnel or an external resource. For the purpose of this instruction:

(1) If the resource is unit's company, no elaboration or statement is provided.

(2) If the resource is external for "F," a Note is added to the ROC stating the resource.

(3) If the resource is external for "L," the resource is added to the capability limiting statement.

**PROJECTED OPERATING ENVIRONMENT (POE) FOR
NAVY EXPEDITIONARY LOGISTICS SUPPORT GROUP (NAVELSG)**

1. COMNAVELSG consists of a combination of a headquarters staff (HQ) and active duty and reserve Navy Expeditionary Logistics Regiments (NELRs) and Navy Cargo Handling Battalions (NCHBs). Each regiment with assigned battalion(s) functions as an Advanced Base Functional Component (ABFC), capable of rapid worldwide deployment as mission-tasked detachments, independent or combined units.
2. The First Navy Expeditionary Logistic Regiment (1st NELR) and Navy Cargo Handling Battalion ONE (NCHB-1) are the only active duty units. All other units are commissioned Navy Reserve units. All units are operating forces under ADCON of COMNAVELSG. The various CCDR plans and OPLANS supporting the Defense Planning Guidance establish the requirement for these units.
3. NAVELSG elements support combatant commander (CCDR) and Service requirements. These NAVELSG elements have the ability to operate day or night in all weather conditions and in a variety of operational environments including land, the near coast, inshore, harbor and riparian environments.
4. The most demanding projected operating environment for NAVELSG units is a deployment to create and/or support Advanced Logistics Support Sites, Forward Logistics Sites (FLSs), or other logistics sites within an Area of Operations, primarily to support a Marine Air-Ground Task Force (MAGTF), Marine Expeditionary Force (MEF) or other military forces.
5. NECC units focus on expeditionary operations that include environments, situations and locations with the following potential threat conditions:
 - Permissive. An operational environment in which the host country military and law enforcement agencies have control as well as the intent and capability to assist operations that a unit intends to conduct.
 - Uncertain. An operational environment in which the host government forces, whether opposed or receptive to the operations of U.S. forces, do not have totally effective control of the territory and population in the intended operational area.
 - Hostile. In combat and combat support operations, an identity applied to a track declared to belong to any opposing nation, party, group, or entity, which by virtue of its behavior or information collected on it such as characteristics, origin, or nationality contributes to the threat to friendly forces.

NAVELSG elements typically operate in permissive or uncertain environments once offensive operations move inland. NAVELSG forces receive basic combat skills training, basic mission-specific training, and advanced team training to support deployment. NAVELSG elements can provide internal perimeter security for themselves and security force augmentation, but it severely degrades their primary cargo-handling, ORT and fuels capabilities

6. The Command and Control (C2) mission may require NAVELSG commanding officers to serve as a limited NSE commander in the absence of the Beach Group Commander (MPS pier side operations) or may report to the following:
 - a. Logistics commander as assigned by higher authority
 - b. Naval Beach Group Commander as part of the Naval Support Element (NSE) during Maritime Prepositioning Ship (MPS)
 - c. Logistics Over-the-Shore (LOTS) or Joint Logistics Over-the-Shore (JLOTS) operational commander

**REQUIRED OPERATIONAL CAPABILITIES FOR
NAVY EXPEDITIONARY LOGISTICS REGIMENTS (NELR)**

1. Commanding Officers of Navy Expeditionary Logistics Regiments (NELRs) are the administrative Immediate Superior in Command (ISIC) for their assigned Navy Cargo Handling Battalions (NCHB) and report directly to COMNAVELSG. The wide geographic distribution and available force structure limitations of the Reserve Component (RC) NELRs result in slight differences between the Active and Reserve NELRs.
 - a. The 1st NELR is an Active Component (AC) regiment and functions as follows:
 - i. Acts as the forward deployable staff element to respond to OPLAN/contingency immediate response requirements.
 - ii. Provides Administrative Control (ADCON) and ISIC oversight over the Active Component (AC) NCHB (NCHB-1).
 - iii. Ensures NELR staff and subordinate units are manned, trained and equipped and maintained to their programmed capabilities.
 - iv. Includes active duty non-deployable training, evaluation, and expeditionary support capabilities/capacity to support both active and reserve units (NELRs and NCHBs).
 - b. The 2nd - 5th NELR are RC regiments and have the following responsibilities:
 - i. Provide Administrative oversight and responsibility over subordinate units (RC NCHBs).
 - ii. Ensure NELR staff and subordinate units man, train and equip to their programmed capabilities.
 - iii. Be prepared to deploy a larger C2 Staff Element in support of expeditionary logistics, cargo handling and port missions as directed.
 - iv. Provide organic expeditionary communication capabilities for the NELR and subordinate units. This includes providing provide personnel, equipment and organizational level maintenance to establish and maintain tactical/non-tactical automated voice/data information system connectivity worldwide.

- v. Assist in Adaptive Planning (AP) and Crisis Action Planning (CAP) for assigned subordinate units in direct support of CCDRs, JFMCCs and NCCs relating to port cargo-handling missions and combat service support/ transportation requirements.
- vi. Provide feedback on the training curricula.
- vii. Coordinate the specific Table of Allowance (TOA) equipment required for missions in an assigned geographical region and assist with identifying equipment available to fulfill these missions. This requirement depends on the availability of Host Nation (HN) support and the availability of US air lift capacity.
- viii. Manage assigned training budgets within the current fiscal year and provide input for training and operating budgets for follow-on fiscal years.
- ix. Monitor the execution of the Fleet Response Training Plan (FRTP) for self and subordinate units.

2. NELRs are capable of performing assigned primary and secondary missions simultaneously. Primary mission capabilities assume 24-hour operations with two 12-hour shifts. NELRs capabilities and functions are as follows:

- a. Provide a scalable and deployable Forward Headquarters Command and Control (C2) Staff Element to fit the number of assigned units;
- b. Coordinate with NAVELSG Staff to perform the following functions:
 - i. Assist in scheduling unit resources for support of planned and unplanned fleet operations and exercises.
 - ii. Coordinate unit and individual recalls and/or mobilizations to support assigned operations.
 - iii. Provide budget information for assigned TOAs and training during the Planning, Programming, Budgeting and Execution (PPBE) process.

- iv. Coordinate and ensure execution of training schedules per the F RTP for self and subordinate units.
 - v. Maintain continuous assessment of itself and subordinate units.
- c. Man, train and equip an ECD with organic personnel and equipment to establish and maintain tactical and non-tactical voice/automated data information systems for assigned units. This includes radios able to transmit HF, VHF and UHF bandwidths. Additional capabilities are to provide Communications Security (COMSEC) and Electronic Key Management Systems (EKMS), communication plan development, and transmit and receive information internally and externally for assigned units.
3. NELRs able to provide basic defensive functions in the immediate area of operation, protecting NAVELSG personnel, camps, and job sites against enemy ground forces. NELR staff personnel receive small arms and personal Chemical, Biological and Radiological (CBR) defensive gear, as identified in the TOA. The basic defensive functions include:
- a. Individual self-protection.
 - b. CBR protection/individual decontamination.
4. Planning Data and Assumptions:
- a. An NELR, when deployed, will report to a Theater Logistics Commander during Readiness Condition I (wartime).
 - b. Subordinate units may be under the Tactical Control (TACON) of a JFMCC or Land Component Commander (LCC) when deployed in support of military operations.
 - c. The AC NELR stores, maintains and provides security for TOA weapons allowance at their armory located at Yorktown Weapons Station, Yorktown, Virginia. Upon mobilization, Naval Weapons Support Center, Crane, IN dispatches the necessary weapons allowances to support RC mission requirements.
 - d. NELRs are unable to provide self-sustainment beyond 30 days of operations. The supported command element

must provide messing, berthing, ground transportation, perimeter security force and administrative spaces unless the NELR is co-located with assigned units. If co-located the NELR can use organic support from subordinate units.

e. When operating in an isolated area beyond the 30-day time-period, the following classes of supply must be provided by the supported host unit or activity: Class I (water and Meals Ready to Eat (MRE)/Unitized Group Rations (UGR)), II, III, VI, VIII, and IX. Improved camps require TOA facilities & equipment if not provided by the supported host unit or activity as well as personnel support from sub-ordinate units.

f. NELR basic organic personnel support equipment includes:

- i. Individual Combat Shelters.
- ii. Sleeping bags.
- iii. Personnel Gear Issue (PGI).

5. NELRs can maintain internal communications and administration. Communications capabilities are limited; encryption capability exists but without an organic message generation capability or communications repair facility. NELRs can provide limited Secret Internet Protocol Router (SIPR) via a stand-alone terminal.

6. NELRs provide Operational Plan/Operational Order (OPLAN/OPORDER) reviews and provide input to the cargo-handling/logistic aspects of those plans.

7. The AC NELR can deploy with personnel, weapons, and PGI within 72-hours of receiving an Execution Order (EXORD). RC NELRs can deploy with personnel, weapons, and PGI within 15 days of receiving a mobilization order.

REQUIRED OPERATIONAL CAPABILITIES

NAVY EXPEDITIONARY LOGISTIC REGIMENT (NELR)		Readiness Condition			
		I	II	III	IV
AMPHIBIOUS WARFARE					
AMW 1 LOAD, TRANSPORT AND LAND COMBAT EQUIPMENT, MATERIAL, SUPPLIES, AND ATTENDANT PERSONNEL OF A FORCE OR GROUP IN AN AMPHIBIOUS ASSAULT					
AMW 1.6	Plan/Direct the loading, transporting and landing of combat equipment, material and supplies with attendant personnel in an amphibious assault. I-IV (L) Restricted to planning cargo offload of MSC controlled AFOE shipping.	L	L	L	L
AMW 3 REEMBARK AND TRANSPORT EQUIPMENT, MATERIALS, SUPPLIES AND PERSONNEL					
AMW 3.9	Plan/direct the re-embarkation and transportation of equipment, materials, supplies and personnel. I-IV (L) Restricted to planning cargo load out of MSC controlled AFOE shipping and coordinate for own unit only.	L	L	L	L
AMW 11 CONDUCT AMPHIBIOUS CARGO HANDLING OPERATIONS					
AMW 11.1	Plan/direct amphibious cargo handling operations. I-IV (L) Restricted to planning cargo handling operations of MSC controlled AFOE shipping.	L	L	L	L
AMW 42 CONDUCT MARITIME PREPOSITIONING FORCE (MPF) OPERATIONS					
AMW 42.1	Plan/direct MPF operations. I-IV (L) Restricted to planning and coordination of NAVELSG assigned units during cargo offload/on load.	L	L	L	L
AMW 42.3	Coordinate and control the NSE during MPF operations.	L	L	L	L

	I-IV (L) Restricted to operations where NELR has the dominant role, i.e., during pier side MPF operations where there is little requirement for the Beach Group, Amphibious Construction Battalion, and other ship-to-shore elements.				
COMMAND, CONTROL AND COMMUNICATIONS (CCC)					
CCC 2	COORDINATE AND CONTROL THE OPERATIONS OF THE TASK ORGANIZATION OR FUNCTIONAL FORCE TO CARRY OUT ASSIGNED MISSIONS				
	CCC 2.15 Function as Battle Group Logistics Coordinator (BGLC). IV (L) Plan and train I-III (L) Restricted to C2 of subordinate units when requested by the operational commander.	L	L	L	L
	CCC 2.17 Coordinate and control Naval Beach Group and other designated Naval Support Element (NSE) units engaged in amphibious landing operations. IV (L) Plan and train I-III (L) Restricted to C2 of subordinate units when requested by the operational commander.	L	L	L	L
	CCC 2.20 Control offload and ship-to-ship operations in a Maritime Prepositioning Force (MPF) operation. IV (L) Plan and train I-III (L) Plan and direct for subordinate and assigned units.	L	L	L	L
	CCC 2.28 Control offload and ship-to-shore movement of cargo during AFOE and JLOTS operations. IV (L) Plan and train I-III (L) Plan and direct for subordinate and assigned units.	L	L	L	L
CCC 3 PROVIDE OWN UNIT'S COMMAND AND CONTROL FUNCTIONS					
	CCC 3.1 Maintain a CIC or CDC capable of collecting, processing, displaying, evaluating, and disseminating tactical	F	F	F	F

information. *Note: NAVELSG refers to this as TOC/LOC				
CCC 3.3 Provide all personnel services, programs, and facilities to safeguard classified material and information.	F	F	F	F
CCC 3.4 Carry out emergency destruction of classified material and equipment rapidly and efficiently.	F	F	F	F
CCC 3.8 Establish voice communications with U.S. Marine Corps (USMC) evacuation and command nets and/or Naval Support Activity (NSA) net. I-IV (L) Restricted to VHF & HF type communication equipment and units within the same geographic area (port, terminal, airhead area). To provide secure HF capability, must deploy with certified operator/maintenance personnel.	L	L	L	L
CCC 3.11 Establish voice communications with supported forces.	F	F	F	F
CCC 3.12 Repair own units CCC equipment. I-IV (L) Restricted to organizational level maintenance.	L	L	L	L
CCC 6 PROVIDE COMMUNICATIONS FOR OWN UNIT				
CCC 6.1 Maintain tactical voice communications. I-IV (L) Restricted to VHF & HF type communication equipment and units within the same geographic area (port, terminal, airhead area).	L	L	L	L
CCC 6.6 Process messages.	F	F	F	F
CCC 6.12 Maintain internal communications systems. *Note: Restricted to own unit equipment.	F	F	F	F
CCC 6.19 Provide tactical, secure voice or data communications. *Note: Restricted to own unit equipment.	F	F	F	F
DEVELOP, COORDINATE AND CONTROL COMMUNICATION PLANS FOR INTEGRATED GROUP COMMUNICATIONS AMONG WARFARE COMMANDERS AND/OR NAVAL, COMBINED OR CCC 18 JOINT FORCES. I-IV (L) Restricted to support subordinate and assigned units	L	L	L	L
CCC 20 CONDUCT CASUALTY CONTROL PROCEDURES TO	F	F	F	F

MAINTAIN/RESTORE OWN UNIT'S CCC CAPABILITIES				
CCC 25 ACTIVATE CRISIS ACTION PROCEDURES				
CCC 25.1 Establish an Operational Planning Team (OPT)	F	F	F	L
IV (L) Plan and train *Note: Plan and direct for subordinate and assigned units.				
CCC 31 COORDINATE AND INTEGRATE MULTINATIONAL & INTERAGENCY OPERATIONS				
CCC 31.4 Coordinate plans with non-DOD agencies.	L	L	L	L
I-IV (L) Restricted to the logistic portion of those plans				
CCC 32 COORDINATE AND MANAGE ALL AUTOMATED COMMAND, CONTROL AND COMMUNICATION SYSTEM SUPPORT				
CCC 32.1 Coordinate frequency spectrum and space segment requirements and allocations.	L	L	L	L
I-IV (L) Restricted to support subordinate and assigned units				
CCC 32.2 Plan, coordinate and supervise COMSEC assets throughout the assigned area of operations (AO).	L	L	L	L
I-IV (L) Restricted to support subordinate and assigned units and equipment				
CCC 32.3 Establish the communications concept of operations.	L	L	L	L
I-IV (L) Restricted to support subordinate and assigned units.				
CCC 32.5 Identify communication system nodes that require protection.	L	L	L	L
I-IV (L) Restricted to support subordinate and assigned units and equipment.				
CCC 32.6 Coordinate, plan and manage deployable communication system assets.	F	F	F	F
CCC 34 ASSESS AND/OR DIRECT COMMAND, CONTROL AND COMMUNICATIONS LIAISON				
CCC 34.2 Plan and direct liaison with supported commands.	F	F	F	F
CONSTRUCTION (CON)				
CON 5 PERFORM CONSTRUCTION LOGISTIC SUPPORT IN THE ASSIGNED AREA OF OPERATIONS (AO)				

CON 5.5	Perform inventory management of construction and advanced base functional components material. I-IV (L) Restricted to organic TOA and augmented CESE/MHE & materials.	L	L	L	L
COMMAND AND CONTROL WARFARE (C2W) AND INFORMATION WARFARE (IW)					
CW4 PLAN AND IMPLEMENT OPERATIONS SECURITY (OPSEC) MEASURES					
CW 4.11	Plan, coordinate and control implementation of OPSEC measures. I-IV (L) Plan and direct for subordinate and assigned units.	L	L	L	L
CW 4.12	Execute OPSEC measures.	F	F	F	F
EXPEDITIONARY WARFARE (EXW)					
EXW 2 CONDUCT LANDSIDE SECURITY OPERATIONS					
EXW 2.7	Operate in coordination with other NECC units and naval/joint/combined forces in support of landside security.	F	F	F	F
EXW 2.8	Provide Theatre Security Cooperation (TSC) support to host nation security forces.	F	F	F	F
EXW 6 MAINTAIN EXPEDITIONARY COMMUNICATIONS CAPABILITY					
EXW 6.1	Set-up and maintain a mobile communications system. I-IV (L) Restricted to support subordinate and assigned units. Set-up and maintenance restricted to organic TOA communication equipment.	L	L	L	L
EXW 6.2	Maintain encrypted high frequency (HF), very-high frequency (VHF), ultra-high frequency (UHF), and super-high frequency (SHF) voice and data communications. I-IV (L) Restricted to support of subordinate and assigned units. Set-up and maintenance restricted to organic TOA communication equipment.	L	L	L	L
EXW 6.3	Establish voice communications with U.S. Marine Corps (USMC) evacuation and command nets, Naval Support Activity (NSA), Air Force, Army, local law enforcement, and Homeland defense nets. I-IV (L) Restricted to support of	L	L	L	L

	subordinate and assigned units. Set-up and maintenance restricted to organic TOA communication equipment. Restricted to VHF & HF type communication equipment and units within the same geographic area (port, terminal, airhead area). To provide secure HF capability, must deploy with certified operator/ maintenance personnel.				
EXW 6.4	Operate expeditionary communications in coordination with other NECC units and naval/joint/combined forces. I-IV (L) Restricted to support subordinate and assigned units. Set-up and maintenance restricted to organic TOA communication equipment. Restricted to VHF & HF type communication equipment and units within the same geographic area (port, terminal, airhead area). To provide secure HF capability, must deploy with certified operator/ maintenance personnel.	L	L	L	L
EXW 6.5	Conduct operations security (OPSEC). I-IV (L) Restricted to support subordinate and assigned units	L	L	L	L
EXW 6.6	Conduct emissions control (EMCON) as directed by higher authority. I-IV (L) Restricted to support subordinate and assigned units	L	L	L	L
EXW 6.7	Conduct routine and preventative maintenance (PMS) on a mobile communication system. I-IV (L) Restricted to support subordinate and assigned units. Maintenance restricted to organic TOA communication equipment.	L	L	L	L
EXW 6.8	Plan the force's tactical use of information systems, C4I architecture, databases, and sensors. I-IV (L) Restricted to support subordinate and assigned units and organic TOA communication equipment.	L	L	L	L

EXW 9 CONDUCT BASE CAMP OPERATIONS IN AN EXPEDITIONARY ENVIRONMENT					
EXW 9.1	Conduct a site survey to ascertain location, drainage/sanitation, security, access, and force integration.	F	F	F	F
EXW 9.2	Conduct liaison with host nation and other naval/joint/combined forces for support of base camp operations. I-IV (L) Plan and direct for subordinate and assigned units.	L	L	L	L
EXW 9.6	Plan/direct base camp operations in an expeditionary environment. I-IV (L) Plan and direct for subordinate and assigned units.	L	L	L	L
EXW 10 CONDUCT COMMAND AND CONTROL IN AN EXPEDITIONARY ENVIRONMENT					
EXW 10.1	Plan/direct expeditionary warfare operations. I-IV (L) Plan and direct for subordinate and assigned units.	L	L	L	L
EXW 10.4	Exercise command and control of Expeditionary Logistic Support units, when assigned.	F	F	F	F
EXW 10.8	Exercise command and control of NECC adaptive force package (AFP), task force, task group, task unit or other joint or combined task force or subordinate component.	F	F	F	F
EXW 12 CONDUCT EXPEDITIONARY WARFARE SUPPORT OPERATIONS					
EXW 12.2	Provide administrative services to subordinate units.	F	F	F	F
EXW 12.5	Provide individual protective clothing and equipment to sufficiently protect personnel in a CBR-Contaminated environment. IV (L) Plan and train *Note: For deployed personnel only.	F	F	F	L
FLEET SUPPORT OPERATIONS (FSO)					
FSO 9 PROVIDE MEDICAL CARE TO ASSIGNED AND EMBARKED PERSONNEL					
FSO 9.9	Conduct associated administrative/maintenance services: a) Perform routine medical administrative services.	L	L	L	L

	I-IV (L) Restricted to support subordinate and assigned units.				
FSO 20 PROVIDE FLEET TRAINING SERVICES					
FSO 20.10	Provide technical guidance and assistance to fleet units in cargo handling and underway replenishment operations. I-IV (L) Restricted to cargo handling guidance and assistance.	L	L	L	L
FSO 46 MONITOR ASSIGNED UNITS' ADMINISTRATIVE PROCEDURES		F	F	F	F
FSO 47 MONITOR ASSIGNED UNITS' OPERATIONAL PROCEDURES		F	F	F	F
FSO 48 MONITOR ASSIGNED UNITS' MATERIAL READINESS		F	F	F	F
FSO 55 MAINTAIN READINESS BY PROVIDING FOR TRAINING OF OWN UNIT'S PERSONNEL		F	F	F	F
MOBILITY (MOB)					
MOB 3 PREVENT AND CONTROL DAMAGE					
MOB 3.2	Counter and control chemical, biological and radiological (CBR) contaminants /agents. I-IV (L) Restricted to individual protective measures. For deployed personnel only.	L	L	L	L
MOB 3.3	Maintain security against unfriendly acts. IV (L) Plan and train I-III (L) Restricted to individual protective measures.	L	L	L	L
MOB 11 MAINTAIN MOUNT-OUT CAPABILITIES					
MOB 11.1	Deploy with organic allowance within designated time period. *Note: Active component deploys within 72 hours after receipt of execution order with only personnel and personal gear, and within six days after receipt of execution order with all unit gear. Reserve component within 15 days after receipt of mobilization orders with only personnel and personal gear. Thirty days for all unit gear.	F	F	F	F

MOB 11.2	Mount-out selected elements/detachments. *Note: Active component deploys within 72 hours after receipt of execution order with only personnel and personal gear, and within six days after receipt of execution order with all unit gear. Reserve component within 15 days after receipt of mobilization orders with only personnel and personal gear. Thirty days for all unit gear.	F	F	F	F
MOB 11.3	Maintain capability for rapid airlift of unit/detachment as directed. *Note: Active component deploys within 72 hours after receipt of execution order with only personnel and personal gear, and within six days after receipt of execution order with all unit gear. Reserve component within 15 days after receipt of mobilization orders with only personnel and personal gear. Thirty days for all unit gear.	F	F	F	F
MOB 12 MAINTAIN THE HEALTH AND WELL BEING OF THE CREW					
MOB 12.5	Monitor the health and well-being of the crew to ensure that habitability is consistent with approved habitability procedures and standards.	F	F	F	F
MOB 12.8	Provide individual protective clothing and equipment to sufficiently protect personnel identified being at risk in a CBR-contaminated environment. IV (L) Plan and train *Note: Required for deployed unit personnel only.	F	F	F	L
MOB 12.9	Provide individual protective clothing and equipment to sufficiently protect medical personnel aboard a ship at risk in a CBR-contaminated environment. IV (L) Plan and train *Note: Required for deployed unit personnel only.	F	F	F	L
MOB 12.12	Provide antidotes to ship's company which will counteract the effects caused by a CBR-contaminated	F	F	F	L

environment.				
IV (L) Plan and train				
*Note: Required for deployed unit personnel only.				
MOB 13 MAINTAIN RESERVE UNIT MOBILIZATION READINESS (INACTIVE RESERVE UNITS ONLY)				
MOB 13.1 Ensure personnel are onboard and their associated records are ready for immediate mobilization.	F	F	F	F
MOB 13.3 Conduct immediate crisis response	L	L	L	L
I-IV (L) Plan and direct for subordinate and assigned units.				
MOB 14 CONDUCT OPERATIONS ASHORE				
MOB 14.1 Operate in climate extremes ranging from cold weather to tropical to desert environments.	F	F	F	F
MOB 14.2 Operate in rear of combat zone in Afloat Pre-Positioning Force (APF) or Marine Expeditionary Force (MEF) Forward environment.	L	L	L	L
I-IV (L) Plan and direct for subordinate and assigned units.				
MOB 14.5 Conduct peacetime activation, mount-out and movement exercises of selected personnel and equipment to ensure capability of contingencies involving naval forces short of a general war.	F	F	F	F
MOB 14.6 Conduct limited local security defensive combat operations.	F	F	F	L
IV (L) Plan and train				
MOB 14.7 Provide qualified personnel to conduct site survey.	F	F	F	F
MOB 19 PLAN, DIRECT AND COORDINATE, AND CONDUCT OPERATIONAL MOVEMENT				
MOB 19.2 Conduct intra-theatre deployment and redeployment of force within the theatre of operations/assigned area of operations (AO).	L	L	L	L
IV (L) Plan and train				
I-III (L) Plan and direct for				

subordinate and assigned units.				
MOB 20 PLAN, DIRECT AND COORDINATE, AND CONDUCT OPERATIONAL MANEUVER				
MOB 20.1 Command and Control concentration of forces in theatre of operations/ assigned area of operations (AO). IV (L) Plan and train I-III (L) Plan and direct for subordinate and assigned units.	L	L	L	L
MISSIONS OF STATE (MOS)				
MOS 1 PERFORM NAVAL DIPLOMATIC PRESENCE OPERATIONS				
MOS 1.8 Participate in military exercise with allied nations. *Note: Restricted to planning cargo handling and terminal operations only.	F	F	F	F
MOS 1.9 Participate in military exercise with non-allied nations. *Note: Restricted to planning cargo handling and terminal operations only.	F	F	F	F
MOS 2 PROVIDE HUMANITARIAN ASSISTANCE				
MOS 2.10 Support/provide for the evacuation of noncombatant personnel in areas of civil or international crisis. I-IV (L) Conduct resource planning and coordination of subordinate and assigned units	L	L	L	L
MOS 3 PERFORM PEACEKEEPING				
Provide logistics support for a joint/allied peacekeeping force. IV (L) Plan and train I-III (L) Plan and direct for subordinate and assigned units.	L	L	L	L
MOS 12 CONDUCT CIVIL AFFAIRS OPERATIONS (CAO)				
MOS 12.5 Conduct cultural briefings to supported units.	F	F	F	F
MOS 12.14 Conduct Foreign Humanitarian Assistance. IV (L) Plan and train	L	L	L	L

I-III (L) Plan and direct for subordinate and assigned units.				
MOS 14 CONDUCT NATION ASSISTANCE (NA)				
MOS 14.6 Identify and evaluate HN infrastructure. I-IV (L) Restricted to ports and airheads.	L	L	L	L
MOS 15 PROVIDE FUNCTIONAL SPECIALTY SUPPORT FOR CMO				
MOS 15.3 Provide Port Operations Support. I-IV (L) Plan and direct for subordinate and assigned units.	L	L	L	L
NONCOMBAT OPERATIONS (NCO)				
NCO 2 PROVIDE ADMINISTRATIVE AND SUPPLY SUPPORT FOR OWN UNIT				
NCO 2.1 Provide supply support services.	F	F	F	F
NCO 2.2 Provide clerical services.	F	F	F	F
NCO 2.7 Provide inventory and custodial services.	F	F	F	F
NCO 10 PROVIDE EMERGENCY/DISASTER ASSISTANCE				
NCO 10.4 Provide disaster assistance and evacuation. I-IV (L) Conduct resource planning and coordination of subordinate and assigned units.	L	L	L	L

**REQUIRED OPERATIONAL CAPABILITIES (ROC) FOR NAVY CARGO HANDLING
BATTALION (NCHB) (ACTIVE COMPONENT (AC) AND RESERVE COMPONENT
(RC))**

1. An NCHB performs the following primary missions:
 - a. Rapidly deploy and/or mobilize personnel as mission-tasked detachments, independent units, or groups responding to worldwide requirements.
 - b. Load and discharge cargo carried in Military Sealift Command (MSC) owned and chartered commercial ships, either via in-stream or pier-side operations.
 - c. Load and discharge passengers, mail, and cargo from Airlift Mobility Command (AMC) or military-controlled aircraft, including transporting bulk mail to a distribution center.
 - d. Operate an expeditionary ocean and air cargo terminal.
 - e. Report and handle ordnance including the receipt and transshipment of ordnance from Combat Logistics Force ships, MSC ships or MSC-chartered commercial ships at an Ammunition Supply Point (ASP).
 - f. Operate aircraft/ground support equipment (GSE), such as refueling systems.
 - g. Operate and maintain bulk fuels storage facilities and laboratories.
 - h. Provide a forward Command and Control (C2) element to augment Theater Task Forces/Groups to facilitate logistics requirements for forward-deployed NCHB.
 - i. Provide Combat Service Support (CSS). This function is typically organic to NAVELSG units but can augment external forces if directed. CSS includes:
 - (1) Field messing and billeting for internal/organic camp staffing.
 - (2) Vehicle maintenance and dispatch including Maintenance and Material Management (3M) and Table of Allowance (TOA) management.

- (3) Camp maintenance and organic tent camp support including establishment of camp power distribution, trouble desk management and utilities for assigned units.
- (4) Provide armory personnel to establish and manage a field armory for assigned units.

j. Assist NELR in Adaptive Planning and Crisis Action Planning processes when required.

k. Provide feedback on training curricula.

2. NCHBs can perform their primary and secondary missions simultaneously. Capabilities assume that the NCHB conducts 24-hour operations with two 12-hour shifts.

3. Since NCHBs operate in expeditionary environments, they can provide basic defensive functions within the immediate operating area to protect NAVELSG personnel, camps, and job sites against enemy ground forces. The standard TOA includes crew served weapons, small arms, and personal chemical and biological defense gear. These defensive functions include:

- a. Entry Control Point (ECP) security for an immediate camp area.
- b. Augmenting existing perimeter defense (internal camp and work sites only).
- c. Defensive reaction response.
- d. Chemical, Biological and Radiological (CBR) protection/individual decontamination.

4. The principal tasks and capabilities of a NCHB fall under six operational areas and one operational support area, listed below. If Host Nation (HN) or other service support is unavailable, the required TOA assets must be brought to the theater of operations to support mission capabilities.

a. Operational Areas and Projected Taskings:

- (1) Maritime Prepositioned Ships (MPS) / Assault Follow-On Echelon (AFOE) Cargo Handling Operations: Provide C2 functions, cargo

handling and support personnel to discharge/load (pier-side or in-stream) all classes of cargo including hazardous materials (HAZMAT) and ammunition. Conduct port terminal operations in developed or undeveloped ports. Port terminal operations include:

- (i) Discharge/load containers, break-bulk cargo, vehicles and ordnance;
 - (ii) Operate shipboard heavy lift pedestal and gantry cranes, yard and stay rigs, and jumbo booms.
 - (iii) Perform heavy lift crane operations in support of the Maritime Prepositioned Force (MPF) squadron, container ships, fast sealift ships (FSS or T-AKR), auxiliary crane ships (T-ACS) and Large, Medium Speed, Roll-on/Roll-off (LMSR) ships.
 - (iv) Provide technical assistance in the area of cargo handling to support Combatant Commander (CCDR) requirements.
- (2) Cargo Terminal Operations:
- (i) Provide cargo handling personnel for transportation of cargo and material to/from a transit warehouses, staging areas, or marshalling yards in a non-tactical environment within the confines of a port.
 - (ii) Direct pier operations and pier clearance, controlling and handling of ship discharging/loading
 - (iii) Perform cargo HAZMAT certification and documentation.
 - (iv) Operate TCA Material Handling Equipment (MHE) in support of cargo movement operations.
 - (v) Provide expeditionary mail support to transport bulk mail from an ocean terminal to a mail distribution center.

- (3) Expeditionary Ocean Terminal Operations:
Provide managerial, clerical, and cargo handling personnel to operate an expeditionary ocean terminal including a transit warehouse and staging area/marshalling yard for processing cargo identified by a Transportation Control Number (TCN).
 - (i) Documenting cargo via the Worldwide Port System (WPS) or other In-Transit Visibility (ITV) operating system.
 - (ii) Perform cargo HAZMAT certification and documentation as well as ordnance handling.
- (4) Ordnance Reporting Teams (ORT):
 - (i) Provide ordnance reporting personnel and equipment for receipt of ordnance via Ordnance Information Technology (OIT).
 - (ii) Scan and report ordnance status at any offloading or on-loading site via Ordnance Information Systems (OIS). Additional qualified personnel are required to complete hazardous documentation.
- (5) Expeditionary Air Cargo Operations:
 - (i) Provide C2, air cargo handling and support personnel to operate an air terminal with an Air Terminal Operations Center (ATOC).
 - (ii) Interface with the NCC's logistics and air operations coordinators as well as AMC representatives.
 - (iii) Coordinate with Load Masters for weather, flight plans and load planning for acceptance of palletized cargo, containerized cargo, and vehicles.
 - (iv) Conduct the load and offload of aircraft and perform air cargo documentation utilizing the Global Air Transportation Execution System (GATES) manifesting system

- (v) Conduct cargo sorting, prioritization and distribution of airfreight to/from AMC aircraft.
 - (vi) Report air cargo status for various fixed-wing and rotary aircraft and facilitate transfer between airhead and Fleet/Theater assets.
 - (vii) Provide expeditionary mail support to receive and transport bulk mail from airhead to a mail distribution center.
- (6) Warehouse Operations: Provide support personnel capable of receiving, storing and issuing break bulk cargo (primarily Class I, II, IV, and IX).
- (7) Expeditionary Fuel Operations:
- (i) Establish, maintain and operate a High Speed Aircraft Refueling System and/or Bulk Fuel Storage System (including field laboratory if not provided, as Navy aircraft fuel specifications must meet NAVAIR 00-80T-109 requirements)
 - (ii) Operate and maintain Shore Fuel Transfer Hoses directing all fuel from barges and tankers from the Beach Terminal Unit to the Bulk Fuels Storage System.
 - (iii) Operate a Fuel Service Station (single grade product), Aviation Fuel Servicing Truck and Ground Support Equipment/Motor Pool Servicing Truck (Rough Terrain). Operations include the receipt, storage and issue of single type of aviation or ground fuel product, typically JP-8.
 - (iv) Provide limited clean-up/containment of fuel spills and conduct limited pollution abatement and environmental clean up.

- b. Operational Support Areas and Projected Taskings:
 Provide Expeditionary Operational Support capable of the following organic expeditionary logistic support:

- (1) Field Messing and Billeting: Provide berthing and messing services for up to (not to exceed) 350 personnel.
- (2) Vehicle Maintenance and Dispatch: Provide organizational level maintenance, dispatch, and licensing of organic Civil Engineering Support Equipment (CESE), MHE, GSE, and Civil Engineering End Items (CEEI) for a mission-specific TOA.
- (3) Camp Maintenance: Provide tent camp set-up, support, and maintenance including power distribution, shower units, potable water production, trouble desk management and limited vertical construction for a 350-person camp.
- (4) Expeditionary Armory: Establish, manage and provide security for a field armory supporting a 350-person camp.
- (5) Supply Support: Provide storage, issue and receipt of Class I, II, III, IV, VII and IX.

5. Planning Data Basic Assumptions:

- a. For surface cargo operations, the basic deployable element consists of a nine-person hatch team.
- b. Hatch teams can deploy as mission-tasked detachments, units, or groups per the required tasking. The number of hatch teams deployed depends on the size and scope of the mission.
- c. All capabilities estimates reflect one NCHB deployed in simultaneous missions conducting 24-hour operations in two 12-hour shifts.
- d. An AC or RC NCHB organization provides a maximum of 24 or 12 hatch teams, respectively.
- e. NCHB Surface Cargo Companies (hatch teams and associated support personnel) primarily deploy for ship discharge/loading operations.

- f. Maximum cargo throughput for an NCHB decreases as detachments/hatch teams take on organic support duties.
- g. Discharge/loading capabilities assume optimum conditions of weather, sea state, equipment condition, available pier and related facilities (pier-side operations) and lighterage and related facilities (in-stream operations).
- h. Ship onload rate is approximately 60 percent of the discharge rate except for containers that have the same discharge/load rate.
- i. 24 Hatch Teams (plus associated C2 and support personnel) are required to perform a Marine Expeditionary Brigade (MEB) Assault Follow-On Echelon (AFOE) mission.
- j. 48 Hatch Teams (plus associated C2 and support personnel) are required for a full MEF AFOE mission.
- k. In-Stream offloads assume the following:
 - (1) Ship is moored 3 miles off-shore.
 - (2) Ferry turnaround time is 1½ hours steaming at 6 knots.
- l. The AC focuses on onloading/offloading MPF squadrons. If all operational areas are conducted simultaneously, ship onload/offload rates will decrease as follows:

Shipboard Throughput Rates - Pier Side						
No. of Hatch Teams	MPF Ships /Days	# of Holds Per Ship	Containerized Cargo Standard Per Hour Per Hold (6)		Palletized Cargo (Break Bulk) Standard Per Hour Per Hold (10)	
			Projected Throughput (Hourly)	Projected Throughput (Daily)	Projected Throughput (Hourly)	Projected Throughput (Daily)
24	4/3	3	72	1728	120	2880
*18	3/3	3	54	1296	90	2160

**12	2/3	3	36	864	60	1440
Shipboard Throughput Rates - In Stream						
24	4/8	3	36	864	60	1440
*18	3/8	3	27	648	45	1080
**12	2/8	3	18	432	30	720

**Note. The AC can accomplish shipboard onload/offload and cargo transportation simultaneously by employing the 18 hatch team strategy. The AC can simultaneously accomplish shipboard onload/offload, cargo terminal and air cargo handling by employing the 12 hatch team strategy. Operational fuel requirements require RC augmentation.

Maximum NCHB Manning		
Component	Hatch Teams	Gantry/Pedestal Crane Operators
Active	24	48
Reserve	12	24

Cargo/Ocean Terminal Throughput				
Cargo Classification	Unit of Measure	Max Weight	Projected Throughput (Hourly)	Projected Throughput (Daily)
Containerized (includes ordnance)	Short Ton (S/T)	300,000	6	150
Palletized (Break Bulk)	Measurement Ton (M/T)	960	10	240
Bulk Mail	lbs	40,000	-	40,000
Rolling Stock	Vehicles	-	40	720

Air Cargo Throughput (All cargo on a 463L pallet. Max capacity = 10000 lbs)				
Cargo Classification	Unit of Measure	Max Weight	Projected Throughput (Hourly)	Projected Throughput (Daily)
Palletized Cargo: Load & Offload	lbs	360,000	1.5	36
Palletized Cargo: Build & Break Down	lbs		4.33	100
Passengers	Pax	-	33	800
Warehousing (Class I,II,IV,IX Supply)	Pallets		62.5	1500
Warehousing (Containerized)	lbs	300,000	6.25	150

Ordnance Reporting Team Throughput:				
Cargo Classification	Unit of Measure	Max Weight	Projected Throughput (Hourly)	Projected Throughput (Daily)
Palletized Cargo	Pallets	-	10	240
Palletized Cargo (at an ASP Storage facility)	463L	10,000	1.7	40
Containerized Cargo (Pier Side)	TEU	-	6	144
Containerized Cargo (In-Stream)	TEU		3	82

Expeditionary Fuel Capabilities:				
Fuel Storage Type	Unit of Measure	Max Weight	System Type	Max Capacity
High Speed Aircraft Refueling	Gal	40K	Bag	Varies to system
Bulk Fuel Storage Facility	Gal	120 K	Bag	6 x 20K
Bulk Fuel Storage Facility	Gal	300 K	Bag	6 x 50K
Fuel Service Station	Gal	-	-	6 Retail Points

7. Capabilities Constraints/Restrictions:

- a. The organic communications capability of an NCHB is limited. Limited encryption capability exists and no organic message generation capability or communications repair facility exists. When deployed, Expeditionary Communications Detachments from the NELR perform these functions as an additional capability.
- b. Fuel TOA support equipment must be deployed to support the unit if host nation or other service support is not available.
- c. Construction of berms for fuel bladders and fueling facilities is a host station command / host nation requirement. The following estimates are provided:
 1. Area required 1 Acre
 2. Power required 48 KWA
 3. Space requirement 936 Sq ft
 (Admin)
 4. Internal roads N/A
 5. Construction Time 80 man
 hours
- d. The AC NCHB stores, maintains and provides security for TOA weapons allowance at their armory located at Cheatham Annex, Virginia. Upon mobilization, the Naval Weapons Support Center, Crane, IN, dispatches the necessary weapons allowances for the RC NCHBs to support mission requirements.
- e. An NCHB can provide self-sustainment for 30 days and limited vertical tent camp construction (erect its own

350 personnel tent camp). NCHB self-sustainment is defined as follows:

- f. An NCHB provides organic services to sustain the messing, berthing, limited vertical construction and maintenance of a 350-person tent camp. The AC NCHB can only employ an 18-hatch team strategy during initial construction of expeditionary camp and messing facilities.
- g. When operating in an isolated area beyond the 30 day time-period, the following classes of supply must be provided by the supported host unit or activity: Class I (including water and Meals Ready to Eat (MRE)/Unit Group Rations (UGR)), II, III, VI, VIII, and IX. Improved camp requires TOA facilities & equipment if not provided by the supported host unit or activity.
- h. NCHB basic organic personnel support equipment includes:
 - (1) Individual Combat Shelters.
 - (2) Sleeping Bags.
 - (3) Personnel Gear Issue (PGI).
- 9. An AC NCHB is capable of deployment within 72-hours with personnel, weapons, and PGI upon receipt of an Execution Order (EXORD). The RC NCHB is capable of deployment within 15 days after receipt of mobilization orders with personnel, weapons, and PGI.

REQUIRED OPERATIONAL CAPABILITIES

NAVY CARGO HANDLING BATTALION (NCHB)		Readiness Condition			
		I	II	III	IV
AMPHIBIOUS WARFARE (AMW)					
AMW 1	LOAD, TRANSPORT AND LAND COMBAT EQUIPMENT, MATERIAL, SUPPLIES, AND ATTENDANT PERSONNEL OF A FORCE OR GROUP IN AN AMPHIBIOUS ASSAULT				
AMW 1.1	Load combat equipment, material and supplies with attendant personnel for an amphibious assault. I - IV (L) Restricted to cargo load out of MSC controlled AFOE shipping.	L	L	L	L
AMW 1.3	Land combat equipment, material and supplies with attendant personnel by air and/or surface transport during amphibious assault. I - IV (L) Includes capability to land elements of a landing force with their equipment, material and supplies for an amphibious assault. Restricted to cargo offload of MSC controlled AFOE shipping.	L	L	L	L
AMW 1.6	Plan/Direct the loading, transporting and landing of combat equipment, material and supplies with attendant personnel in an amphibious assault. I - IV (L) Restricted to cargo offload of MSC controlled AFOE shipping.	L	L	L	L
AMW 3	REEMBARK AND TRANSPORT EQUIPMENT, MATERIALS, SUPPLIES AND PERSONNEL				
AMW 3.2	Re-embark and transport equipment, materials and supplies. I - IV (L) Restricted to cargo load out of MSC controlled AFOE shipping.	L	L	L	L

AMW 3.9	Plan/direct the re-embarkation and transportation of equipment, materials, supplies and personnel. I - IV (L) Restricted to cargo load out of MSC controlled AFOE shipping and coordinate for own unit only.	L	L	L	L
AMW 11 CONDUCT AMPHIBIOUS CARGO HANDLING OPERATIONS					
AMW 11.1	Plan/direct amphibious cargo handling operations. I - IV (L) Restricted to cargo handling operations of MSC controlled AFOE shipping.	L	L	L	L
AMW 11.2	Conduct amphibious cargo handling operations. (L) Restricted to offload/load out of MSC controlled AFOE shipping.	L	L	L	L
AMW 42 CONDUCT MARITIME PREPOSITIONING FORCE (MPF) OPERATIONS					
AMW 42.1	Plan/direct MPF operations. I - IV (L) Restricted to cargo offload/onload.	L	L	L	L
AMW 42.2	Conduct MPF operations. I - IV (L) Restricted to cargo offload/onload.	L	L	L	L
AMW 42.3	Coordinate and control the NSE during MPF operations. I - IV (L) Restricted to operations where NCHB has the dominant role, i.e., during pier side MPF operations where there is little requirement for the NELR, Navy Beach Group (NBG), Amphibious Construction Battalion (ACB), and other ship-to-shore elements.	L	L	L	L
COMMAND, CONTROL AND COMMUNICATIONS (CCC)					
CCC 2	COORDINATE AND CONTROL THE OPERATIONS OF THE TASK ORGANIZATION OR FUNCTIONAL FORCE TO CARRY OUT ASSIGNED MISSIONS				
CCC 2.15	Function as Battle Group Logistics Coordinator (BGLC). I - IV (L) Restricted to Command and Control of assigned unit when requested by the operational commander.	L	L	L	L

	CCC 2.20	Control offload and ship-to-ship operations in a Maritime Prepositioning Force (MPF) operation. I - IV (L) Restricted to cargo offload control.	L	L	L	L
	CCC 2.28	Control offload and ship-to-shore movement of cargo during AFOE and JLOTS operations. I - IV (L) Restricted to cargo offload control.	L	L	L	L
CCC 3	PROVIDE OWN UNIT'S COMMAND AND CONTROL FUNCTIONS					
	CCC 3.1	Maintain a CIC or CDC capable of collecting, processing, displaying, evaluating, and disseminating tactical information. *Note: NAVELSG refers to this as TOC or LOC	F	F	F	F
	CCC 3.3	Provide all personnel services, programs, and facilities to safeguard classified material and information. I - IV (L) Restricted to Secret and below.	L	L	L	L
	CCC 3.4	Carry out emergency destruction of classified material and equipment rapidly and efficiently. I - IV (L) Restricted to burning and physical destruction when in the field.	L	L	L	L
	CCC 3.8	Establish voice communications with U.S. Marine Corps (USMC) evacuation and command nets and/or Naval Support Activity (NSA) net. I - IV (L) Restricted to VHF & HF type communication equipment and units within the same geographic area (port, terminal, airhead area). To provide secure HF capability, must deploy with certified operator/maintenance personnel.	L	L	L	L
	CCC 3.11	Establish voice communications with supported forces.	F	F	F	F
CCC 6	PROVIDE COMMUNICATIONS FOR OWN UNIT					

CCC 6.1	Maintain tactical voice communications. I - IV (L) Restricted to VHF & HF type communication equipment and units within the same geographic area (port, terminal, airhead area).	L	L	L	L
CCC 6.12	Maintain internal communications systems.	F	F	F	F
CONSTRUCTION (CON)					
CON 2 PERFORM BASE CONSTRUCTION					
CON 2.4	Perform vertical construction of own expeditionary camp facilities under all climatic conditions. IV (L) Plan and train only *Note: Restricted to 350 personnel Tent Camp. AC can only employ 18-hatch team strategy during initial expeditionary camp construction. IV (L) Plan and train	F	F	F	L
CON 5 PERFORM CONSTRUCTION LOGISTIC SUPPORT IN THE ASSIGNED AREA OF OPERATIONS (AO)					
CON 5.5	Perform inventory management of construction and advanced base functional components material. *Note: Restricted to organic TOA and augmented CESE/MHE & materials	F	F	F	F
COMMAND AND CONTROL WARFARE (C2W) AND INFORMATION WARFARE					
CW4 PLAN AND IMPLEMENT OPERATIONS SECURITY (OPSEC) MEASURES					
CW 4.11	Plan, coordinate, and control implementation of OPSEC measures.	F	F	F	F
CW 4.12	Execute OPSEC measures.	F	F	F	F
EXPEDITIONARY WARFARE (EXW)					
EXW 2 CONDUCT LANDSIDE SECURITY OPERATIONS					
EXW 2.1	Conduct garrison security operations. *Note: Augment existing security only	F	F	F	F
EXW 2.2	Conduct pier security operations. IV (L) Plan and train I, II, III (L) Restricted to augmenting existing pier security.	L	L	L	L

EXW 2.3	Conduct access/entry control point (ECP) defense to prevent unauthorized access to protected high value asset (HVA) and infrastructure areas. IV (L) Plan and train I, II, III (L) Restricted to immediate camp areas and augment of existing pier security element.	L	L	L	L
EXW 2.7	Operate in coordination with other NECC units and naval/joint/combined forces in support of landside security. IV (L) Plan and train I, II, III (L) Restricted to immediate camp areas and augment of existing security element.	L	L	L	L
EXW 2.9	Provide a rapid response force (RRF). IV (L) Plan and train I, II, III (L) Restricted to immediate camp areas to augment existing security element.	L	L	L	L
EXW 2.12	Conduct landside security using non-lethal means of force. IV (L) Plan and train I, II, III (L) Restricted to immediate camp areas.	L	L	L	L
EXW 5 CONDUCT LAND CONVOY OPERATIONS					
EXW 5.1	Provide for the secure movement of personnel and cargo via ground transportation in a permissive, uncertain, or hostile environment. IV (L) Plan and train I, II, III (L) Restricted to non-tactical movement within the confines of a port or airhead in permissive/uncertain environment. Personnel movement outside base camp	L/E	L/E	L/E	L/E

	requires augmentation of a Convoy Security Element (CSE).				
EXW 5.2	Provide vehicles and supporting equipment for subordinate units to conduct a land convoy in a permissive, uncertain or hostile environment. (L) Restricted to organic TOA for assigned units.	L	L	L	L
EXW 5.3	Plan/direct land convoy operations. IV (L) Plan and train I, II, III (L) Restricted to non-tactical movement within the confines of a port or airhead and establishing prescribed routes for cargo movement.	L	L	L	L
EXW 6 MAINTAIN EXPEDITIONARY COMMUNICATIONS CAPABILITY					
EXW 6.1	Set-up and maintain a mobile communications system. *Note: Restricted to support of assigned units. Set-up and maintenance restricted to organic TOA communication equipment. Supported internally via augmentation from NELR Expeditionary Communications detachment. III, IV (L)-Full capability achieved and sustained via recalled reserve assets.	F	F	L/A	L/A
EXW 6.2	Maintain encrypted high frequency (HF), very-high frequency (VHF), ultra-high frequency (UHF), and super-high frequency (SHF) voice and data communications. *Note: Restricted to support of assigned units. Set-up and maintenance restricted to organic TOA communication equipment. Supported internally via augmentation from NELR Expeditionary Communications detachment. III, IV (L)-Full capability achieved and sustained via recalled reserve assets.	F	F	L/A	L/A

EXW 6.3	<p>Establish voice communications with U.S. Marine Corps (USMC) evacuation and command nets, Naval Support Activity (NSA), Air Force, Army, local law enforcement, and Homeland defense nets.</p> <p>*Note: Restricted to support of assigned units. Set-up and maintenance restricted to organic TOA communication equipment. Supported internally via augmentation from NELR Expeditionary Communications detachment. Restricted to VHF & HF type communication equipment and units within the same geographic area (port, terminal, airhead area). To provide secure HF capability, must deploy with certified operator/maintenance personnel.</p> <p>III, IV (L)-Full capability achieved and sustained via recalled reserve assets.</p>	F	F	L/A	L/A
EXW 6.4	<p>Operate expeditionary communications in coordination with other NECC units and naval/joint/combined forces.</p> <p>IV (L) Plan and train</p> <p>I, II, III (L) Restricted to support of NAVELSG units. Set-up and maintenance restricted to organic TOA communication equipment. Supported internally via augmentation from NELR Expeditionary Communications detachment. Restricted to VHF & HF type communication equipment and units within the same geographic area (port, terminal, airhead area). To provide secure HF capability, must deploy with certified operator/maintenance personnel.</p>	L/A	L/A	L/A	L/A
EXW 6.6	<p>Conduct emissions control (EMCON) as directed by higher authority.</p> <p>*Note: Restricted to support of assigned units. Supported internally via augmentation from NELR</p>	F/A	F/A	F/A	L/A

	Expeditionary Communications detachment. IV (L) Plan and train I, II, III (L) Full capability achieved and sustained via recalled reserve assets.				
EXW 6.7	Conduct routine and preventative maintenance (PMS) on a mobile communication system. *Note: Restricted to support of assigned units. Maintenance restricted to organic TOA communication equipment. Supported internally via augmentation from NELR Expeditionary Communications detachment. IV (L) Plan and train I, II, III (L) Full capability achieved and sustained via recalled reserve assets.	F/A	F/A	F/A	L/A
EXW 6.8	Plan the force's tactical use of information systems, C4I architecture, databases, and sensors. *Note: Restricted to support of assigned units and organic TOA communication equipment. Supported internally via augmentation from NELR Expeditionary Communications detachment. IV (L) Plan and train I, II, III (L) Full capability achieved and sustained via recalled reserve assets.	F/A	F/A	F/A	L/A
EXW 9 CONDUCT BASE CAMP OPERATIONS IN AN EXPEDITIONARY ENVIRONMENT					
EXW 9.1	Conduct a site survey to ascertain location, drainage/sanitation, security, access, and force integration.	F	F	F	F

EXW 9.3	Set-up appropriate field equipment including berthing tents, power generation/distribution, water/sanitation, security, damage control, medical and mess tents. *Note: Organic support for 350 personnel camp. AC can only employ 18 hatch team strategies during initial expeditionary camp construction. IV(L) Plan and train	F	F	F	L
EXW 9.4	Maintain base camp operations including power generation/distribution and water/sanitation. *Note: Organic support for 350 personnel camp. AC can only employ 18 hatch team strategies during initial expeditionary camp construction. IV(L) Plan and train	F	F	F	L
EXW 9.5	Maintain base camp perimeter and ECP Security. *Note: Restricted to internal camp perimeter. ECP Security includes use of CSW.	F/E	F/E	F/E	L/E
EXW 9.6	Plan/direct base camp operations in an expeditionary environment. IV (L) Plan and train I-III (L) Restricted to assigned units.	L	L	L	L
EXW 10 CONDUCT COMMAND AND CONTROL IN AN EXPEDITIONARY ENVIRONMENT					
EXW 10.4	Exercise command and control of Expeditionary Logistic Support units, when assigned.	F	F	F	F
EXW 10.8	Exercise command and control of NECC adaptive force package (AFP), task force, task group, task unit or other joint or combined task force or subordinate component. I-IV (L) Restricted to assigned units.	L	L	L	L
EXW 12 CONDUCT EXPEDITIONARY WARFARE SUPPORT OPERATIONS					

EXW 12.1	Provide repair and inspection services for Civil Engineering Support Equipment (CESE). I-IV (L) Restricted to organic TOA. Also includes organic TOA Material Handling Equipment (MHE).	L	L	L	L
EXW 12.2	Provide administrative services to subordinate units.	F	F	F	F
EXW 12.5	Provide individual protective clothing and equipment to sufficiently protect personnel in a CBR-Contaminated environment. (L) III & IV Training purposes only *Note: For deployed personnel only	F	F	L	L
EXW 13	REPAIR OWN UNIT'S EXW EQUIPMENT I - IV (L) Restricted to organizational level maintenance of TOA equipment.	L	L	L	L
EXW 14	CONDUCT CASUALTY CONTROL PROCEDURES TO MAINTAIN/RESTORE OWN UNIT'S EXW CAPABILITIES	F	F	F	F
FLEET SUPPORT OPERATIONS (FSO)					
FSO 2	PROVIDE BASE FACILITY MAINTENANCE AND UTILITY OPERATIONS				
FSO 2.1	Operate and maintain electric power generation systems (diesel) and distribution systems. IV (L) Plan and train. I-III (L) Restricted to establishing and maintaining own expeditionary camp systems.	L	L	L	L
FSO 2.2	Operate and maintain water production and distribution systems including advanced base desalination equipment. IV (L) Plan and train. I-III (L): Restricted to operating and maintaining own water distribution in TOA equipment (mobile water tanks).	L	L	L	L

FSO 2.3	Maintain structures of all types including wood, prefabricated, steel and concrete. I - IV (L) Restricted to own unit support.	L	L	L	L
FSO 2.6	Maintain POL storage facilities. *Note: Restricted to expeditionary Bulk Fuel Storage and Fuel Service Station facilities. (L)-Full capability achieved and sustained via recalled reserve assets.				
	NCHB (Active Duty)	F	F	L/A	L/A
	NCHB (Reserve)	F	F	F	F
FSO 9	PROVIDE MEDICAL CARE TO ASSIGNED AND EMBARKED PERSONNEL				
FSO 9.1	Conduct Sick Call. *Note: For unit personnel only.	F	F	F	F
FSO 9.5	Conduct sanitation and safety inspections. *Note: For unit personnel only.	F	F	F	F
FSO 9.6	Conduct occupational health/safety and preventive medicine programs and training using the following personnel: a) Hospital corpsmen b) Independent duty corpsmen I - IV (L) Occupational health support required of others. AC can provide independent duty corpsmen. *Note: For unit personnel only.	L	L	L	L
FSO 9.9	Conduct associated administrative /maintenance services: a) Maintain adequate medical supplies for appropriate level health care. b) Perform routine medical administrative services. *Note: For unit personnel only.	F	F	F	F

FSO 9.19	Provide medical care, triage and resuscitation commensurate with health care provider credentials using the following personnel: a) Independent duty corpsman b) Hospital corpsman *Note: For unit personnel only. Independent duty hospital corpsman applicable to AC only.	F	F	F	F
FSO 10	PROVIDE FIRST AID ASSISTANCE				
FSO 10.1	Identify, equip and maintain appropriate first aid spaces. *Note: For unit personnel only	F	F	F	F
FSO 20	PROVIDE FLEET TRAINING SERVICES				
FSO 20.10	Provide technical guidance and assistance to fleet units in cargo handling and underway replenishment operations. I-IV (L) Restricted to cargo handling only.	L	L	L	L
FSO 46	MONITOR ASSIGNED UNIT'S ADMINISTRATIVE PROCEDURES	F	F	F	F
FSO 47	MONITOR ASSIGNED UNIT'S OPERATIONAL PROCEDURES	F	F	F	F
FSO 48	MONITOR ASSIGNED UNIT'S MATERIAL READINESS	F	F	F	F
FSO 51	REPAIR OWN UNITS FSO-RELATED EQUIPMENT I - IV (L) Restricted to organizational level maintenance of TOA equipment.	L	L	L	L
FSO 55	MAINTAIN READINESS BY PROVIDING FOR TRAINING OF OWN UNIT'S PERSONNEL	F	F	F	F
LOGISTICS (LOG)					
LOG 2	TRANSFER/RECEIVE CARGO AND PERSONNEL				
LOG 2.2	Provide facilities and personnel for material, mail and passenger handling. I-IV (L) Restricted to providing personnel for material, mail, and passenger handling. AC can only employ 18 hatch team strategies during cargo terminal operations.	L	L	L	L
LOG 2.3	Act as a transient personnel receiving station. I-IV (L) Restricted to providing	L	L	L	L

	personnel only to work in an expeditionary air terminal.				
LOG 5	DEVELOP AND OPERATE TEMPORARY COMBAT ZONE AIR AND SURFACE CARGO TERMINALS IN SUPPORT OF NAVY OPERATIONS				
LOG 5.1	Operate and maintain material handling equipment necessary to sustain intra-terminal movement of material. I - IV (L) Restricted to operation of assigned MHE and CESE TOA equipment. Restricted to organizational level maintenance of TOA equipment (includes CESE).	L	L	L	L
LOG 5.2	Provide a trained nucleus of personnel capable of processing all transportation documentation in support of air/sea terminal operations.	F	F	F	F
LOG 5.3	Coordinate and control the movement and handling of cargo discharged from ships and aircraft through ocean and air terminals in support of Navy advanced base operations. I-IV (L) Operating radius restricted to 10 kilometers or within confines of port or airhead.	L	L	L	L
LOG 5.4	Coordinate, control and provide all technical skills to load/discharge all types (break bulk, palletized, mixed and containerized) of cargo and all classes of cargo (general, hazardous ammunition) of cargo from MSC, commercial or Navy ships either in-stream or pier-side at the established rates of loading/discharging.	F	F	F	F
LOG 5.5	Provide trained personnel to control and conduct sustained assault follow-on logistics support to landing force elements using cargo handling equipment on auxiliary, crane ships (T-ACS).	F	F	F	F
LOG 7	OPERATE PORT FACILITY				
LOG 7.1	Operate and maintain material	L	L	L	L

	handling equipment for intraterminal material movement. I - IV (L) Restricted to operation of assigned MHE and CESE TOA equipment. Restricted to organizational level maintenance of TOA equipment (includes CESE).				
LOG 7.2	Process transportation documentation in support of air/sea terminal operations.	F	F	F	F
LOG 7.3	Coordinate and control the movement and handling of cargo discharged from ships and aircraft through ocean and air terminals.	F	F	F	F
LOG 7.4	Provide personnel trained in the handling and testing of fuels and other hazardous cargo. *Note: Restricted to fuels testing in an expeditionary fuel field laboratory only. (L)-Full capability achieved and sustained via recalled reserve assets.				
	NCHB (active duty)	F	F	L/A	L/A
	NCHB (reserve)	F	F	F	F
LOG 8	CONDUCT MATERIAL CONTROL OPERATIONS				
LOG 8.2	Consolidate receipt and transshipment of all group cargo and mail, including off ship cargo operations in support of embarked forces. I-IV (L) Limited to ocean and air terminal operations, including marshalling yard operation. AC can only employ 18 hatch team strategies during Material Control operations.	L	L	L	L
LOG 8.3	Control all passenger movement to and from the group. I-IV (L) Limited to air terminal operations.	L	L	L	L
LOG 9	REPAIRS OWN UNIT'S LOGISTICS EQUIPMENT I-IV (L) Restricted to organizational level maintenance of TOA equipment.	L	L	L	L

LOG 10	CONDUCT CASUALTY CONTROL PROCEDURES TO MAINTAIN/RESTORE OWN UNIT'S LOG CAPABILITIES	F	F	F	F
MOBILITY (MOB)					
MOB 3	PREVENT AND CONTROL DAMAGE				
	<p>MOB 3.2 Counter and control chemical, biological and radiological (CBR) contaminants/agents.</p> <p>IV (L) Plan and train</p> <p>I-III (L) Restricted to individual protective measures. For deployed personnel only.</p>	L	L	L	L
	<p>MOB 3.3 Maintain security against unfriendly acts.</p> <p>IV (L) Plan and train</p> <p>I-III Restricted to internal camp/ECP security, individual protective measures and work area security. Security includes use of CSW.</p>	L/E	L/E	L/E	L
MOB 8	OPERATE FROM A SHIP				
	<p>MOB 8.6 Operate from merchant ships and indigenous craft.</p> <p>IV (L) Plan and train</p> <p>*Note: Includes MPF in stream operations.</p>	F	F	F	L
MOB 11	MAINTAIN MOUNT-OUT CAPABILITIES				
	<p>MOB 11.1 Deploy with organic allowance within designated time period.</p> <p>*Note: AC deploys within 72 hours after receipt of execution order with only personnel and personal gear, and within six days after receipt of execution order with all unit gear. RC within 15 days after receipt of mobilization orders with only personnel and personal gear. Thirty days for personnel and all gear.</p>	F	F	F	F
	<p>MOB 11.2 Mount-out selected elements /detachments.</p>	F	F	F	F

	*Note: AC within 72 hours after receipt of execution order with only personnel and personal gear. RC mounts out within 15 days after receipt of mobilization orders with only personnel and personal gear. Thirty days for personnel all unit gear.				
MOB 11.3	Maintain capability for rapid airlift of unit/detachment as directed. IV (L) Plan and train	F	F	F	L
MOB 12 MAINTAIN THE HEALTH AND WELL BEING OF THE CREW					
MOB 12.3	Monitor and/or maintain the environment to ensure the protection of personnel from overexposure to hazardous levels of radiation, temperature, noise, vibration and toxic substances per current instructions. I-IV (L) Restricted to noise and temperature. Require support to monitor for radiation, vibration, and toxic substances.	L	L	L	L
MOB 12.5	Monitor the health and well-being of the crew to ensure that habitability is consistent with approved habitability procedures and standards.	F	F	F	F
MOB 12.8	Provide individual protective clothing and equipment to sufficiently protect personnel identified being at risk in a CBR-contaminated environment. IV (L) Plan and train *Note: Required for deployed unit personnel only.	F	F	F	L
MOB 12.9	Provide individual protective clothing and equipment to sufficiently protect medical personnel aboard a ship at risk in a CBR-contaminated environment.	F	F	F	L

	IV (L) Plan and train *Note: Required for deployed unit personnel only.				
MOB 12.12	Provide antidotes to ship's company which will counteract the effects caused by a CBR-contaminated environment. IV (L) Plan and train *Note: Required for deployed unit personnel only.	F	F	F	L
MOB 13 MAINTAIN RESERVE UNIT MOBILIZATION READINESS (INACTIVE RESERVE UNITS ONLY)					
MOB 13.1	Ensure personnel onboard and their associated records are ready for immediate mobilization.	F	F	F	F
MOB 13.2	Ensure organic equipment (pre-positioned war reserve stock situated at reserve training sites) and associated records are ready for immediate mobilization.	F	F	F	F
MOB 13.3	Conduct immediate crisis response.				
	NCHB (active duty) IV (L) Plan and train	F	F	F	L
	NCHB (reserve) IV (L) Plan and train II, III (L) Unit mobilization and embarkation is 45-60 days after presidential recall	F	L	L	L
MOB 14 CONDUCT OPERATIONS ASHORE					
MOB 14.1	Operate in climate extremes ranging from cold weather to tropical to desert environments.	F	F	F	F
MOB 14.2	Operate in rear of combat zone in Afloat Pre-Positioning Force (APF) or Marine Expeditionary Force (MEF) Forward environment. IV (L) Plan and train	F	F	F	L

MOB 14.4	Move up to 10 percent of operating equipment using organic motor transport assets. IV (L) Plan and train	F	F	F	L
MOB 14.5	Conduct peacetime activation, mount-out and movement exercises of selected personnel and equipment to ensure capability of contingencies involving naval forces short of a general war. IV (L) Plan and train		F	F	L
MOB 14.6	Conduct limited local security defensive combat operations. IV (L) Plan and train I, II, III (L) Restricted to internal camp /ECP security, individual protective measures and work area security. Security includes use of CSW.	L	L	L	L
MOB 14.7	Provide qualified personnel to conduct site survey. I-IV (L) Restricted to cargo handling operations only - ports and airheads.	L	L	L	L
MOB 17	PERFORM ORGANIZATIONAL LEVEL REPAIRS TO OWN UNIT'S MOB EQUIPMENT IV (L) Plan and train	F	F	F	L
MOB 18	CONDUCT CASUALTY CONTROL PROCEDURES TO MAINTAIN/RESTORE OWN UNIT'S MOB CAPABILITIES IV (L) Plan and train	F	F	F	L
MISSIONS OF STATE (MOS)					
MOB 1	PERFORM NAVAL DIPLOMATIC PRESENCE OPERATIONS				
MOB 1.9	Participate in military exercise with allied nations. IV (L) Plan and train II, III (L) Restricted to cargo handling and terminal operations only.	F	L	L	L

MOS 1.9	Participate in military exercise with non-allied nations. IV (L) Plan and train II, III (L) Restricted to cargo handling and terminal operations only.	F	L	L	L
MOS 2 PROVIDE HUMANITARIAN ASSISTANCE					
MOS 2.1	Deliver relief material. IV (L) Plan and train II, III (L) Restricted to ship/aircraft cargo and passenger offload and onload including transport to marshalling location.	F	L	L	L
MOS 2.10	Support/provide for the evacuation of noncombatant personnel in areas of civil or international crisis. IV (L) Plan and train II, III (L) Restricted to ship/aircraft cargo and passenger off load and on load including transport to marshalling location.	F	L	L	L
MOS 3 PERFORM PEACEKEEPING					
MOS 3.2	Provide logistics support for a joint/allied peacekeeping force. IV (L) Plan and train II, III (L) Restricted to ship/aircraft cargo and passenger off load and on load including transport to marshalling location.	F	L	L	L
MOS 12 CONDUCT CIVIL AFFAIRS OPERATIONS (CAO)					
MOS 12.5	Conduct cultural briefings to supported units. *Note: For assigned unit personnel	F	F	F	F
MOS 12.14	Conduct Foreign Humanitarian Assistance. IV (L) Plan and train II, III (L) Restricted to	F	L	L	L

	ship/aircraft cargo and passenger offload and onload including transport to marshalling location.				
MOS 14	CONDUCT NATION ASSISTANCE (NA)				
	MOS 14.6 Identify and evaluate HN infrastructure. IV (L) Plan and train II, III (L) Restricted to ports and airheads.	F	L	L	L
MOS 15	PROVIDE FUNCTIONAL SPECIALTY SUPPORT FOR CMO.				
	MOS 15.3 Provide Port Operations support. IV (L) Plan and train I - III (L) Restricted to cargo handling and terminal operations only.	L	L	L	L
NONCOMBAT OPERATIONS (NCO)					
NCO 2	PROVIDE ADMINISTRATIVE AND SUPPLY SUPPORT FOR OWN UNIT				
	NCO 2.1 Provide supply support services.	F	F	F	F
	NCO 2.2 Provide clerical services.	F	F	F	F
	NCO 2.5 Provide messing facilities.	F	F	F	F
	NCO 2.7 Provide inventory and custodial services.	F	F	F	F
	NCO 2.8 Provide personnel for living space maintenance.	F	F	F	F
	NCO 2.9 Provide personnel for area command security. IV (L) Plan and Train I, II, III (L) - Restricted to internal camp/ECP security, individual protective measures and work area security. Security includes use of CSW.	L/E	L/E	L/E	L
	NCO 2.11 Provide personnel for fuels support. (L)-Full capability achieved and sustained via recalled reserve assets.				
	NCHB (Active duty)	F/A	L/A	L/A	L/A
	NCHB (Reserve)	F	F	F	F

NCO 3 PROVIDE UPKEEP AND MAINTENANCE OF OWN UNIT					
NCO 3.1	Provide organizational level preventive maintenance.	F	F	F	F
NCO 3.2	Provide organizational level corrective maintenance.	F	F	F	F
NCO 3.3	Provide small arms storage areas. *Note: AC maintains small arms storage at NWSY-Cheatham Annex, VA. RC when not mobilized, weapons allowance is stored at NWSC Crane.	F	F	F	F
NCO 3.4	Maintain preservation and cleanliness of topside and internal spaces. *Note: Restricted to own facilities ashore.	F	F	F	F
NCO 3.5	Provide for proper storage, handling, use and transfer of hazardous materials. *Note: Includes reporting and handling of ammunition.	F	F	F	F
NCO 10 PROVIDE EMERGENCY/DISASTER ASSISTANCE					
NCO 10.4	Provide disaster assistance and evacuation. IV (L) Plan and train II, III (L) Restricted to ship/aircraft/ cargo/passenger offload and onload.	F	L	L	L
STRATEGIC SEALIFT (STS)					
STS 1 LOAD DISCHARGE AND TRANSPORT DRY CARGO					
STS 1.1	Use ship's cargo rigs to load and discharge break bulk cargo.	F	F	F	F
STS 1.2	Use ship's crane(s) to load and discharge containerized cargo.	F	F	F	F
STS 1.4	Use ship's crane(s) to load and discharge cargo on/from non self-sustaining container ships.	F	F	F	F
STS 1.5	Use ships crane to load and discharge LASH barges. *Note: Conducted under the supervision of the ship's Master.	F	F	F	F

STS 1.8	Use ship's ramp(s) to load and discharge Roll on/Roll off (RO/RO) cargo	F	F	F	F
STS 1.15	Load, stow, transport and discharge outsized and oversized military equipment.	F	F	F	F
STS 2 LOAD DISCHARGE AND TRANSPORT POL					
STS 2.1	Provide liquid cargo tanks and piping systems suitable for carriage of POL. (L)-Full capability achieved and sustained via recalled reserve assets.				
	NCHB (Active duty)	F/A	L/A	L/A	L/A
	NCHB (Reserve)	F	F	L	L
STS 4 PREPOSITION CARGO					
STS 4.1	Maintain cargo space, including appropriate environmental control, for prepositioned cargo. I-IV(L) Restricted to operation of ocean, air and marshalling yard operations	L	L	L	L

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**APPENDIX B. MARAD SHIP PRICING
PER JULY 2010 NCHB-3 EXERCISE**

6-Jul	Tuesday	\$	2,660
7-Jul	Wednesday	\$	2,660
8-Jul	Thursday	\$	2,660
9-Jul	Friday	\$	2,660
10-Jul	Saturday	\$	-
11-Jul	Sunday	\$	-
12-Jul	Monday	\$	2,660
13-Jul	Tuesday	\$	2,660
14-Jul	Wednesday	\$	2,660
15-Jul	Thursday	\$	2,660
16-Jul	Friday	\$	2,660
17-Jul	Saturday	\$	-
18-Jul	Sunday	\$	-
19-Jul	Monday	\$	2,660
20-Jul	Tuesday	\$	2,660
		\$	29,260

Pricing as of 05 April 2010

1 Vessel Pricing

\$ 1,900 per Weekday

\$ 3,000 per Weekend day

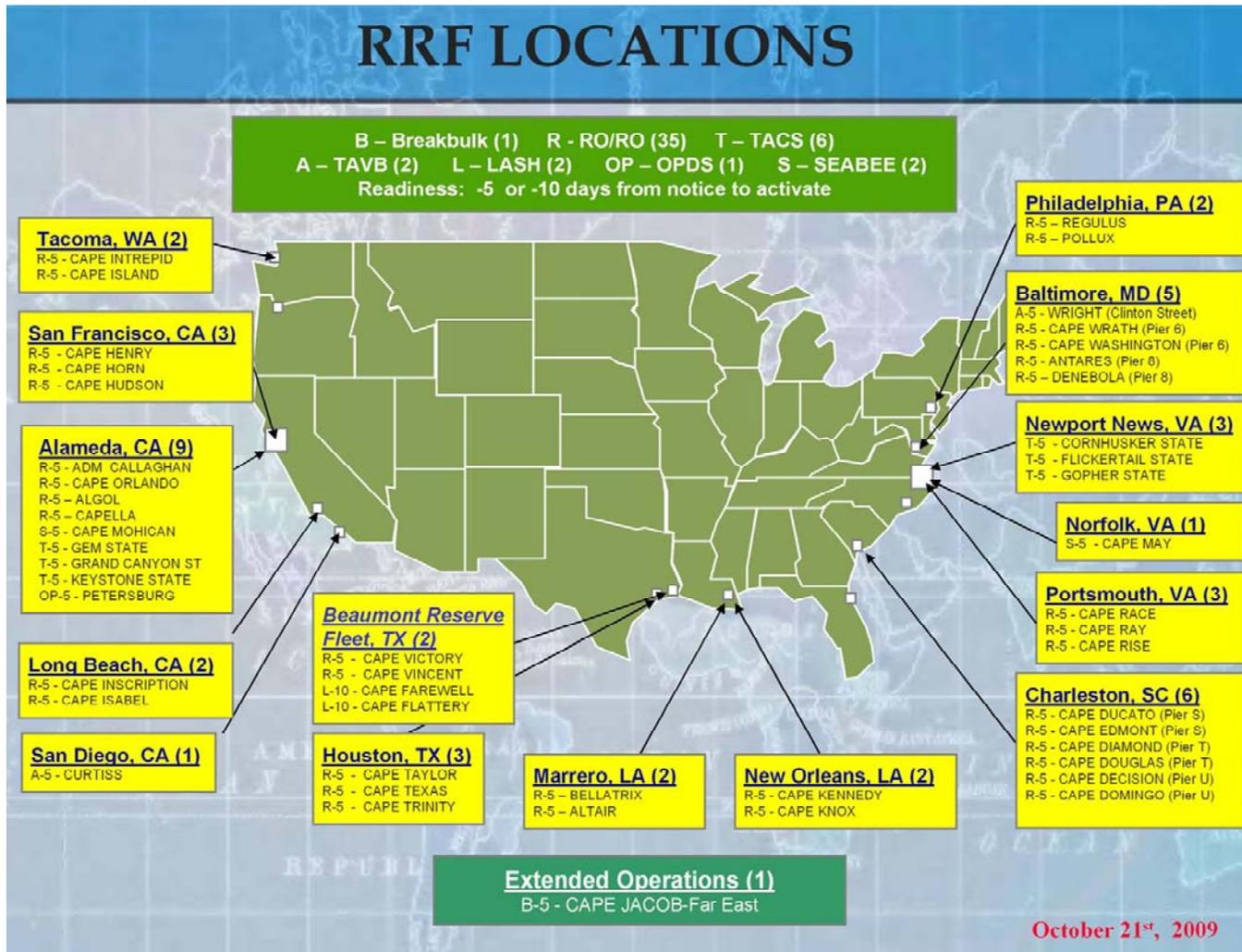
2 Vessel Pricing

\$ 2,660 per Weekday

\$ 4,200 per Weekend day

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APPENDIX C. READY RESERVE FORCE LAYDOWN



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APPENDIX E. CIVIL ENGINEER SUPPORT EQUIPMENT (CESE)

Truck Stake 6X6, (NSN 2320-01-195-0532)



Rated Load Capacity	15.00 Tons
Drive Wheel Quantity	6
Rear Wheel Mounting Type	Dual
Height Prime Mover Type	Diesel Engine
Transmission Type	Automatic
Cargo Area Nominal Length	216 In
Cargo Area Nominal Height	95 In
Body Material	Steel and Wood
Length	351 in
Width	96 in
Height	102 in
Weight	19,555 lb

NSNLOCATOR.com

NAVFAC Expeditionary Logistics Center,

Advanced Base Functional Component/Table of Allowance Relational Database

Light Service Support Vehicle (LSSV), (NSN 2320-LL-LCA-0206)

The Light Service Support Vehicle (LSSV) is manufactured by GM Defense and is produced in the following models:

- Cargo/Troop Carrier Pickup (Base, Extended Cab or Crew Cab)
- Cargo/Troop Carrier/Command Tahoe
- Cargo/Troop Carrier/Command Suburban
- Ambulance

The LSSV command model utilizes the 1500 Tahoe and 2500 Suburban while the LSSV pickup models are based on the Chevrolet 2500HD 1-ton chassis.

Militarization of standard GM trucks to produce the LSSV included exterior changes such as CARC paint (Forest Green, Desert Sand, or three-color Camouflage), blackout lights, military bumpers, brush guard, NATO slave receptacle, NATO trailer receptacle, pintle hook and shackles. The electrical system was changed to the 24/12 volt military standard.



Overall Dimensions	
Length	260 in
Width	77 in
Height	75 in
Weight	6,301 lb

*NAVFAC Expeditionary Logistics Center,
Advanced Base Functional Component/Table of Allowance Relational Database*

M-915, Truck, Tractor, Line Haul 50,000 GVWR, (NSN 2320-01-028-4395)

The M-915 Line-Haul Tractor (Truck, Tractor, 14-ton, 6x4) is used primarily in active and reserve component transportation units for the rapid, efficient transport of bulk supplies from ocean ports to division support areas within a theater of operation.

AM General produced M-915 series variants M-915 and M-915 A1, then Freightliner produced the M-915 A2 through M-915 A5, based upon commercial FLD120 tractors.



TRUCK, TRACTOR, LINEHAUL: M915



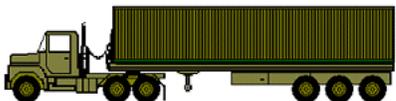
M915 TRACTOR w/M872 (40FT FLAT BED TRAILER)



M915 TRACTOR w/M872 (40 FT STAKE BED TRAILER)



M915 TRACTOR w/7500 GAL TANKER



M915 TRACTOR w/M872 TRAILER & 40 FT CONTAINER



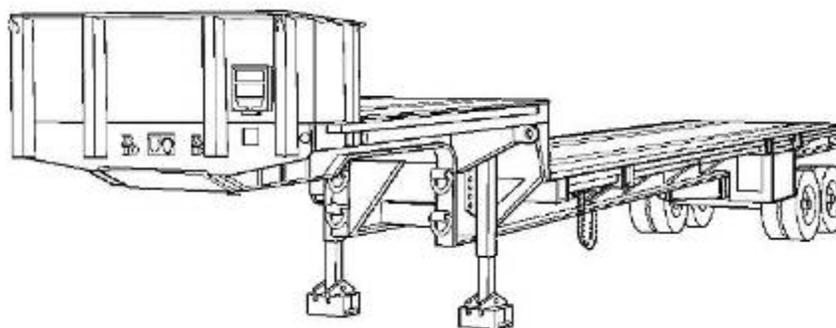
Overall Dimensions	
Length	268.5 in
Width	96.75 in
Height	134.63 in
Ground Clearance	10.25 in
Fording Depth	20 in
GCWR	105,000 lb
Empty Net Weight	19,630 lb
Fuel Capacity	118 gal

Technical Manual, Operator's, Unit, Direct Support, and General Support Maintenance Manual

TM 9-2330-273-10 Headquarters, Department Of The Army, May 1980

**M-871 A3, Semitrailer, Tactical, Drop Deck
Break Bulk/ Container Transporter, 22-1/2 Ton,
(NSN 2330-01-458-6865)**

The M871A3 semitrailer is a 22 1/2-ton drop deck/break bulk (DD/BB) container transporter. It is a tactical, dual purpose, bulk, and container transporter. It transports twenty foot International Organization for Standardization (ISO) Containers on line haul missions and is the primary means of distributing containers and bulk cargo.



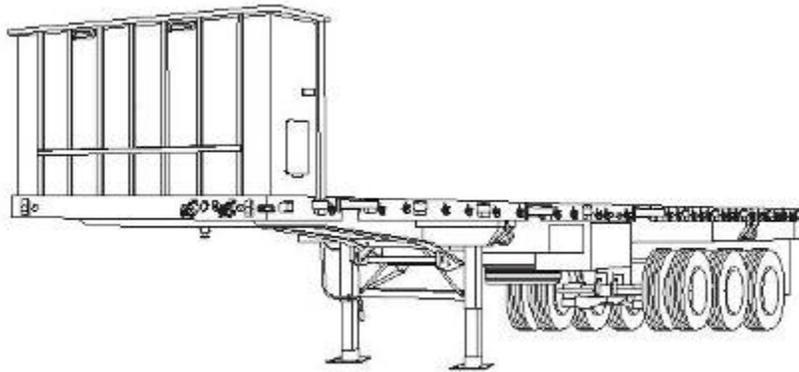
Trailer Dimensions	
Length	42 ft 2 in
Width	8 ft 1 in
Height Overall	78.5 in
Ground Clearance	12 in
Fording Depth	30 in
VEHICLE WEIGHTS:	
Highway or Improved Roads	45,000 lb
Empty Net Weight	17,660 lb
Axles	2 Set Dual Tandem
Wheels	Hub Pilot
Rim size	22.5 in x 8.25 in

Technical Manual, Operator's, Unit, Direct Support, and General Support Maintenance Manual

TM 9-2330-326-14&P, Headquarters, Department Of The Army, February 2006

**M-872 A4, Semitrailer, Flatbed: Break Bulk
Container Transporter, 34 Ton, (NSN 2330-01-497-0706)**

The M872A4 Series Flatbed Semitrailer is a cargo hauling semitrailer designed to carry containerized or breakbulk cargo. It is designed to be towed by the M915 Series 6 x 4 Truck, Tractor.

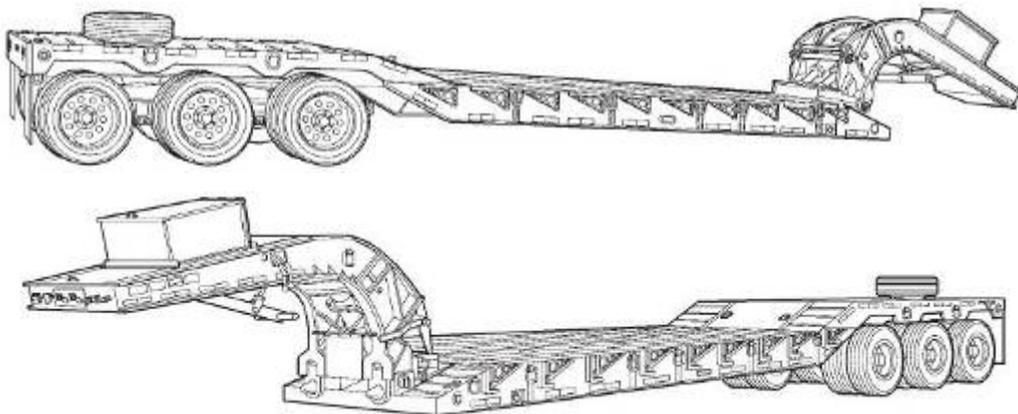


Trailer Dimensions	
Length	43 ft 10 in
Width	96 in
Height Overall	106.25 in
Ground Clearance	12 in
Fording Depth	30 in
VEHICLE WEIGHTS:	
GCVR w/M915A3 Tractor	105,000 lb
Highway or Improved Roads	67,200 lb
Empty Net Weight	18,800 lb
Axles	3 Set Dual Tandem
Wheels	Hub Pilot
Rim size	22.5 in x 8.25 in

*Technical Manual, Operator's, Unit, Direct Support, and General Support Maintenance Manual
TM 9-2330-331-14&P, Headquarters, Department Of The Army, December 2005*

**M-870 A3, Trailer, Medium Heavy Equipment Transporter (MHET),
40 Ton, (NSN 2330-01-458-2061)**

The M870A3 semitrailer low-bed is a hydraulic detachable system capable of transporting engineer equipment, tracked vehicles, wheeled vehicles or other payloads up to 80,000 pounds on highways, unimproved roads (graded gravel), and cross country. The semitrailer is a multi-axle state-of-the-art trailer with vehicle front end loading capability, dual 12/24 volt electrical system including light emitting diode (LED) lights and twelve-inch extensions to expand the trailer width to 126 inches..



Trailer Dimensions	
Length	45 ft 5.3 in
Width	8 ft 6 in
Height Overall	105 in
Ground Clearance	16 in
Fording Depth	20 in
GCVW	131,800 lb
Empty Net Weight	23,950 lb
Axles	3 Set Dual Tandem
Wheels	Hub Pilot
Rim size	22.5 in x 9 in

Technical Manual, Operator's, Unit, Direct Support, and General Support Maintenance Manual

TM 5-2330-325-14&P Headquarters, Department Of The Army, June 2004

**M-149, Trailer, Tank, 400 Gallon
(Water Buffalo) (NSN 2330-00-542-2039)**

The M149, M149A1, and M149A2 Water Tank Trailers are designed to carry 400 gal. of potable or nonpotable water either highway or cross-country.

The trailers are designed to be towed by an M35 Series 2½ Ton Truck. Maximum allowable speed is 50 mi/h (80 km/h) highway and 30 mi/h (48 km/h) cross-country.



Trailer Dimensions	
Length	161 in
Width	80 in
Height	76.5 in
Ground Clearance	17 in
Tank Capacity	400 gal
Empty Net Weight	2,900 lb
Axles	1
Wheels	Military Offset Disk
Rim size	20 in x 7.5 in

Technical Manual, Operator's, Unit, Direct Support, and General Support Maintenance Manual

TM 9-2330-267-14 & P, Headquarters, Department Of The Army, July 1991

**M-878, Truck, Tractor, Yard Type 4X2,
(NSN 2320-01-452-5579)**

The M-878 A2 Yard Tractor moves (“spots”) trailers in a terminal yard environment and in roll-on/roll-off (RO/RO) marine operations. Use of this vehicle on a public road or highway is NOT authorized. A hydraulically-controlled fifth wheel can be raised or lowered thirty two inches has a 70,000 lb vertical load capacity, and is compatible with a two-inch kingpin. A cab-controlled, air-operated latching cylinder unlocks fifth wheel coupler jaws from inside the cab.



Overall Dimensions	
Length	198.64 in
Width	98 in
Height	124.05 in
Ground Clearance	9.5 in
Engine	Diesel, turbocharged
Horsepower	275 hp @ 2400 rpm
GVWR	46,662 lb
Fuel Capacity	50 gal
Axles	2
Wheels	Hub Pilot
Rim size	22.5 in x 8.25 in

*Technical Manual, Operator's Manual,
TM 9-2320-312-10, Headquarters, Department Of The Army, December 2003*

**Millennia Military Vehicle (MMV),
(NSN 3930-01-508-0886)**

The MMV telehandler features a variable load capacity through the use of two different fork attachments. It is capable of moving all palletized classes of material up to its rated capacity, with an optimum lifting range of 4,000 to 11,000 pounds. The MMV has a maximum lift height just over forty two feet and a maximum horizontal reach of twenty nine feet. The MMV can operate in rough terrain and is self-deployable with a maximum off-road speed of thirty five miles per hour and a cruising range of 425 miles. The MMV is also air-transportable in CH-53 and KC/C-130 aircraft.



Overall Dimensions	
Length	20 ft 8 in
Width	8 ft 4 in
Height	7 ft 10 in
Ground Clearance	15.1 in
Fuel Capacity	45 gal
Engine	Cummins turbo-diesel
Turning radius	16 ft 4 in
Boom tilt angle (max)	84°
Max Reach	31 ft
Max Lift Height	42 ft 4 in

*U.S. Marine Corps Technical Manual for Principal Technical Characteristics of U.S. Marine Corps
Engineer Equipment, TM 11275-15/3D Marine Corps Systems Command, June 2009*

JLG Industries, Inc. Press release date: July 1, 2008

**All Terrain Lifter, Army System (ATLAS),
(NSN 3930-01-417-2886)**

The All Terrain Lifter, Army System (ATLAS) is a five ton (10,000 pound) capacity, variable reach, rough terrain forklift. It is intended to perform the same type of cargo handling operations as earlier Army 10K forklifts under a wide variety of conditions.

The ATLAS built by Trak International, Inc. of Port Washington, WS has a maximum lift capacity of five tons with a three-stage telescopic boom. The system has the ability to tilt the frame up to thirty degrees to the left and right to ensure that the load is always level. With a 165-horsepower engine, the ATLAS has a maximum speed of twenty three miles per hour on the road. There are three forward speeds and reverse.



Overall Dimensions	
Length	356.3 in
Width	100.2 in
Height	107 in
Ground Clearance	15.2 in
Fuel Capacity	44 gal
Engine	Cummins 6 cylinder 165 hp
Turning radius	13 ft 11 in
Boom tilt angle (max)	45°
Max Reach w/10K carriage	26 ft 4 in
Max Lift Height w/10K carriage (10k lbs)	16 ft 11 in

*Technical Manual, Operator's, Unit, Direct Support, and General Support Maintenance Manual
TM 10-3930-673-10 Headquarters, Department Of The Army, May 1998*

RT 240, Rough Terrain Container Handler (RTCH), (NSN 3930-01-473-3998)

The Rough Terrain Container Handler (RTCH, pronounced 'wretch') provides the capability to handle standard ANSI/ISO cargo containers that are increasingly the backbone of military logistics.

The Kalmar RT-240 Rough Terrain Container Handler (RTCH) is powered by a six-cylinder turbocharged diesel Cummins QSM 11 engine, 400 hp using JP-8 fuel and can move containers up to 53,000 lbs. The Kalmar RTCH has a movable operators cab and folding boom assembly to reduce transport height so it can be transported by air (C-5 or C-17 drive-on), sea, rail or road without any disassembly. It operates on beaches, rough terrain and unimproved surfaces where it can stack containers three high and has the reach capability to pick up a container in the second row.



Overall Dimensions	
Length	49.2 ft
Width	12 ft
Height	9.8 ft
Ground Clearance	18 in
Lifting Capacity	53,000 lb
Fording Depth	60 in
GVWR	118,000 lb
Fuel Capacity	103 gal

Technical Manual, Operator's Manual

TM 10-3930-675-10-1 Headquarters, Department Of The Army, December 2006

**K Loader, 25,000 Lb Capacity,
(NSN 3930-00-955-3293)**

The Halvorsen loader is a rapidly deployable, high-reach mechanized aircraft loader that can transport and lift up to 25,000 pounds of cargo onto military and civilian aircraft. The loader is highly mobile and can transport a full load of cargo at a maximum speed of seventeen mph. Its versatile deck elevates from thirty nine inches to eighteen feet, four inches and employs a powered conveyer system to move cargo. The deck has pitch, roll, and side-to-side adjustment for quick, efficient interface with all military and commercial cargo aircraft, including the B-747, L-1011, and DC-10. The loader has a 100-inch wheel-to-wheel width for loading/unloading and transport operations. The loader is easily configured from operational to transport mode, which reduces the width from 170 inches to 109 inches. The chassis is also hydraulically adjustable to facilitate driving the loader on or off the C-130, C-141, C-5, or C-17 for air transport. The FMC Halvorsen loader is a versatile, durable vehicle with unmatched performance.



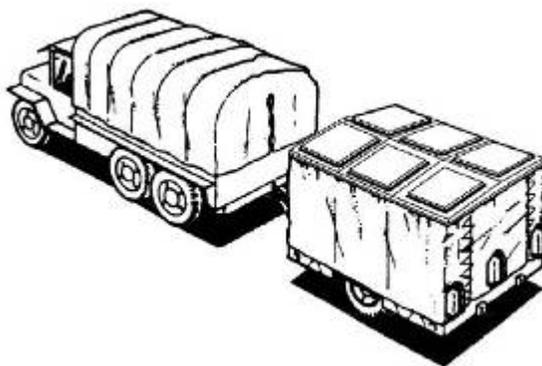
General Characteristics	
Weight (unloaded)	31,350 lbs
Width (operation)	170 in
Width (air transport)	109 in
Length	29 ft 6 in
Deck Height, (variable)	39 in to 18 ft 4 in
Maximum Speed (loaded)	17 mph
Maximum Payload	25,000 lbs
Turning Diameter	50 ft

Air Mobility Command Fact Sheet, June 2007

**MKT-75A, Kitchen, Field, Trailer Mounted,
(NSN 7360-01-092-0470)**

The Mobile Kitchen Trailer (MKT) is an expandable self-contained mobile kitchen facility for preparation of A and B rations for approximately 250 personnel and tray-pack rations for approximately 300 personnel.

The MKT has the capability of opening, handling, serving and transposing tray-pack foods. Tray-pack menu items are hermetically sealed, half-size steam table containers in which about 105 ounces (three kilograms) of food (ten to twenty five servings) have been thermally processed. The tray-pack items can be transported and stored without refrigeration until needed. Ramp corner struts provide support to the ramp. Shock absorbers protect components during travel. Platform leveling is performed with a leveling jack. Corner posts support the roof system. Tentage is attached to tent pole assemblies with tie downs and straps. Safety rails are inserted into pole assemblies and corner posts



Overall Dimensions	
Length	171 in
Width	92 in
Height	93 in
Weight	4,680 lb
Feeding Capacity	250 personnel per meal

*Technical Manual, Operator's, Unit And Direct Support Maintenance Manual,
TM-10-7360-206-13, Headquarters, Department Of The Army, March 2002*

Bus, Motor, (NSN 2310-01-357-8986)



Overall Dimensions	
Length	289 – 499 in
Width	96 in
Height	123 in
Engine	Cummins ISB-10, 200-260 hp
Transmission	Allison 2500 PTS
Brakes	4 wheel anti-lock hydraulic disc brakes
GVWR	31,000 lb
Tank Capacity	60 gal
Wheelbase/ Passenger Capacity	189 in = 48
	217 in = 54
	252 in = 66
	280 in = 77

Blue Bird Vision® Technical Specification Fact Sheet

Blue Bird Corporation, August 2010

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