

Logistics Planner's Guide



MAGTF Staff Training Program (MSTP)

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MSTP Pamphlet 4-0.2
Logistics Planner's Guide

This pamphlet supports the academic curricula of the Marine Air-Ground Task Force (MAGTF) Staff Training Program (MSTP).

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FOREWORD

1. **PURPOSE.** MSTP designed Pamphlet 4-0.2, *Logistics Planner's Guide*, to describe operational planning team (OPT) activities from a logistics perspective and assist logistics and other planners participating in OPTs.
2. **SCOPE.** This guide serves as a supplement to Marine Corps Warfighting Publication (MCWP) 5-10, *Marine Corps Planning Process*, and focuses on Marine Expeditionary Force (MEF) level logistics planning conducted by OPTs and MEF Staffs. This guide is derived from years of observations by the MAGTF Staff Training Program (MSTP), as well as from practitioners throughout the Fleet Marine Force (FMF). This collection of best practices provides a simple addendum to existing MCPP doctrine rather than prescriptive or authoritative direction.
3. **SUPERSESSION.** MSTP Pamphlet 4-0.2, *A Logistics Planner's Guide* of June 2011.
4. **CHANGES.** MSTP encourages commands and individuals to submit recommendations for improvements to this pamphlet. Reproduce the attached User Suggestion Form and forward to:

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Recommendations may also be submitted electronically to: mstp_ops@usmc.mil.

5. **CERTIFICATION.** Reviewed and approved this date.



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Part 1

Introduction

Introduction

This Logistic Planner's Guide nests with other existing doctrine, publications, and pamphlets. It focuses on logistics, supports the logistics planner, and is not intended as a stand-alone document. Logistics planners should familiarize themselves with Marine Corps Warfighting Publication (MCWP) 5-10, *Marine Corps Planning Process* and MSTP Pamphlet 5-0.2, *Operational Planning Team Leader's Guide* to become an effective Operational Planning Team (OPT) member.

The Operational Planning Team

Logisticians across all functional areas must become well versed in the Marine Corps Planning Process (MCP) for the OPT to be successful. The Marine Air-Ground Task Force (MAGTF) Assistant Chief of Staff (AC/S) G-4 should assign a knowledgeable and experienced logistician to participate in the core OPT. The appointed individual should consistently participate in the OPT. This cannot be overemphasized. Switching planners disrupts the OPT, leads to inefficiencies, and can result in a poor plan. The remaining G-4 staff and functional areas experts may participate either directly or in an advisory role on an as needed basis.

Logistics can be a force multiplier. It can enable commanders to seize the initiative, gain and maintain tempo, and increase operational reach by helping set conditions for MAGTF operations. Through holistic planning, the logistician can ensure the MAGTF stays at the ready and in a position to act when necessary and not merely react to developments. Integrated planning is required to ensure the MAGTF's logistics posture will support planned operational tempo. To reach that end the MAGTF's Concept of Operations (CONOPS) must include logistics considerations which begins with the OPT.

Considerations

Planning should generally progress from the general to the specific. As an example, the MAGTF's Concept of Logistics Support (COLS) should nest within the MAGTF's CONOPS. In addition, the MAGTF concept of logistics should unify the Major Subordinate Command (MSC) concepts to include deployment, distribution, and sustainment planning. By default, this requires collaborative planning that provides details leading to efficient execution. Conceptual planning must respond to functional constraints. The AC/S G-4 should clearly articulate any logistic constraints to help inform subordinate commands' planning and vice versa.

Consider the sequencing of logistics planning. The MAGTF AC/S G4 must develop a COLS that allows all elements of the MAGTF to develop their own concepts of operations (logistics). Simultaneously, the Logistics Combat Element (LCE) CONOPS must clearly put the MAGTF concept of logistics into action while linked to the logistics elements of the Command Element (CE), Aviation Combat Element (ACE), and Ground Combat Element (GCE) concept of logistics. The MAGTF AC/S G-4 should develop the overall MAGTF concept of logistics while subordinate commands develop plans that nest within the overall MAGTF concept of logistics.

Subsequently, the LCE's plan should also nest within the GCE's and ACE's concept of logistics. In addition, planners must integrate the MAGTF concept of logistics with the theater, component, and Service logistics networks. Consider also the host nation logistics network to include Acquisition and Cross Service Agreement (ACSAs), Mutual Logistics Support Agreements (MLSAs) and operational contracting support (OCS). To summarize, the MAGTF's COLS must reach down and in, up and out, and both left and right to be effective.

The planners must share a collective understanding of all the various roles and responsibilities related to supporting the OPT's effort. This will enable logisticians to better understand how the physical, environmental, and adversarial factors may affect the MAGTF. The logisticians should strive to use the MCPP and OPT as a tool to develop a viable concept of logistics that leads to a tailorable logistics network to support MAGTF operations. When logisticians integrate sustainment requirements, infrastructure information, and maneuver consideration they can build a resilient and flexible logistics system, thus giving the commander options to employ during the execution of the mission. Ultimately, the OPT helps the logistician involved in planning and execution develop a shared understanding through knowledge of how the six functions of logistics can provide optimal support to the MAGTF as a whole.

Logistics Planning Support

Marine Corps Doctrinal Publication (MCDP) 4, *Logistics*, states that successful logistics begins with planning. Planning provides the means to evaluate the feasibility of various tactical options and determine the adequacy of resources to support them. Planning assists the logistician and the commander to anticipate requirements and position resources to meet those requirements. It establishes the framework for the execution and coordination of logistics support in accordance with the MAGTF commander's intent and CONOPS. Planning also provides the basis for adapting to new situations.

Through participation in the planning process, logisticians should:

- Gain situational awareness.
- Develop a shared understanding of the problem set.
- Identify areas of logistics concerns.
- Facilitate development of flexible and responsive support plans.
- Develop tools to support execution.

The MAGTF G4 should ensure the planning and coordination efforts enable all MSCs to develop a logistics system that supports the MAGTF throughout execution. Optimally, MSC OPTs conduct planning concurrently with the MAGTF OPT. Concurrent planning addresses the true intent of the tenets of the MCPP: top down planning and bottom up refinement. Although the processes occur concurrently, they may not necessarily appear parallel, as shown in the LCE example in Figure 1-1 below.

In some instances the MAGTF CE and the MSCs may conduct planning efforts either simultaneously, sequentially, or a hybrid of the two. For example, the MAGTF CE and the GCE may conduct simultaneous OPTs. The LCE can conduct sequential planning, following the completion or during the GCE and ACE CONOPS development, before beginning the LCE OPT. The MAGTF AC/S, G-4 may consider providing a representative to each of the MSC planning

efforts to promote awareness of CONOPS development and possible logistics limitations to support those CONOPS.

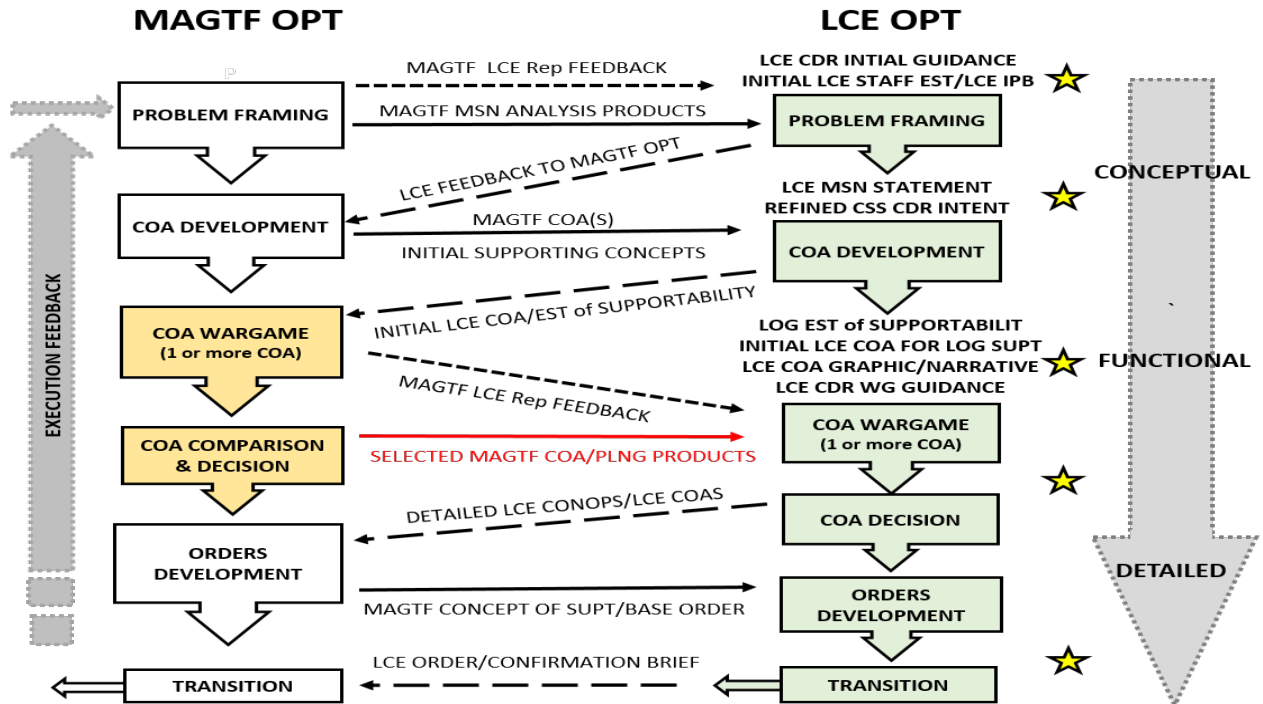


Figure 1-1: LCE Example

The AC/S, G-4

The AC/S, G-4 should identify a knowledgeable and experienced Marine as the logistics planner supporting the OPT. The AC/S, G-4 provides the logistics planner with guidance and intent to include expectations throughout the planning process. The logistics planner ensures the OPT understands the MAGTF CE AC/S, G-4's intent and carries it out as directed. Throughout the MCPP, both the logistics planner and the AC/S, G-4 must maintain a common understanding of the problem set. The logistics planner continuously updates the AC/S, G-4 regarding the OPT's activities and incorporates the G-4's guidance regarding the logistical support. The logistics planner's interaction within the OPT throughout the MCPP helps the AC/S, G-4 refine understanding of the environment and both internal and external factors affecting planning.

The Logistics Planner

The logistics planner is the AC/S, G-4's direct representative to the OPT. In leading the logistics planning efforts, the logistics planner will likely become a core member of the OPT and must thoroughly understand the broad spectrum of logistics. Ideally, the logistics planner as a generalist can see and understand the big picture, yet possess a mastery of tactical fundamentals needed to understand the capabilities and limitations of the MAGTF, MAGTF logistics, MSC Combat Service Support (CSS) capabilities, and Department of Defense (DoD) logistics enterprises. Although not a Subject Matter Expert (SME) in every facet, the logistics planner should have the following characteristics:

- Understand MAGTF employment capabilities and considerations.

- Experience and knowledge of the six functions of logistics and employment capabilities and considerations.
- A critical thinker able to integrate operational and tactical logistics.
- Understand strategic, theater, coalition and partner nation logistics capabilities.

The logistics planner should perform the following:

- Gather key considerations for the staff estimate.
- Develop logistically feasible plans.
- Provide logistic subject matter expertise as the plan matures.
- Provide prompt response to the OPT's logistics requests for information (RFI).*
- Ensure the AC/S, G-4 and staff receive frequent and timely information regarding the planning effort. **
- Anticipate OPT information requirements, and coordinate with SMEs to provide information and timely, correctly formatted products.
- Analyze and synthesize functions and sub-functions input so other OPT members understand.
- Ensure the shared understanding of the problem among the MAGTF G4 SMEs.

** Answering RFIs may require research by the appropriate SME within the G-4 or adjacent, higher, or civilian entities to gain the information.*

*** The Logistics Planner should provide the conduit between the OPT and the principal staff officer.*

Functional/Subject Matter Experts (SMEs)

MAGTF logisticians play an instrumental role in understanding the operational environment and synthesizing the information from the OPT in order to develop an integrated concept of logistics. The engineering officer often provides planning support to both the scheme of maneuver (mobility and counter mobility) and CSS sustainment (fuel storage, bulk water production). Engineering planning considerations during each step of the MCPP are provided in Appendix (E). In addition to logistics functional area managers, SMEs from the following areas should support the logistics planning:

- Health Service Support (HSS).
- Ordnance officer.
- Mortuary affairs.
- Contracting officer.
- Fiscal officer.
- Mobility officer.

Part 2

Problem Framing

Introduction

Successful problem framing requires preparation. Prior to the OPT convening, the MAGTF G-4 staff should prepare to plan – “plan to plan.” The G-4 staff should begin collecting data about known logistic nodes (facts, concept of logistics support). The process should include taking inventory of both known (facts) and unknown (assumptions to validate during planning) factors (e.g. physical network, environmental conditions, and readiness) affecting logistics. Begin by updating and refining existing products.

As problem framing continues, the logistics planners continue collecting data going from large to small. Gathered information can include:

- Initial functional estimates.
- Physical network analysis (develop this or refine an existing product).
- Meteorological information.
- Hydrographic data.
- MAGTF and MSC logistical posture (equipment readiness, material and supply status).
- Location of prepositioned stocks.
- Location and status of maritime pre-positioning force (MPF).
- Location and status of Army preposition stocks (APS).
- Known Defense Logistics Agency (DLA) nodes, depots, and supply points.
- Known U.S. Transportation Command (TRANSCOM) channel flights, naval aviation ring routes.
- Known hospitals (military and civilian).
- Base locations (e.g., contingency locations (CL) and Cooperative Security Locations (CSL); and which Service owns the lead Service/base operating support-integrator (BOSI) responsibilities).
- Common user logistics (CUL).
- Port analysis Aerial Port of Embarkation (APOE)/Aerial Port of Debarkation (APOD) Seaport of Embarkation (SPOE) and Seaport of Debarkation (SPOD).
- Available acquisition and cross-servicing agreement (ACSA).
- Available logistics support arrangements (joint, coalition).
- Operational contracting support (OCS) capabilities.
- Available host nation support (HNS).

The goal: begin formulating an understanding of the global logistics network and how the MAGTF can leverage it to support operations. Planners can request existing tools and products from Marine Force component commands (MARFORs) and combatant commands (COCOMs) that may already know much of this information. Before problem framing begins, obtain available documents such as related standing operating procedures (SOPs), operation plans (OPLANs), doctrinal publications, technical manuals, and reference materials.

Do not limit information collection to the area of operation (AO). Include the Area of Interest (AI), Area of Influence (AOI), Host Nation (HN), allies, and partners (i.e., logistic capabilities such as contracting support, infrastructure, etc.). The collection of information begins the data input to staff and functional estimates. As the information becomes available, the logistics planner begins a systematic analysis of the data by applying previous experience, judgment, and critical thinking. Synthesize information with the purpose of identifying the availability, capabilities and limitation of resources in the operational environment. The output of problem framing is to gain an enhanced understanding of the problem and the environment in order to convey a logistics perspective during problem framing and capture the information necessary to generate the staff estimate.

The Commander's Orientation

The commander's orientation presents the first opportunity for the commander, staff, and subordinate commanders to exchange information regarding the planning problem. The logistics planner combines all operational information presented with input from logistics functional area managers. Information may include:

- Elements of infrastructure that may require protection.*
- Impact of historical weather patterns.
- Known capabilities.
- Known requirements.
- Known shortfalls.

** Areas where logistics networks may be vulnerable to enemy actions. The G-2 may brief this, but the logistic planner must work with the G-2 staff to identify potential locations and be cognizant of these vulnerabilities.*

Logistics Preparation of the Operating Environment Review and Refinement

The logistics preparation of the operating environment should focus on elements of the infrastructure and physical terrain. It should enable both the MAGTF AC/S, G-4 and LCE to envision the common logistics operations picture. It should nest with, not simply mirror the more "traditional" analysis of the environment and the threat developed by the MAGTF or GCE intelligence sections. The operating environment review and refinement should allow the MAGTF G-4 and LCE to use the Physical Network Analysis (PNA) to conceptualize the distribution network capabilities and limitations. Additional considerations during review and refinement include:

- Initial determination of critical logistics infrastructure capable of serving as a logistics node.
- Adversary composition/disposition with the expected ability to disrupt friendly sustainment.
- Adversary event template illustrating how the adversary will disrupt friendly sustainment operations across time and space and in all domains.
- Identification of the infrastructure which may require protection from adversary attack.
- Preservation of infrastructure from friendly destruction.

TTP: Logistics intelligence support to targeting includes determining infrastructure and areas that should be restricted from friendly targeting in order to support the LCE mission (such as restricting cratering of an enemy runway so that the LCE can use it as a future APOE). See Appendix B, *Physical Network Analysis* for a more detailed discussion.

Physical Network Analysis (PNA)

The PNA, critical for logisticians, serves as part of the logistics planner's preparation of the operating environment. It begins when the MAGTF commander identifies the MAGTF battlespace during the commander's orientation and continues throughout the MCPP as more information becomes available. The PNA depicts existing infrastructure in the AO and the AI, specifically identifying:

Physical environment	Surface material (soil and rocks) (restricted, unrestricted, severely restricted) Terrain (Modified Combined Obstacle Overlay (MCOO) developed by the G-2) Vegetation (MCOO developed by the G-2) Hydrology (MCOO developed by the G-2)
Infrastructure	Lines of communication (LOC) (i.e., roadway, railways, airfields, bridges, fords) Installation and facilities (i.e., power plants, pipelines, telecommunication etc.) Point of entry (i.e., ports, airfields, helicopter landing zones (HLZs) and drop zones (DZs), etc.) APOEs/APODs SPOEs/SPODs

Much information may be available via open source and those products created by MAGTF intelligence personnel. The PNA includes analyzing LOCs, existing distribution nodes (e.g., air, sea ports, Fleet Logistics Centers, Army Theater Support Command locations, etc.), and HN capabilities. Conducting a thorough PNA during problem framing is critical because it serves as the foundation for developing a COLS during COA development. It also provides the commander with enough flexibility to support changes during execution. In addition, the logistics planner should also use the data and information about the AO to begin developing a list of facts, assumptions, and RFIs.

Develop Assumptions

When information gaps are identified (e.g., capabilities, conditions, infrastructure, etc.), the logistics planner should first check within the MAGTF (G-2, G-3, G-5) to see if the information concerning this gaps already exists. If the information is not readily available, but necessary to continue with planning, the logistics planner faces a choice. The planner can shift efforts to find the missing information or fill the information gap with a logical, but educated, assumption. In the interim, the assumptions should be translated into RFIs.

Requests for Information (RFIs)

Throughout problem framing, the logistics planner submits logistics-related RFIs. Normally, the OPT leader designates an Information Manager (IM) and an RFI manager. Planners identify requirements for information necessary to validate assumptions; assumptions not validated turn into risks. Based on the preparation of the operating environment and information requirements,

the commander and staff identify gaps in information and intelligence. Planners forward RFIs to the appropriate staff section or to Higher Headquarters (HHQ) for answers. When identifying RFIs, they should be written as clearly and concisely as possible to ensure a quick and accurate response. If the planner receives no response to an RFI, then clearly articulate the assumption, logistical implication, and risk in the staff estimate and throughout execution.

Determine Limitations

Limitations are actions required or prohibited by HHQ, the HN, or other authoritative sources such as laws or treaties. Planners characterize limitations as constraints (things you **must** do) and restraints (things you **must not** do). The logistics planner supports the OPT by identifying logistics-related limitations. One example of an authorities based logistics limitation is the arrangement between countries in an Acquisition and Cross-Servicing Agreement (ACSA) to support partner or allied nations. While ACSAs provide options for logistics support, ACSAs are country specific and may impose restrictions on the use, transfer, or exchange of certain equipment, ammunition and/or communications equipment. Therefore, carefully review any existing ACSAs when discussing supporting partner nations. The use of OCS is another example of a limitation imposed by a combatant commander because of the negative or positive influence on the local economy. Other examples include equipment readiness, ordnance availability, fuel distribution capacity, lift capacity, roadways, or bridges that may not support the weight of logistics vehicles.

Staff Actions

During problem framing, the logistics planner performs certain staff actions and ongoing activities in conjunction with other OPT members. These actions and activities include task analysis, PNA development, center of gravity analysis, staff and functional estimates development, SME shortfalls, problem statement development, mission statement development, and Intelligence Preparation of the Operational Environment (IPOE) refinement. During problem framing, the functional area managers should:

- Identify preliminary requirements of the supported forces.
- Identify current logistics capabilities of forces within the task organization provided.
- Continue the database search for information on the area.
- Begin to develop or refine the PNA.
- Coordinate with preventive medicine to gain an understanding of environmental threats such as disease.
- Collect data on available HN assets (trucking, stevedores, etc.) and any restrictions (political, cultural, etc.).
- Identify any existing contracts, both internally and from HHQs, as well as Interagency, available for use. This includes ACSAs, support agreements, support arrangements, etc.

As the MAGTF G-4 and logistics planners begin collecting data they provide information that addresses:

- Current logistics resources and capabilities within the MAGTF.
- Location of critical sustainment capabilities in the AO and AI (this is the nodal analysis portion of the PNA).

- The estimated sustainment required to support the force. (staff estimates, estimates of supportability).
- The location of potential sustainment or logistics enablers (based on capabilities/limitations both personnel and of each location or potential location).
- Location, timing and phasing for establishment and disestablishment of CSS locations.
- Best location and methods to gain and maintain operational tempo.

The MAGTF AC/S, G4 and logistics planners should also review higher and adjacent orders for logistics tasks. Annex D may list specified tasks, while task analysis of the base order or Annex C may identify implied tasks. The logistics planner can use HHQ assigned logistics tasks as a “checklist” to ensure appropriate coordination and assignment. While the problem framing brief might not address logistics-related tasks, the logistics planner should capture the task for further refinement during COA development and wargaming. Eventually they are incorporated into the MAGTF OPOD as logistics tasks for the MAGTF staff, organic and attached assets, and MSCs during orders development.

Determining Resource Shortfalls and External Support Requirements

During problem framing, while developing functional estimates, staff estimates, and the PNA, resource and personnel shortfalls should become evident. Capturing these early in the MCPP allows the commander and the staff to engage HHQ on resourcing or mitigating these shortfalls. The logistics planner and the G-4 staff will continue to identify resource shortfalls throughout the planning process.

Commander’s Critical Information Requirements (CCIRs)

The DoD Dictionary of Military and Associated Terms defines commander’s critical information requirement (CCIR) as “an information requirement identified by the commander as being critical to facilitating timely decision making.” Therefore, a CCIR is information the commander needs in order to make a decision as opposed to general information. For the sake of simplicity, consider the term CCIR as an umbrella term. Thus, for this discussion, Priority Intelligence Requirements (PIRs) and Friendly Force Information Requirements (FFIRs) are subsets. Refer to MSTP Pamphlet 2-0.2, *Intelligence Planner’s Guide*, for a detailed description of CCIRs, PIRs, and FFIRs. The question logistics planners should ask when the OPT develops proposed CCIRs with logistics implication is, “what information, when presented, may lead to a commander’s

TTP: Although Logistics CCIRs may not make the final command CCIR list, there should be G-4 “CCIRs” based on the logistical priorities, critical munitions/classes of supply or main effort by phase.

decision?”

Priority Intelligence Requirements (PIRs)

During problem framing, the logistics planner must distinguish between planning and execution PIRs. Relevant throughout the MCPP, planning PIRs generally focus on how the MAGTF can access the AO (locations of suitable landing beaches, APODs, SPODs, HLZs, etc.).

They may also include potential objectives as well as the adversary’s composition, disposition, strength, capabilities, limitations, and potential COAs. The logistics planner should help

formulate these planning PIRs with respect to logistics equities. Answers to these PIRs allow the commander to generate COA guidance and the OPT to develop COAs, prepare for wargaming, and anticipate branch plans. They also allow logistics planners to determine supportability of COAs (i.e., is the COA logistically feasible).

Example: Planning PIR #1: Are there landing beaches on the southeast coast of Country Orange suitable for the conduct of an amphibious assault by a regimental landing team between August and November?

Rationale: The answer to this PIR supports the commander's ability to determine available options and provide COA guidance to the OPT. It also informs logistics planning for the feasibility of support.

Logistics Staff Estimate

Development of the initial staff estimate helps create a shared understanding of the friendly situation. The logistics planner should collect the factual status of all on-hand equipment, material, and supplies at both the MAGTF and MSCs. The estimate should also include any resources from within the Marine Corps distribution network. See examples in Appendix C.

These estimates provide a timely examination of factors that support decision-making, can affect mission accomplishment, and inform planning. Depending on the level of command and the time available, the estimates could appear as formal, detailed written documents or informal, verbal briefings. The staff refines and updates its estimates throughout planning. (i.e., MPF, theater preposition stocks, war reserves).

While developing staff and functional estimates, the OPT will identify resource and personnel shortfalls. Capturing these early in the MCPP allows the commander and his staff to engage HHQ or the Service component on resourcing these shortfalls through the request for forces (RFF) and request for support (RFS) processes. Capture the information in the organization's SOP format. The staff estimates may include:

- Forces.
- Facts.
- Assumptions.
- Specified tasks.
- Implied tasks.
- Essential tasks.
- Capabilities.
- Requirements.
- Critical planning factors.
- Shortfalls.
- Limitations.

TTP: The logistics planner must consolidate the functional input while condensing the essential information that may need to be conveyed for consideration during COA development or may require the commander's attention during the commander's COA guidance.

The staff estimate provides a list of equipment, readiness status, or quantities of material and supplies. The logistics staff estimate helps generate a shared understanding for the commander, MAGTF staff, MSC commanders and their staff regarding how logistics, as a warfighting function, will support COA development and mission execution.

TTP: Evaluate resource and personnel shortfalls from the perspective of the commander. Ask yourself, “*What are we unable to do as a force if we do not have these resources?*” Keep in mind that the MAGTF commander will need to conduct a personal discussion with the HHQ commander to justify the need for additional resources. Also, keep in mind that as you develop COAs, other resource shortfalls will likely emerge.

Given the breadth and depth of the types of equipment and volume of supplies each logistics functional area encompasses, the initial estimate should focus on key classes of supply. In some instances, the class may need focusing, for example Class V(A) and Class V(W). Even then, planners may require additional segregation to focus on critical or high demand items within the class of supply. For example, limited precision guided munitions in Class V(A).

NOTE: Staff estimates come from the staff sections and/or warfighting functions. Estimates of supportability come from the subordinate units. The logistics planner must consolidate the functional input while condensing the essential information which may need to be conveyed for consideration during COA development or may require the Commander’s attention during the Commander’s COA guidance.

Problem Framing Brief

As a member of the OPT, the logistics planner supports the OPT lead throughout problem framing. When supporting both preparation and conduct of the problem framing brief, the logistics planner role may include:

- Explaining logistical input to the problem framing brief.
- Providing an update to RFIs reinforcing the assumptions used in the brief.
- Input to the CCIRs via FFIRs or PIRs.
- Developing initial staff estimates.
- Developing initial functional estimates.

The brief can influence the commander’s understanding of the environment and the problem itself. Accordingly, the commander may use this opportunity to refine the initial intent and guidance or modify the mission statement.

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Part 3

Course of Action (COA) Development

Introduction

A COA depicts a broadly stated potential solution to an assigned mission. The COA development step of the MCPP generates options for follow-on wargaming and comparison that satisfy the mission, intent, and guidance of the commander. During COA development, planners use the Commander's intent and guidance as well as the results from the preceding problem framing to develop courses of action.

During COA development, the logistic planner's primary tasks include:

- Develop a COLS for each friendly COA under consideration.
- Determine ways to shape and outline known constraints and restraints for each COA.
- Contribute to the creation of planning support tools such as the running estimate, decision support template, decision support matrix, and synchronization matrix.
- Assists the staff in determining potential opportunities to exploit the vulnerabilities of adversary sustainment.
- Identify civil considerations that may affect friendly and adversary sustainment and possible sustainment support by civil authorities.
- Determine terrain and weather effects on logistics operations and identify possible branches considering those effects.
- Determine potential opportunities to mitigate logistics risk.

TTP: The logistics planner, in conjunction with the MAGTF G-4, should continue to refine the logistics staff estimate and the PNA during COA development.

Concept of Logistics Support

As described in MSTP Pamphlet 5-0.2, *OPT Leader's Guide*, the G-4 staff and logistics planner develop a COLS for each COA to ensure the integration and synchronization of MAGTF actions.

TTP: The logistics planner should concentrate on how the logistics network will answer the following questions:

- What do we want to do?
- How do we want to do it?
- How do we facilitate those actions?
- How do we avoid reaching a culminating point?

The COLS allocates logistic resources and provides the functional level detail necessary for a complete friendly COA. Once a commander selects a COA (after the COA war game and COA comparison and decision steps of the MCPP), the G-4 staff refines the COLS associated with that COA into the concept of logistics operations that will appear in Annex D. This occurs during the orders development step of MCPP.

Regardless of the number of COAs developed, the logistics planner and G-4 staff consider multiple CSS installations and methods of distribution in order to sustain the force (Figure 3-1 below). The logistics planner, in coordination with the LCE planner, should identify all organic CSS assets, HN capabilities, and physical infrastructure that are available for MAGTF use. This process enables the logistics planner to forecast where and when the logistics system can extend to support the maneuver force, and provides options for potential COLS branches and sequels.

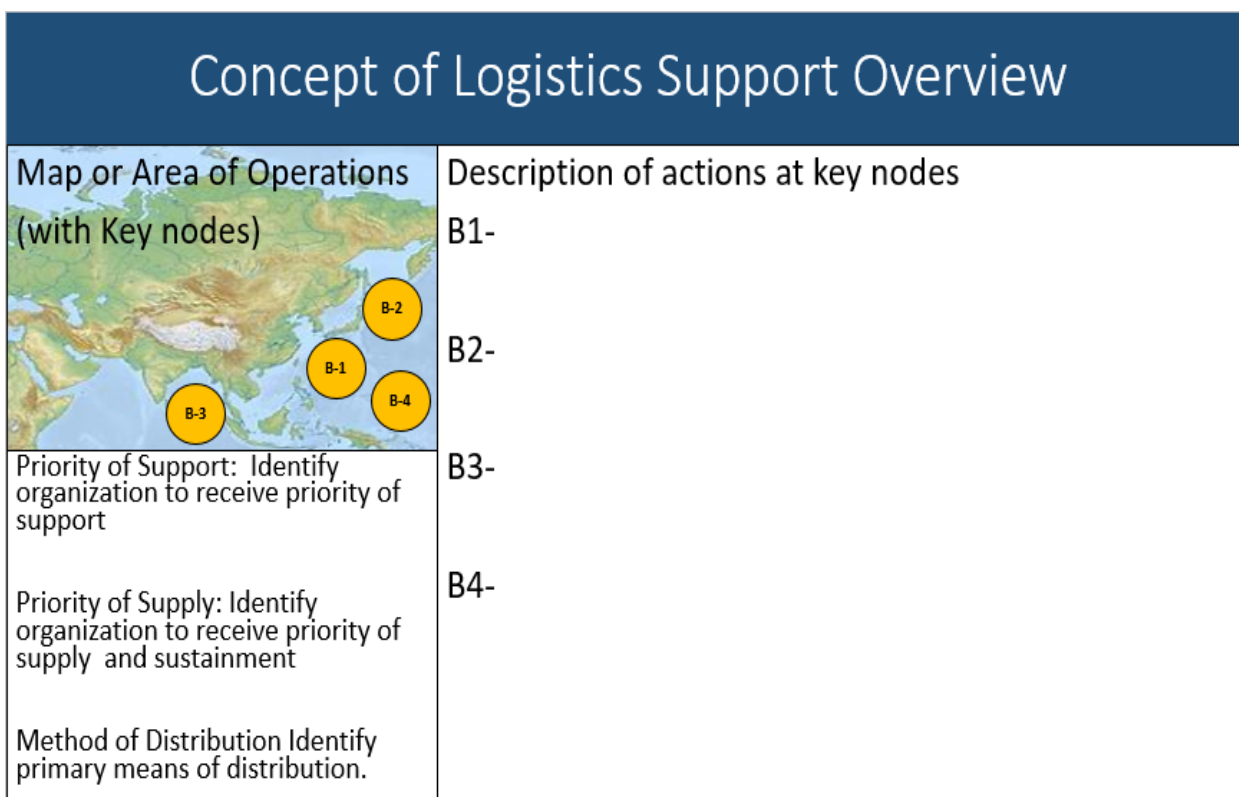


Figure 3-1: Concept of Logistics Support Overview

The logistics planner must take into account the supported force’s requirements and capabilities, and the physical infrastructure of the battlespace, to include characteristics of the MAGTF AO and AI. Logistics planners must understand and integrate joint and multinational assets and requirements into the COLS. The COLS should be flexible enough to enable the AC/S G-4 and LCE commander to anticipate requirements, use initiative to meet the requirements during execution, and seek “windows of logistics opportunity.” Finally, since logistical assets and forces are high payoff targets (HPT) for the enemy, consider the impact of enemy actions to sustainment operations. This should center on all distribution means (ground, air, and sea) to include rear area resources.

The individual logistics functions concept of support should support the COLS. The functional area concept of support (Figure 3-2 below) provides the functional level detail necessary for a

complete friendly COA. Once a commander selects a COA, the G-4 refines the COLS associated with that COA. The COLS will eventually transition into the form of the Annex D of the operations order. This occurs during the orders development step of MCPP.

Concept of Support: Health Service Support	
Concept: Provide a brief summary of concept of Health Service Support.	Map Chip: Insert a map chip depicting location of medical capability laydown and/or diagram of patient flow Process.
Requirement: Provide a list of the various CL VIII requirements. Can also list information regarding projected casualty rates.	Capabilities: <ul style="list-style-type: none"> - Identify organic capacity to hold and/or treat patients. - Identify Joint and/or Host Nation capacity to hold and/or treat patients.

Figure 3-2: Concept of Support: Health Service Support

Planning Support Tools

During COA development, the logistics planner works with the OPT leader and other OPT members to develop the decision support template. The logistics planner contributes to the development of the decision support template, decision support matrix, and synchronization matrix by incorporating operational level logistics support, MAGTF sustainment, and intra/inter-theater transportation.

This builds on the work already completed on the situation template, event template, and event matrix. The OPT continually adjusts the decision support template, decision support matrix, and synchronization matrix throughout the COA war game.

Decision Support Template

The logistics planner contributes to the development of the decision support template, decision support matrix, and synchronization matrix by incorporating operational level logistics support, MAGTF sustainment, and intra/inter-theater transportation.

Synchronization Matrix

The synchronization matrix depicts the activities of the MAGTF and subordinate elements over time, and provides the commander with a snapshot of how units and tasks interrelate within the all elements of the MAGTF. The logistics planner should pay attention to:

- Deployment timeline.
- Requirement for arrival & assembly operations.
- CSS area for establishment and disestablishment timeline relative to the scheme of maneuver.

COA Brief

The OPT briefs the finalized four products, along with updated facts, assumptions, risks, etc. to the commander. Tailor COA briefs to the needs of the commander within the time available. In the event of multiple COAs, the OPT briefs each COA independently and objectively.

Results of COA Development

As a result of COA development, the logistics planner should:

- Update Intelligence Preparation of the Battlefield (IPB) products.
- Provide a refined logistics staff estimate.
- Obtain the MSC's initial estimates of supportability.

Considerations

OPT leaders can tailor or add more detail to their COAs based on the situation and time available. This information helps the war game effort and serves to promote a deeper understanding of each option for all stakeholders. Additional information relating to each COA may include the following:

- Military deception options.
- Risk assessment.
- Timelines and rates of movement.
- Assumptions and facts unique to each COA.
- Estimate for each COA start and finish time.

Part 4

COA War Game

Introduction

The COA war game provides a useful, methodical process that allows the commander, the staff, and the OPT to evaluate the strengths and weaknesses of each COA, to validate each COA against a thinking adversary, and to gain a common understanding of each COA prior to execution. Wargaming pits friendly COAs against adversary COAs to identify strengths and weaknesses of the friendly COA, as well as, the opportunities they may create for future operations and synchronizes the warfighting functions across the battlespace.

Conduct COA war games in a series of turns, each consisting of a friendly action move, an adversary and civil reaction move, and a friendly counteraction move. OPT war gamers make these moves within the context of a war game method (sequence of events, avenue in depth, belts, or box) recommended by the OPT leader and specified by the commander. For more details on the general mechanics of conducting a war game, see MCWP 5-10 and MSTP Pamphlet 5-0.2.

The OPT focuses on the following questions during the COA war game:

- Does the friendly force COA achieve the intended purpose of the operation?
- What additional forces (resources) are necessary to achieve the purpose if the original actions fall short?
- What if ...?

The OPT independently evaluates each friendly COA against selected enemy COAs, normally the most likely and/or most dangerous based on the commander's wargaming guidance. It uses (1) the latest IPB products, (2) COA graphics and narratives, (3) the latest staff estimates and estimates of supportability, and (4) any additional requirements, including those from subordinate commanders. Also, the OPT considers the commander's evaluation criteria to determine how best to attack enemy critical vulnerabilities while protecting friendly critical vulnerabilities. The Red Cell plays the thinking enemy during the war game.

Role of the Logistics Planner and AC/S G-4

During the war game, the logistics planner must be prepared to address both the action and counter actions of each COA with respect to the adversary's reaction and battlefield developments.

- What if there is unexpected or catastrophic success?
 - How to adjust logistics to support the increased speed of attack (operational tempo).
 - Plan to address resource demands beyond what was initially forecasted.
 - How best to posture logistics to exploit opportunities or early initiation of pursuit operations.

- Identification of negative impacts increased tempo may have on logistics capacity and capability.
- What if there are unexpected failures? This can result in unplanned and very complex retrograde operations such as delay, withdrawal, or retirement.
- What are the logistics impacts of MAGTF and MSC (GCE and ACE) decision points?
During execution of the war game, the logistics planner considers the impact on the ability to support the MAGTF COA(s) in regards to:
 - Enemy actions that disrupt logistics/LCE operations.
 - The impact of adversary action or weather on throughput nodes.
 - The war game also helps logistics planners refine or validate:
 - Decision points.
 - Logistics estimate of supportability, associated staff estimates, and planning tools.
 - Operational Logistics (OPLOG) requirements.
 - Integration of all CSS functions/and supported unit COAs.
 - MSC task organization and support relationships.
 - MSC facilities and locations.

Having participated in the COA war game, the logistics planner provides the AC/S G-4 feedback on the results of friendly actions and adversary reactions based on the selected adversary COA. The logistics planner must keep the AC/S G-4 informed throughout the planning process so that the AC/S G-4 can provide an informed staff estimate to the commander. As with the other OPT members, the logistics planner supports the staff principals and subordinate commanders. The running logistics staff estimate provides a key component of this support. Based on the logistics staff estimate, the results of the war game, and the logistic planner's input, the AC/S G-4 advises the commander on the COA the logistics team can best support. As part of this recommendation, the AC/S G-4 discusses each COA's advantages, disadvantages, risks, and shortfalls. The AC/S G-4 considers each COA from a viewpoint of logistics supportability.

TTP: The logistics planner should validate the MEF's ability to provide and obtain sustainment requirements through time and space. Modeling programs such as JDLM and LAWST may be of benefit to provide realism to planning assumptions.

Role of the Red Cell

Another important consideration for the OPT is the use of the Red Cell. The Red Cell forms a task-organized element under the staff cognizance of the G-2/S-2 that plays the role of a thinking enemy during wargaming. It uses threat doctrine and operational experience to react to friendly threats and dispositions in order to test friendly COAs during wargaming.

The Red Cell realistically evaluates assessed threat capabilities and vulnerabilities against each friendly COA. At the MEF or MSC/MSE level, the Red Cell may include from four to six personnel; while at the battalion or squadron level, the Red Cell may consist of only the S-2 or a representative designated by the commander. Whenever possible, the AC/S G-4 should designate a Red Cell member. A designated logistics Red Cell member ensures the assessment provided by the Red Cell includes a logistics perspective both with regard to enemy logistics capabilities and the actions taken against friendly logistics capabilities.

Continuing Actions

As the OPT and staff transition to the orders development step of the MCPP, the logistics planner continues to participate (as necessary) in the refinement of the following:

- Logistics staff estimate.
- Concept of logistics support.
- PNA

Part 5

COA Comparison & Decision

COA Comparison

During this step, the commander evaluates all friendly COAs against the established criteria and compares the COAs against each other. A COA comparison and decision matrix may aid the commander's comparison and provides a useful tool for collectively displaying each COA's advantages, disadvantages, and risks. COA comparison provides the commander with the relative merit of each COA in order to aid in decision-making.

Logistics Planner's Inputs to COA Comparison

After participating in the COA war game, the logistics planner provides the AC/S G-4 feedback with the results of friendly logistics actions to support the COA. At a minimum, the Logistics Planner's input to the OPT helps answer:

- What are the advantages and disadvantages based on the evaluation criteria?
- What are the risks and shortfalls (if any)?
- How do the COA(s) stack up against one another?

Useful inputs for COA comparison include:

- PNA.
- Task organization of logistics units and agencies.
- Command relationships.
- Logistics estimates.
 - Supporting unit capabilities.
 - Supported unit requirements.
- War game worksheet.
- Decision support template and matrix.
- Synchronization matrix.

Role of the Logistics Planner and AC/S G-4

The logistics planner must keep the AC/S G-4 informed throughout the planning process so the AC/S G-4 can provide an informed staff estimate to the commander. As with the other OPT members, the logistics planner now works in a support role vis-à-vis the staff principals and subordinate commanders. The running logistics staff estimate stands as a key component of this support. Based on the logistics staff estimate, the results of the war game, and the logistics planner's input, the AC/S G-4 advises the commander of which COA the logistics community

can best support. As part of this recommendation, the AC/S G-4 discusses each COA's advantages, disadvantages, risks, and shortfalls as it relates to logistics support.

Outputs of COA comparison

The COA comparison step must complete the CONOPS that provides the details of the logistics system developed to support the MAGTF. The CONOPS provides the foundation for the MAGTF G-4 to write the MAGTF concept of support.

Additional outputs may include:

- Planning support tools.
- Updated CCIRs.
- Refined staff estimates.
- Refined estimates of supportability from subordinate units.
- Identification of branches for further planning.

Introduction to COA Decision

The OPT supports the commander's decision-making process by answering the questions above. The OPT must clearly portray the commander's options and support the principal staff in their understanding of the COAs.

In part, the commander bases the decision on any input the principal staff, special staff, and subordinate commanders provide. This input reflects the results of the war game, staff estimates, and estimates of supportability.

The commander may refine the mission statement, commander's intent, operational concept, and/or identify any branches of the approved COA that need further development. This step requires the involvement of the commander, the Chief of Staff (COS) or executive officer, the principal staff, and the subordinate commanders from start to finish. As such, planners often refer to this step as "the commander's step."

Concept of Logistics Support

After the commander's decision, the logistics planner refines the COLS. It should outline the purpose of logistics operations and summarize the means and agencies that will provide the six functions of logistics and operational level logistics when applicable (to include HN support). When appropriate, it integrates the resources of other Services and allied nations. This becomes the concept of logistics operations within the Annex D once orders development begins.

Input to the Warning Order/Planning Order

Upon selection of a COA, the OPT drafts the selected COA into a CONOPS. The CONOPS - along with the supporting concepts (intelligence, fires, and logistics) - forms the basis for the OPLAN or OPORD. With an approved CONOPS, the OPT prepares a warning order to issue to subordinate commands to facilitate their planning.

Continuing Actions

As the OPT and staff transition to the orders development step of the MCPP, the logistics planner continues to participate (as necessary) in the refinement of the following

- PNA.
- Logistics staff estimate.
- Concept of logistics support.

Part 6

Orders Development

Introduction

Orders development translates the commander's decision into oral, written, and/or graphic communication sufficient to guide implementation and promote initiative by subordinates. The COS directs orders development by dictating the format for the order, setting and enforcing the time limits and development sequence, and assigning annexes to specific staff sections. While the logistics planner, to this point, has been the principal participant in the planning effort, the remainder of the MAGTF G-4 staff (logistics functional areas and SMEs) now take over generating their respective portions of the order, Annex D, and associated appendices.

The order contains the critical information and necessary details required for successful execution and assessment. Orders writers must focus on the audience (organic units, attachments, augments, other Service supporting elements, allied elements, etc.). Many of these external elements will not be familiar with the publishing command's SOP, so the planning directive may contain selected portions of the SOP or doctrinal references.

The planning effort culminates with the goal of developing a written order that clearly communicates critical information uncovered during the planning process and provides a common understanding of the MAGTF's problem set and objectives. Those unfamiliar with the plan must be able to understand the order, its annexes, appendices, tabs, and associated products.

The updated, approved COA (task organization, graphic and narrative, synchronization matrix, and supporting concepts) is a required input to orders development. Other inputs include:

- HHQ:
 - Mission.
 - Commander's intent.
 - WARNORD.
 - OPORD.
 - EXORD.
 - FRAGO.
- MAGTF:
 - Mission statement.
 - Commander's intent and guidance.
 - Updated IPB products.
 - Updated CCIRs.
 - Staff estimates.

- Branches and sequels.
- Operation assessment plan.
- Risk assessment.
- Existing plans and orders.

The AC/S G-4 is responsible for the development of Annex D (Logistics/Combat Service Support) and may be responsible for part or all of Annex P (HNS) and Annex Q (Medical Services) depending on how the MAGTF Staff Sections are organized.

Annex D

MCWP 5-10 and CJCSM 3130.03, *Planning and Execution Formats and Guidance*, provide the format for the Annex D and lists the standard appendices. Logistics planners can find CJCSM 3130.03, a limited access manual, on the common access card (CAC) enabled CJCS/JS Directives Electronic Library at: (<https://jsportal.sp.pentagon.mil/sites/matrix/del/sitepages/home.aspx>). The logistics planner does not normally write the entire Annex D and its appendices. Instead, the deputy AC/S G-4 designates the G-4 staff members and SMEs from the logistics units to write specific appendices to Annex D as well as Annexes P and Q, if used.

Annex D articulates the plan for employment of MAGTF logistics capabilities in line with the commander's guidance and scheme of maneuver of the selected COA. It provides a detailed plan for the overall concept of logistics and accounts for the apportionment of CSS provided throughout each phase of the operation. It assigns tasks and responsibilities for logistics and CSS among the elements in each functional area, outlines the plan for use of prepositioned assets, and identifies support required from external agencies. Finally, it provides guidance and information (such as priorities and allocations) for planning, coordinating, and executing MAGTF logistic operations. Guidance and formats of a properly formatted Annex D and the associated appendices can be found in the following publications and/or Appendix A of this pamphlet:

TTP: The G-4 should not list MSC and logistics unit tasks below the appendix level. Tasks appearing in tabs, exhibits, or attachments often become invisible to subordinate units that may not account for accomplish them.

NOTE: Plans should consider two levels below the MAGTF CE, but only develop tasks one level below.

- Appendix 1 (Petroleum, Oils, and Lubricants Supply): CJCSM 3130.03, *Planning and Execution Formats and Guidance*.
- Appendix 2 (Mortuary Affairs): CJCSM 3130.03, *Planning and Execution Formats and Guidance* (this is Appendix 3 in APEX), Appendix A of this pamphlet.
- Appendix 3 (Sustainability Analysis): CJCSM 3130.03, *Planning and Execution Formats and Guidance* (this is Appendix 4 in APEX), Appendix A of this pamphlet.
- Appendix 4 (Mobility and Transportation): CJCSM 3130.03, *Planning and Execution Formats and Guidance* (Appendix 5), Appendix A of this pamphlet.
- Appendix 5 (Civil Engineering Support Plan): Appendix A of this pamphlet.
- Appendix 6 (Nonnuclear Ammunition): CJCSM 3130.03, *Planning and Execution Formats and Guidance* (Appendix 7), Appendix A of this pamphlet.
- Appendix 7 (Supply): Appendix A of this pamphlet.
- Appendix 8 (Services): Appendix A of this pamphlet
- Appendix 9 (Health Services): Appendix A of this pamphlet.

- Appendix 10 (Aviation Logistics Support) (Normally developed by the ACE and provided in the Annex W): Appendix A of this pamphlet.
- Appendix 11 (External Support): Appendix A of this pamphlet.
- Appendix 12 (Maintenance): Appendix A of this pamphlet.
- Appendix 13 (General Engineering): CJCSM 3130.03, *Planning and Execution Formats and Guidance* (Appendix 6), Appendix A of this pamphlet.
- Appendix 14 (Operational Contract Support): Appendix A of this pamphlet.

Orders Reconciliation

Orders reconciliation is a process internal to the command when the planners review the entire order in detail. Orders reconciliation ensures the basic order and its annexes, appendices, and other attachments are complete and in agreement. It identifies discrepancies or gaps in the planning that will require corrective action. Specifically, the planning team compares the commander's intent, the mission, and the CCIRs against the CONOPS and the supporting concepts such as maneuver, fires, and logistics. Planners also ensure details throughout the OPORD, such as dates, unit locations, and tasks, are accurate and in agreement. Orders reconciliation may involve all planning team members in a single location comparing a displayed basic OPORD against their own annexes and appendices. Another option is for the lead planner to distribute documents and collect individual feedback.

During this process, the AC/S G-4 and logistic planners' responsibilities extend beyond just Annexes D, P, and Q. They must ensure the consistency of logistics-related information throughout the entire order by reviewing and contributing to its various annexes. This should begin during COA development and extend through orders reconciliation. The list below shows relevant portions of the operations order the G-4 should contribute to and review.

Basic Order (refer to MCWP 5-10 for the format)

- Contribute to the listing of references.
- Contribute to paragraph 1.f. (Attachments and Detachments). List external logistics attachments to the MAGTF and organic logistics detachments provided to MSCs.
- Contribute to paragraph 3.b. (CONOPS). As a sub paragraph (Concept of Support), provide a narrative for the COLS. Although MCWP 5-10's sample format states "See Annex D (Logistics/Combat Service Support) for detailed description," a best practice is to provide a general overview, by phase, to ensure readers understand the overall COLS to the scheme of maneuver.
- Contribute to paragraph 3.c. (Tasks). List key logistics tasks assigned to the principle staff and each MSC.
- Contribute to paragraph 3.e. CCIRs. Provide the logistically relevant FFIR subset of the CCIRs.
- Draft paragraph 4.b. (Logistics). Like the concept of logistics, this is a broad statement of the essential tasks involved in supporting the conduct of MAGTF operations. It comes from staff estimates for the selected COA to give an overall picture of CSS operations and address solutions to any listed shortfalls. In addition, it forms the foundation for subsequent development of the Annex D and detailed logistic and CSS plans of the LCE and ACE logistics elements.
- Draft paragraph 4.g. (Medical Services) if applicable. In preparing the basic OPORD or plan, refer to Annex Q (Medical Services). Identify planning requirements and subordinate tasks for

hospitalization and patient evacuation. Address critical medical supplies and resources. Refer to wartime host-nation support agreements or provisions to support in Annex P (HN Support).

Annex A (Task Organization)

- Refer to MCWP 5-10 for the format. The logistics planner ensures that Annex A accurately reflects the logistics task organization outlined in the COLS and no gaps appear in the provision of CSS to units.

Annex C (Operations)

- The logistics planner ensures the overall concept of logistics and detailed plans contained in the Annex D align with the MAGTF's Annex C. Here, MSC logistics organizations will use the Annex C for the development of their own detailed logistics operations plans.
- Does Appendix 13 task the LCE with responsibility for rear area operations? Conduct a detailed analysis of tasks in order to identify any equipment or capability shortfalls. Moreover, mitigate conflicts of rear area operations and CSS tasks that pose a risk to the provision of logistics support. Does Annex A assign required forces to the LCE to enable rear area operations (security/reaction forces, sensing capabilities, air/fires cell, etc.)?

Annex W (Aviation Operations)

- Although Appendix 10 to the Annex D addresses aviation logistic support, the ACE normally develops this plan. Consequently, the Appendix 10 routinely references the Annex W. As a TTP, the logistics planner should verify that the Annex W addresses aviation peculiar logistics requirements of the ACE, if not already determined that Appendix 10 to the Annex D will address this topic.

Annex X (Execution Checklist)

- Refer to MCWP 5-10, MCPP for this annex's format.

Orders Crosswalk

The orders crosswalk consists of an external process where the planners compare the completed, draft OPORD with the orders of higher, adjacent, and subordinate commanders to achieve unity of effort and ensure the CONOPS aligns, or nests, with the senior commander's intent. Similarly, transition events, such as confirmation briefs, can help a commander ensure the subordinate units nest within the plan or order.

Part 7

Transition

Introduction

MCWP 5-10 states that, “The written order is initially well-understood only by the small group that wrote it. Transition enables the far larger group of executors (current operations staff, subordinate unit commanders and staff, combat operations center members, etc.) to comprehensively understand the plan.” For the logistician, transition is one of the best opportunities to explain how logistics will support the plan for all commanders, staffs and subordinate units. At a minimum, transition involves and includes a transition brief.

Inputs to Transition

The concept of logistics and CSS is a broad statement of the essential tasks involved in supporting the conduct of operations. It gives an overall picture of CSS operations and addresses solutions to shortfalls cited in the CSS estimate (MCTP 3-40B). Key elements to support the concept of logistics and CSS during transition:

- COLS by phase.
- Time-Phased Force Deployment Data (TPFDD).
- Staff/running estimates.
- POC lists.
- Known shortfalls and key timings.

Taking time constraints and personnel involved into consideration, the OPT logistics planner and AC/S G4 must emphasize these elements when conducting the transition brief.

The Logistician’s Role during Transition

During transition, the OPT logistics planner’s main focus is to help commanders understand how priorities of logistics and logistics shortfalls are determined for the operation. The OPT logistics planner will spend a fair amount of time coordinating logistics with internal and external support entities to assist in writing executable OPORDs/OPLANs/CONOPs, etc. The OPT logistics planner will use their coordination efforts to determine running estimates for each commodity and staff estimates for elements required to support the mission. With the limited amount of time usually involved with transition, the OPT’s logistics planner may need to assume responsibility for briefing all the core logistics functions. This may include contracting, engineering and health services (JP 4-0).

Special Considerations during Transition

Logistics cannot be planned properly without consideration given to the joint logistics enterprise

(JLEnt) within the Area of Responsibility (AOR) (JP 4-0). It is important to nest the concept of logistics and CSS with the Combatant Commander's (CCDR's) theater support concept. Although this is not usually discussed, it helps commanders influence priority of support within the AOR.

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Appendix A

Physical Network Analysis (PNA)

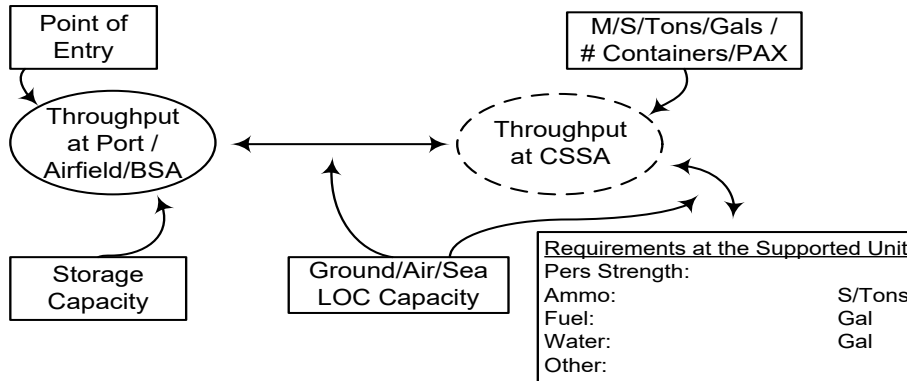


Figure A-1 PNA

The distribution system requires a detailed analysis of its physical network to maximize effectiveness and efficiency.

“Logistics planners use the Marine Corps Planning Process to design a logistics system. All logistics systems have two fundamental elements: a distribution system, made up of bases [installations] and distribution procedures, and command and control” (Source MCDP 4).

Introduction

The PNA begins when the MAGTF commander identifies the MAGTF battlespace (during the commander’s orientation) and continues throughout the MCPP as more information becomes available. The physical network of the distribution system includes existing infrastructure and environmental factors in the MAGTF AO and AI, existing logistics / distribution nodes, major and alternate routes, and the capacities of both the routes and nodes to affect sustainment. When the distance between existing nodes exceeds the logistics distribution means, the logisticians must design additional nodes (installations) (e.g., CSS areas [CSSA(s)]) that will allow available distributions means to meet requirements.

Inputs to PNA

- MAGTF Commander’s Orientation.
- AO and AI.
- Logistics IPOE products.

Intelligence Support to PNA

The primary intelligence support to PNA concerns analysis of the physical environment and infrastructure consisting largely of encyclopedic data tailored and updated to meet LCE requirements. Two references available to assist in developing the PNA include Section VII, Chapter 6 of MCWP 2-3, *MAGTF Intelligence Production and Analysis* and Chapter 2, Infrastructure of MCIA publication MCIA -1540-003-03, *Generic Intelligence Requirements*

Handbook (GIRH).

In addition to the tactical terrain study and MCOO, the following lists other major infrastructure products used to support PNA development. This list is not all-inclusive; Mission, Enemy, Terrain and weather, Troops and support available-Time available (METT-T) and the commander/staff must still drive the actual requirements.

- **LOC Study.**

- All-source LOC intelligence studies provide detailed information on the transportation infrastructure within the AO. LOC studies include textual and graphical information on the roads, railroads (to inland rail hubs), bridges, tunnels, airfields, bypasses, and the links between. These products are key elements of any PNA.

- **Beach Study.**

- Beach studies provide detailed information on beaches, gradients, beach exits, obstacles, defenses, and other potential points along the coastline that may support amphibious operations, Logistics Over-The-Shore (LOTS) operations, or logistic operations ashore from afloat assets.

- **HLZ and DZ Study.**

- These all-source intelligence studies identify potential HLZs and DZs based on terrain factors. These factors include vegetation, slope, surface materials, and obstacles. The analysis also identifies approach patterns, potential exits, total area, as well as major and minor axes of the HLZ and DZ.

- **Hydrographic Study.**

- Hydrographic studies focus on rivers and streams within the AO to support transportation and other requirements. These studies identify potential obstacles and their impacts on maneuvering forces.

- **Urban Study.**

- Urban studies are high-resolution specialized studies of the urban environment to support Military Operations in Urbanized Terrain (MOU) and can provide two and three dimensional battlespace views to support planning and rehearsal. Detailed analysis of available imagery and digital data of the urban terrain can reveal fields of observation and fire, radio communication dead spots, surface and subsurface avenues of approach, and transportation network capabilities.

- **Cross-Country Movement Study.**

- Although the MCOO already incorporates this data, Cross-Country Movement (CCM) data helps in identifying severely restricted, restricted, and unrestricted terrain not improved specifically for vehicular traffic, and identifies the types of vehicles that may travel across that terrain. The CCM analysis does not imply that a particular vehicle or group of vehicles cannot operate in a severely restricted area but identifies that maneuver may require modification to tactics and procedures. Analysis includes factors such as vehicle and vegetation types as well as terrain slope, surface, and subsurface materials. A CCM study may support planning ground logistics convoys.

The PNA Process

Analysis of the physical network is not difficult, but obtaining timely, relevant data in the detail required for difficult decisions later in the MCPP and during execution is the key to its extraordinary value. Logisticians must work closely with intelligence and engineer personnel to clearly articulate the required information specifics to successfully analyze the physical network.

Locate Infrastructure. Locate infrastructure within the MAGTF AO and AI. Logisticians begin the PNA by locating infrastructure within the MAGTF AO and then expanding their scope to the areas within the MAGTF AI. Not all infrastructure equates to the same value when developing a logistics system; therefore, based on time available, logisticians will prioritize their analysis. The following list provides examples of infrastructure a planner or the staff may consider:

- Airfields and ports.
- Roads and railways (associated tunnels and bridges).
- Beach landing sites.
- Navigable rivers.
- Navigable inland waterways.
- Other logistics infrastructure.
 - Water treatment and storage facilities.
 - Petroleum storage facilities and pipelines.
 - Medical facilities.
 - Other relevant HN logistics capable facilities.

Determine Relevant Infrastructure. Determine identified infrastructure availability and capabilities, ruling out infrastructure obviously unsuitable for MAGTF operations, understanding the association and interconnectivity between the identified infrastructures.

Determine Availability of Infrastructure for MAGTF/LCE Use. Review HHQ orders and coordinate with HN through HHQ staff to determine if the infrastructure is available for MAGTF/LCE use. If so, how much of the capacity/capability can the MAGTF/LCE use?

Conduct Encyclopedic Search for Data and Information on Available Infrastructure. The products discussed in *Intelligence Support to Logistics Planning* assists in collecting the information. However, the information may be outdated or not available through encyclopedic research alone. When this occurs, planners should submit RFIs or requests for intelligence requirements (IRs), as appropriate, to obtain required infrastructure capability information.

Analyze the Usefulness of the Infrastructure. Analyze infrastructure availability and information in the context of the MAGTF mission to determine the relevant and usable infrastructure. Disregard infrastructure not available for MAGTF/LCE use, or whose capabilities obviously will not contribute to supporting MAGTF/LCE operations. Based on the operation and the geographical characteristics of the area, possible infrastructure and associated considerations may include:

- **Airfields.**
 - Did HHQ designate the airfield as an APOD/APOE?
 - Is the airfield available for MAGTF/LCE use?
 - What capacity is available for MAGTF/LCE use?
 - What aircraft type (C-5, C-17, and C-130) can the airfield handle?
 - What is the maximum (aircraft) on ground (MOG)?

- What support facilities and capabilities exist at the airfield?
 - What covered and open storage areas exist for the staging of supplies and personnel?
 - What access to other modes of transportation is available in the immediate vicinity?
 - What support services are available from the HN?
- **Ports.**
 - Did HHQ designate the port as a SPOD/SPOE?
 - Is the port available for MAGTF/LCE use?
 - What capacity is available for MAGTF/LCE use?
 - What size/type ships is the port capable of servicing?
 - How many and what type of berths are available?
 - What offloading capability is available for MAGTF use?
 - What support facilities and capabilities exist at the port?
 - What covered and open storage areas exist for the staging of equipment, supplies and personnel?
 - What access to other modes of transportation is available in the immediate vicinity?
 - What other US or coalition forces are using the port?
 - What support services other US or coalition forces provide? (i.e. landing support, material handling, force protection)
 - What HN support services are available (i.e., stevedores)?
- **Beach Landing Sites (BLS).**
 - Is the beach landing site available for MAGTF/LCE use?
 - What area is available to establish staging areas and beach support areas?
 - What other modes of transportation connect to the beach sites, and what are their capabilities?
 - Is there inland access off the beach?
 - Is the site suitable for LOTS operations?
 - Is the site suitable for offshore petroleum discharge system (USN) (OPDS) operations?
 - What is the Navy Cargo Handling Battalion concept of support at the Beach Landing Site?
 - What other USN forces are coming ashore that require support?
- **Navigable Rivers and Inland Waterways.**
 - Is the river/inland waterway available for MAGTF/LCE use?
 - What watercraft can operate on the river/inland waterway?
 - Are there any established landing sites? If so, where?
 - What access to other modes of transportation is available from these landing sites and what is their capacity?
 - Are there staging areas at or near the landing sites?
 - What HN support services are available?
- **Road Networks.**
 - Has HHQ designated theater supply routes and alternate supply routes (ASRs)?
 - Which roads are available for MAGTF/LCE use?
 - What capacity is allocated for MAGTF/LCE use?
 - What urban areas does the road network connect?
 - What is the condition and capability of the road network?

- What is the location and load classification of the bridges?
 - What tunnels are located along the road network and what are their dimensions?
 - How will the tunnels impede movement?
 - What are the local traffic routines in the AO? (i.e. high traffic periods)
 - Who is the movement control agency for the entire theater?
- **Rail Networks.**
 - Which railways are available for MAGTF/LCE use?
 - What capacity is allocated for MAGTF/LCE use?
 - How many and what type rail cars are available?
 - Where are the rail yards and terminals located?
 - What are the capabilities at the rail yards and terminals?
 - Which urban areas does the rail network connect?
 - What is the gauge of the tracks? Is there more than one gauge of track within the country?
 - Who is operating the rail network?

- **Other Logistics Infrastructure.**

- ***Water Treatment and Storage Facilities.***
 - Is the water treatment or storage facility available for MAGTF/LCE use?
 - What capacity is available for MAGTF/LCE use?
 - What modes of bulk water transportation are available in the immediate vicinity?
 - What HN support services are available?
- ***Petroleum Storage Facilities and Pipelines.***
 - Is the petroleum storage facility or pipeline available for MAGTF/LCE use?
 - What type and quantities of fuel are available?
 - What capacity is available for MAGTF/LCE use?
 - What modes of bulk fuel transportation are available in the immediate vicinity?
 - What HN support services are available?
- ***Medical Facilities.***
 - Is the medical facility available for MAGTF/LCE use?
 - What are the capabilities at the facility?
 - What capacity/capabilities are available for MAGTF/LCE use? (Include USN ship medical capabilities and theater medical facilities).
 - What modes of transportation are available in the immediate vicinity? (i.e., USA air ambulance company).
 - What HN support services are available?

Connect Relevant Infrastructure

- Connect relevant infrastructure via the transportation network using all available distribution modes/means – air, road, rail, river, inland waterway, and sea.
- Overlay relevant infrastructure and distribution modes/means on map (digital or hardcopy) with associated available capabilities and capacities.
- Create map overlay products depicting the relevant infrastructure and distribution

modes/means. Include capacities and capabilities of the relevant infrastructure and distribution methods/means in call out boxes as shown in Figure B-2.

Refine PNA

TTP: Command and Control Personal Computer (C2PC) is one automated method of depicting the physical network that provides the ability to embed text boxes allowing the display of key information.

Adjust the physical network and refine the products after receiving new or updated information.

Causes for PNA updates and refinement may include:

- Newly identified infrastructure.
- Validation of assumptions made concerning infrastructure.
- Answers to RFIs.
- Answers to IRs concerning infrastructure.

PNA Outputs

- Physical network overlay with capability/capacity information.
- Situational understanding of the physical network.

PNA during COA Development and War Game

The PNA forms the basis for COA development and when war-gamed provides the commander with the options available to support changes during the execution of MAGTF operations.

COA Development

Conduct the following actions in concert with the PNA during COA development. These actions help to create complete, feasible, and flexible COAs.

- **Review/Refine Friendly Force Requirements.**
 - Review staff and supported unit logistics estimates to determine requirements. As required, update/refine, and select demand zones - geographic areas with concentrated requirements.
- **Review/Refine Friendly Force Capabilities.**
 - Review staff and supported unit logistics estimates to determine supporting unit logistical capabilities and update/refine as required.
- **Determine HN/Contractor Transportation Support.**
 - Determine available HN/contractor transportation support to distribute MAGTF logistics. Identify the associated restrictions / limitations on use and how best to integrate them into the COA.
- **Review/Refine Capability Shortfalls.**
 - Review staff and supported unit logistics estimates to determine capability and capacity shortfalls and update/refine as required.

- **Analyze Information to Determine Options.**
 - Compare supported unit requirements and the demand zones in which they occur against the physical network information and capabilities in order to determine which combination of nodes and transportation modes/means can meet the requirements of the force – provide options.
- **Select Optimal and Alternative Options with Decision Points.**
 - Select the best combination of nodes and transportation modes/means that meet the requirements for the supported force. Other feasible options (branches) identified become alternatives and with decision points associated with them.

TTP: Record supporting unit throughput and storage capacities in order to (IOT) justify shortfalls and compare against unit estimates of supportability and supported unit logistics requirement.

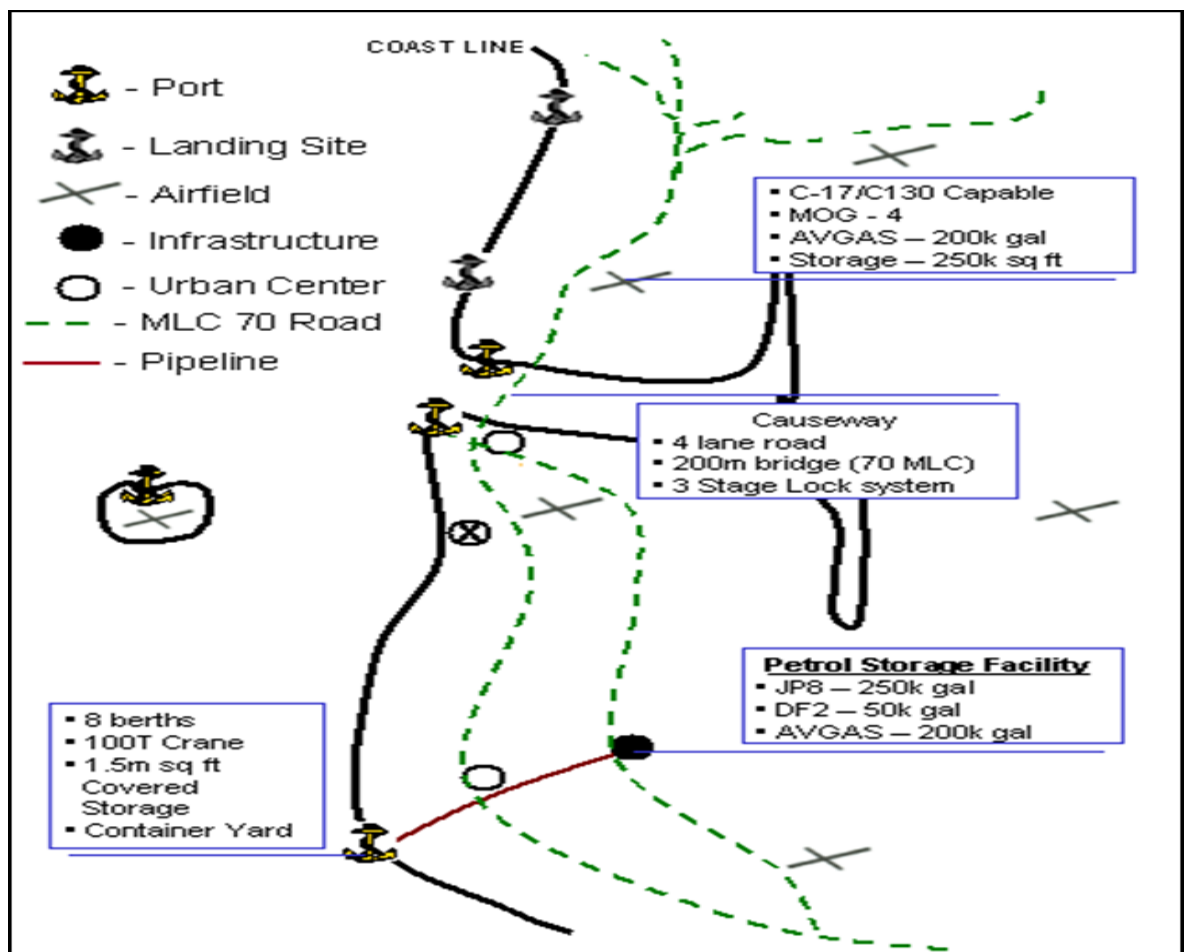


Figure A-2: Simplistic Physical Network Overlay Example

COA War Game Step

The PNA during COA war game consists of evaluating and refining the option and alternatives selected during COA development.

- **Evaluate/Validate Options Selected During COA Development**
 - Evaluate/validate the optimal option selected. Evaluate/validate decision points associated with the alternative options (branches) identified. The distribution system must be “what-if’d” against environmental impacts, enemy actions, effect of the local populace, or catastrophic success by the MAGTF ME.
- **Refine Option/Alternative Options and Decision Points**
 - Recommend/make adjustments to the COA based on the COA war game results and the commander's input/decisions. Adjustments could include refined task organizations, changes to supporting relationships, changes in the main effort, or the addition of new distribution methods.

Appendix B

Estimates

One of the staff's most important functions is to support and advise the commander throughout the planning process. The staff collects, analyzes, and presents relevant information to the commander to assist him in achieving situational understanding and to aid decision-making. The two basic types of estimates provided by the staff and subordinate commanders to support this effort are staff estimates and estimates of supportability.

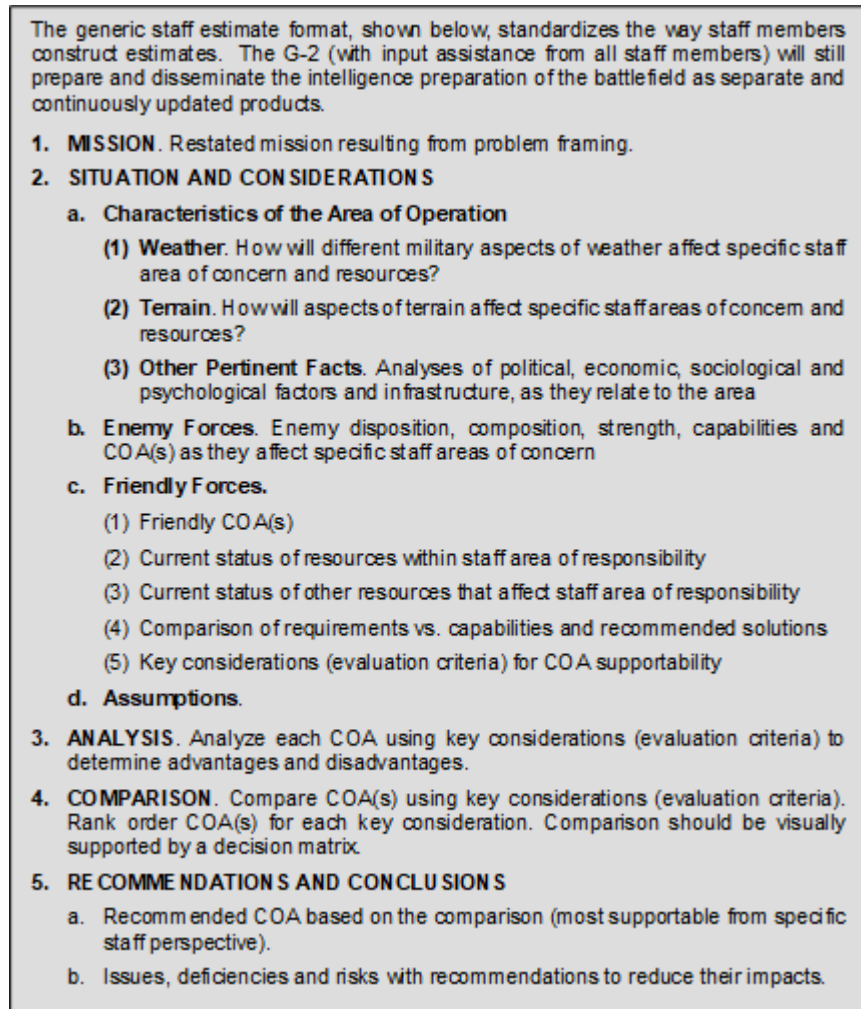


Figure B-1: Generic Staff Estimate Format

Preparing estimates requires the staff and subordinate commanders to clearly understand the battlespace and mission assigned. Criteria include:

- Estimates must be as thorough as time/circumstances permit.
- Estimates may be detailed written documents, graphic representations of data and recommendations, or an oral presentation of the analysis and recommendations.
- Estimates provide commanders, staff, and planners an analysis of possible solutions to specific operational missions/requirements.
- Estimates form the cornerstone for staff annexes and appendices to orders/plans.

- Commanders and staff must continuously update estimates as they collect, process, and evaluate information. At a minimum, commanders and their staffs should update their estimates when:
 - Recognizing new facts.
 - Determining assumptions as invalid.
 - Receiving or recognizing changes to the mission.
 - Recognizing a change in requirements or capabilities.
 - Modification of COAs.

The two primary types of staff estimates discussed here are:

- Personnel estimate
- Logistics estimate

Personnel Estimate

Personnel planners (G/S-1) and HSS planners (G/S-4) prepare the personnel estimate, as shown in Figure B-1, an analysis of how all human resources and personnel factors impact the individual Marine and unit effectiveness. It includes a current overall personnel status of the organization, its subordinate units, and any attached or supporting elements.

Personnel status includes assessments of the following tangible and intangible factors:

- Patient evacuation plan, including casualty evacuation (CASEVAC), medical evacuation (MEDEVAC) and medical regulating plans (HSS personnel).
- Unit-strength management - personnel statistics (G/S-1).
- Personnel replacement plan (G/S-1 and G/S-3).
- Unit/individual Marine readiness (G/S-3).
- Organizational climate (commander, battle staff).
- Cohesion (commander, battle staff).
- Discipline, law and order (G/S-1, SJA, commander).
- Casualty estimation (G/S-1, G/S-3).

The personnel estimate predicts losses (where and when losses could occur) and when, where, and if such losses could cause the culmination of an operation. It contains the personnel and HSS planner's conclusions and recommendations about the feasibility of supporting major operations and other specific tactical missions.

Logistics Staff Estimate

The logistics staff estimate consists of CSS data collection which has been analyzed and synthesized. The AC/S G-4 prepares the logistics staff estimate or may delegate the responsibility to the logistics planner in the OPT. Ultimately the logistics estimate is the AC/S G-4's/logistics planner's comparison of requirements and capabilities, conclusions, and recommendations about the feasibility of supporting major operational and tactical missions.

The logistics estimate includes how functional areas of supply, transportation, services,

maintenance, general engineering, and health services may impact the various COAs. The MAGTF G-4's functional area managers/SMEs contribute to staff estimates through functional area estimates. The MSC (i.e., LCE, ACE, GCE and MEF Information Group) logisticians also support this process by providing estimates of supportability. The MAGTF G-4 will integrate the functional estimates and the MSCs' estimate of supportability into the logistics estimate. In addition, Pre-Positioned Wartime Reserves (PWR), joint logistics enterprise, allied logistics and HNS should also be incorporated into the MAGTF's logistics estimate and MAGTF's COLS. Failure to make complete estimates and projections can lead to errors and omissions when developing the COLS and wargaming potential COAs. The result will ultimately lead to incomplete or inaccurate recommendations being provided to the commander for COA selection.

Figure B-1 highlights information a logistics staff estimate may include. In addition, MCWP 5-10, Appendix F provides information on staff estimates.

STAFF ESTIMATE (LOGISITICS)

<u>Requirements:</u> Identify and quantify requirements (DOS, DOA, Gals etc.) for key demand items (fuel, ammo, Class VIII etc.)	<u>Shortfalls:</u> List known shortfalls based on requirements (demand) and capability (availability)
<u>Capabilities:</u> Identify available resources and capacities (organic, theater & strategic)	<u>Limitation:</u> Provide known abilities to meet demand using organic resources limitation of theater and strategic sources.
<u>Conclusion:</u>	Brief list of key concerns

Figure B-2: Staff Estimate (Logistics)

Functional Estimates

Functional staff supported by subordinate units with the functional expertise to support the staff in the development of staff estimates and COA(s) for logistics support develop functional estimates. For example, the LCE G-3 may require the logistics functional representatives (services, general engineering, transportation, health services support, supply, and maintenance) to furnish functional estimates. The LCE *functional estimates* should identify the **requirements** of the supported units and determine the **capabilities** of the LCE. Comparing those requirements against LCE capabilities identifies **shortfalls**. Logisticians who understand the requirements and capabilities of the force can then conduct an **analysis** of how the LCE will support the operation and recommend **solutions** in their functional areas for supporting the force. Figure B-2 provides a format for capturing a functional estimate, which may be included as an annex to the logistics staff estimate.

Requirements

Supported unit requirements drive the need for LCE logistics support. Although supported

units should provide their requirements/logistics estimates to the LCE, many times the LCE may need to determine initial requirements to continue planning. In such cases, the LCE should begin with its worst-case requirements. As more information becomes available, the LCE can refine its requirements and update its functional estimates. Some considerations when determining requirements include:

- What method to use in determining logistics requirements (i.e., personnel density, equipment density, planning factor, operating tempo, combination, etc.)?
- What source(s) of calculations to use (i.e., Operational Level Logistics Planner, Log 2000, MCRP 4-11.3F, *Convoy Operations Handbook*, field manual (FM) 101-10-1/2, the G-1/G-4 *Battle Book*, historical data, Logistics Estimator Worksheet, etc.)?
- What units require support? Will the units requiring support change during the operations? When?
- What are the logistics implications of the types of operations the supported units will perform (i.e., river crossings, pauses, deep attacks, etc.)?
- Is there a Chemical, Biological, Radiological, and Nuclear (CBRN) threat?
- What are the casualty estimations?
- What are the golden hour considerations?

Capabilities

Review the MAGTF and LCE task organization to determine the logistics capabilities for the particular function. What is the total capacity? How can the capabilities be task organized?

1. **Key facts and Assumptions.** Identify key facts and assumptions associated with the specific functional area.
2. **Functional Units Available.** List all units assigned to the MAGTF with the capability to include known Host Nation and Contracted Support.
3. **Computations.** (Facts on a worst-case scenario) Break out all requirements. The category could be expressed as classes of supply, field services, maintenance functions. (MST support. Recovery, etc.) . Transportation types (Break Bulk, Class III, Water, etc.) or EOD support.

Category	Total Requirements	Total Capabilities	Shortfall	Excess Capacity	Potential Solutions

4. **Analysis.**
 - a. **Issues.** (Excess capacity or shortfall): Indicate all shortfall and excess capabilities.
 - b. **Vulnerabilities/Risks:** Indicate how any shortfalls can impact the outcome of the MAGTF mission. Be accurate, concise and direct.

Figure B-3. Functional Staff Estimate Format Sample

Shortfall/Excess Capacity

Compare requirements with capabilities to determine shortfalls and excesses. Considerations

for determining shortfalls and excesses include:

- For requirements that exceed capabilities, is the shortfall in a particular area or region, at a specific time, or an overall shortfall?
- What is the type of shortfall? Is it a supply availability shortfall, a resource shortfall (equipment, personnel, facilities, working hours, etc.), or a distribution shortfall?
- At what point is the requirement expected to exceed the capability?
- How much is the shortfall in terms of units of measurement (short ton [STON], gallons, square feet, etc.)? What does the shortfall equate to in terms of days of supply (DOS)?

Analysis and Solutions/Recommendations

One of the most important roles of the staff is not to provide the commander data, but rather provide the commander usable or actionable information. Therefore, analysis of the collected data is paramount. The staff must be able to:

- Identify the issues associated with meeting the requirements with available capabilities.
- Address the impacts and risk associated with shortfalls or excess capacity.
- Develop potential solutions to shortfalls and uses for the excess capacity.
- Make recommendations on a way forward for the organization.

When conducting the analysis, logistics planners and staff should consider the following:

1. What is the shortfall's significance?
2. What is the shortfall's potential impact?
3. What is the shortfall's expected duration?
4. What caused the shortfall (battle loss, time-phased force deployment sequence, etc.)?
5. If the shortfall is a *supply availability* shortfall, consider the following:
 - At what level is the shortfall - MAGTF only or higher?
 - Is the supply available at other echelons and, if so, where? How long will it take to get here?
 - Is there an acceptable alternative, a substitute, or an alternative source of supply?
6. If the shortfall is a *resource* shortfall (equipment, personnel, facilities, working hours, etc.), consider the following:
 - Can similar resources be diverted or obtained elsewhere?
 - Is HNS a viable alternative?
 - How specialized is the shortfall resource? (For example, it is easier to train a mortuary affairs specialist than it is to train a doctor. It is easier to find an automotive mechanic than it is an M-1 fire control specialist.)
 - Does a sister service or coalition partner have the capability?
7. If a *distribution* shortfall, consider the following:
 - Is the shortfall from a lack of assets or a time-distance issue?

- Does the shortfall require special distribution procedures?
- Are any alternative distribution modes available?
- What are the alternative mode requirements?
- Are HN distribution assets available?
- Are sister service/coalition assets available? Are they compatible?

8. How will logistics capabilities be echeloned forward? Which units will be tasked to establish forward logistics bases?

Estimate of Supportability

Subordinate commanders perform estimates of supportability in order to assist the “higher” commander with COA selection. All logisticians share the requirement to complete logistics estimates for their commands. These estimates support their commander’s estimate of supportability provided to the MAGTF commander. Estimates of supportability should indicate the subordinate unit’s ability to support each COA and identify the risks associated in supporting each COA.

The LCE estimate of supportability must consider both the warfighting functions (command and control, intelligence, fires, maneuver, logistics and force protection) and the tactical functions of logistics. The LCE Estimate of Supportability is an analysis of the MAGTF COAs from the LCE commander’s perspective. Ultimately, the LCE commander must be able to articulate to his commander which COA the LCE is most capable of supporting with the associated risks from a logistics perspective.

Appendix C

Planning/Pre Deployment Site Survey (PDSS) Checklist (Example)

Classes of Supply

Class I: Subsistence (water, chow, ice).

- What is the feed plan?
- How is it funded?
- Water:** water bull, bottled (contract, ACSA), self-made?
- Is there potable water at the site?
- Are there any locations that do not have potable water that we would need bottles for?
- Is there a bulk water point for water bulls?
- Are we using bottled water?
- Is there Gatorade or electrolyte substitute available?
- Gray water disposal?
- Chow:** meal, ready to eat (MRE), unitized group ration (UGR), local food, contracted chow hall (contract, ACSA)?
- How is it funded?
- Box/Bag lunch capability?
- Delivery method to Department of Defense Address Activity Directory (DODAAC) location?
- Is there a Post Exchange (PX) available?
- If Chow Hall, is roster required beforehand?
- How do we sanitize equipment?
- Storage location at site?
- Warrior Meal at the end of the exercise?
- Resident food vendor on base to procure supplements; procedure?
- Ice:** Is ice available? How do we get it?
- Does the base have an ice contract already in place?

Class II: Individual equipment, clothing, tentage.

- Admin supplies.
- Field-day supplies.
- MARPAT uniform replacements.
- Unit Issue Facility (UIF)/Individual Issue Facility (IIF) items.

Class III: Petroleum, oils, and lubricants (POL).

- Types required?
- Where are fuel spots located?
- What is the expected usage rate?
- How is it funded?
- Is there a bulk fuel farm on base (JP-5/8, motor gasoline [MOGAS], Diesel)?
- Issue procedures, hours, black fuel key, and payment?
- Do they require a fuel consumption estimate 30 days out?

- Can we bulk draw to fill up a FUELCON?
- Is there aviation fuel available at the flight line?
- Issue procedure for aviation fuel?
- Are we authorized to establish a FARP?
- Is there a place to dump excess fuel from a FARP or from FUELCONS?
- Proximity of the command post (CP)/motor pool to the training area?
- What is the expected usage rate?

Class IV: Construction material, barrier material.

- Targetry: what types needed?
- Sandbags?
- C-wire and engineer stakes?
- Local lumber yard or Class IV lot available on the base to draw supplies?
- Are there any requirements to check with environmental before setting up c-wire?
- What are the MSE's Class IV requirements?
- Is there a used lumber turn-in on base (or a burn-pile)?
- MSE targetry material requirements?
- How is it funded?

NOTE: THIS INFORMATION BUILDS THE CLASS IV SUPPORT PLAN IN THE ANNEX D. IT MAY BE BETTER TO DRAW C-WIRE, STAKES, AND SANDBAGS FROM HOME STATION AND TRACTOR TRAILER (TT) TO THE EXERCISE LOCATION OR TAKE WITH THE UNIT USING A DIFFERENT TRANSPORTATION MODE. MAKE SURE TO DIRECT UNITS IN THE ANNEX D IF THEY ARE RESPONSIBLE FOR ORDERING AND TRANSPORTING THEIR OWN SUPPLIES.

Class V: Ammunition (Air – A; Ground – W).

- If our ammo requirements are forecasted in Total Ammunition Management Information System (TAMIS), is there an Ammunition Supply Point (ASP) on base that can receive the ammo prior to our arrival? (Ensure advice code specifies ammo is for "USMC Use")
- Are Department of Defense Identification Codes (DODICs) required?
- Are they available on ship? (Are they on the ship we need them to be on?)
- Where will they be stored during training?
- How many vehicles/trailers are needed to transport?
- Is there an Ammunition Supply Point (ASP)?
- Are ammo-ready storage lockers available?
- What is the highest explosive rating for the ASP/storage area?
- Do we need special effects small arms marking rounds (SESAMs) kits or Instrumented Tactical Engagement Simulation System (ITESS) gear?
- SESAMS requirement?
- What is the closest place to resupply ammo?
- What DODICs do they have on hand?
- How long would it take to resupply?
- Are any DODICS already available at the site ASP? (Must be USMC stock ammo)
- Paperwork requirements to draw ammo from the base ASP?
- Does the ASP require an assumption of command letter and signature card?

- What are the vehicle driver/a-driver requirements to draw ammo? (Some ASPs require driver and a-driver to have ammo licenses and some require both to be NCOs).
- What are operating hours for the ASP?
- All dunnage required to be turned-in?
- What are their turn-in procedures?
- What are the limitations to their ASP (as far as some DODICs are concerned)
- Do they allow Fast Auxiliary Space Preconditioning (FASP) set up?
- Is there a designated area for a FASP?
- If we use a lockable quadcon (fills requirement of locked-up with armed guard security), can we store missiles/grenades) at FASP?
- Do they have a separate area within the ASP for use as a FASP?
- Are they available on ship?
- Are ammo-ready storage lockers available?
- What is the highest explosive rating for the ASP/storage area?
- Do we need SESAMS kits or Individual Training Standards (ITS) gear?

NOTE: THIS INFORMATION BUILDS THE AMMO PLAN IN THE ANNEX D. YOU MUST FORECAST GROUND AMMO IN TAMIS AT LEAST 90 DAYS OUT IOT HAVE IT DELIVERED DIRECTLY TO THE ASP. ENSURE YOU TASK SUBORDINATE UNITS TO PROVIDE VEHICLE SUPPORT FOR THE AMMO ISSUE FROM THE BASE ASP TO THE FASP. MLG UNITS USUALLY OPERATE THE FASP AND DIV UNITS PROVIDE SECURITY. DO NOT INCLUDE AVIATION ORDNANCE IN THE ANNEX D.

Class VI: Personal demand items, non-military sales.

- Warrior Meal materials (local food, beer)
- Port-a-johns
- Trash removal/collection
- Is there a Post Exchange (PX), Marine Corps Exchange (MCX) and/or Naval Exchange (NEX) available? What are the hours? Do they require any augment support when Marines are on deck?
- How/where is trash collected?

Class VII: Major end items (Heavy Equipment, Vehicles, etc.).

- How are they being moved (self or contracted trailer?)
- If contracted TT, who is driving them onto the TT?
- What maintenance may be required?
- What will their footprint be?
- How are they being moved (self or contracted trailer?)
- If contracted TT, who is driving them onto the TT?
- What maintenance may be required?
- What will their footprint be?

Class VIII: Medical materials (including repair parts)

- Is there a battalion aid station (BAS) on the base that training units can use?
- What level of care is the facility on base?

- What are the procedures outlined by range control to handle medical emergencies?
- Where are the local hospitals and what levels of care can they provide?

NOTE: GIVE THIS INFORMATION TO THE MEDICAL PLANNER FOR THEIR ANNEX Q. MAKE SUGGETIONS TO THE MEDICAL PLANNER IN RESPECT TO CO-LOCATING MEDICAL UNITS.

Class IX: Repair parts (components and kits).

- Does the host unit have any parts that are the same as ours?
- Are we bringing parts with us?
- Are we bringing tool kits with us?
- Location of adequate space for maintenance operations?
- Does the base have a pre-existing maintenance facility available for use?
- Is there a covered bay or only an open lot?
- Does the area accommodate co-locating or separating MSEs?
- Is there a place on base to turn in POL?
- Will the LCE bring their Class IX block?
- Disposal of hazardous materials?
- Local echelon of maintenance capabilities, can we tap into them?

NOTE: THIS INFORMATION BUILDS THE MAINTENANCE PLAN IN THE ANNEX D.

Class X: Non-military material (agriculture, economic development).

Tactical Logistics

Supply: Determine requirements; procure, store, and distribute; salvage and dispose.

- What requisition means and methods are available?
- Is there a Serve-Mart available? What are their hours? What do they stock?
- Identify and visit key distribution nodes and expeditor locations.
- What contracts already exist? Can we leverage them?
- Who are the local contracting POCs?
- Obtain the vetted contractor list.
- How is construction material requisitioned?
- Where is the ASP? Who manages it? Can we store and/or acquire ammo from them? What lead time is required? What base regulations exist?
- Are there any available supply stocks on hand? What amount of DOS is available and maintained? What lead-time is required for requesting it?
- How is Class III (aviation and ground) supported and requisitioned? (Air Card, bulk delivery, fuel keys, fuel cards). Is there any special line of accounting required to facilitate these methods?
- Is there a local Naval Exchange (NEX)/PX and what stocks are available?
- Is ACSA an option?
- Is there warehouse storage space available? Is it secure? Is it climate controlled?
- How is GCSS being used?
- Does a Demand Support Item (DSI)/or Class IX block exist?

- Are there any tactical/government/rental vehicles on hand? What are the procedures for renting or contracting vehicles? What is the process for maintaining them?
- Are there bus support capabilities? Do we have to provide drivers? How are they licensed? Are there bus routes established?
- Where is the Material Handling Equipment (MHE)? Who operates it? Contracted? Temp-loaned?
- What kind of lead time do they require to use the MHE? Do they require an escort?
- Are there any restrictions to MHE use? (e.g. cannot leave flight line or installation)
- What are the licensing requirements from the HN and base ops? (For on base driving and off base)
- Does sustainment air exist? (channel flights, Flight In Support of Deployed Unit (FISDU), Military air military airlift (MILAIR), commercial air)
- What restrictions exist for military vehicles traveling on HN roads?
- Status-of-forces agreement (SOFA) agreement in place?
- International driver's license required?
- Height/weight/bridge restrictions.
- Fuel capabilities.
- Are there any tactical/government/rental vehicles on hand? What are the procedures for renting or contracting vehicles? What is the process for maintaining them?
- Are there bus support capabilities? Do we provide drivers? How are they licensed? Are there bus routes established?
- What are the licensing requirements from the HN and base ops? (For base driving and off base)

General Engineering: Construction and facilities maintenance; EOD, bridging, demo/obstacle removal.

- What maintenance is required for existing structures (office spaces, billeting, head/shower)
- Is there an armory? Location and requirements?
- Where are workspaces? What is their configuration? Does connectivity exist? What additional communications structure is required?
- Are additional security measures needed? Can we build them or do certain constraints exist that require HN or other service approval?
- Beach Mobility/Obstructions for landing craft.

Health Services: Casualty collection and treatment; temporary holding and evacuation.

- What medical facilities are in the area, and what level do they cover? Surgical capability? Intensive Care Unit (ICU)?
- What life support equipment is on-hand? (ventilator, suction machine, defibrillator/monitor, portable oxygen)
- What are the evacuation procedures?
- What medical supplies are on-hand and what are the supply procedures?
- What are the theater airborne surgical capabilities?
- What is the theater routing for a casualty? (routine, priority, urgent)

Services: Religious ministries, billeting, messing, financial management, personal admin, disbursing, postal, exchange, security support, legal services, Civil Affairs Group (CAG), mortuary affairs.

- Identify/visit postal center and requirements.
- Identify/visit religious services on base.
- Discuss disbursing operations and capabilities.
- Visit Dining Facility (DFAC) and discuss times, contract, how payment occurs.
- Are there laundry facilities/capabilities?
- What are the mortuary affairs procedures in theater?

Other Areas

Logistics Planning

- Discuss operational logistics support in the AO. (HN/OCS/organic, pre-staged supplies/caches).
- What capabilities and procedures exist for the host base?
- What logistics reporting requirements are required by higher?

Customs

- What are the customs procedures? Who are the main POCs? Where are they located?
- What lead-time is required?
- What paperwork is required?
- Are there any special restrictions or items that raise red flags?

Embassy

- Who is the General Services Officer?
- Is there a POC list?
- What procedures are in place for coordination?
- Do they have a vetted vendors list?
- Do any logistics capabilities/shortfalls exist?
- Does the embassy have any Class I stocks on location?
- Are there vehicles available for visitor use?
- Is there HN or Embassy MHE available for use?
- Is there a doctor on hand? Hours? Is there a clinic on site? Can they treat Marines?
- What is the embassy MEDEVAC plan? Where do they take urgent/traumatic injuries?
- Can the Embassy procure any items that might be necessary?

Ranges

- What are the restrictions for overnight storage of ammo?
- What are the procedures for disposing of dunnage?

Airfield

- Name, location, date the survey was completed and who completed it.
- Major terrain features and elevation.
- Who is the main HN POC? Who runs the day-to-day operations?
- What are the operating hours?

- Are U.S. controllers required to assist with airfield arrival?
- Are there any airflow restrictions during the time we will be operating?
- What are the airspace management procedures for operations within the area?
- Do any special air traffic control procedures exist?
- What are the total number of aircraft involved in the operation compared to airfield capacity?
- What are their fuel requirements?
- How is fuel supplied? Any restrictions on when it can be supplied? Done by servicing truck or pipeline?
- What type of fuel distribution equipment/nozzles exist? Can they be used for other things (i.e. filling generators or ground expedient refueling system (GERS)/helicopter expedient refueling system (HERS))?
- What type of aircraft can be re-fueled?
- Are there any major obstructions in the area?
- What are the runway ratings? What aircraft can they support?
- Runway length, width, and gradient?
- What is the surface composition?
- Are markings in place (centerline, distance markers, approach lights, threshold lights)
- Are there any additional restrictions in place by the HN country?
- Dimensions and specifications of the taxiway area?
- How big is the parking area? What availability exists?
- Where is the refueling area?
- Where is the on-load and off-load area?
- Where is the maintenance area? Is it covered? Is it lighted?
- Communication capabilities and procedures?
- Do search and rescue capabilities exist?
- What airfield security is in place? Is there any U.S. augmentation required?
- What firefighting capability exists?
- Where is the ammunition stored?
- Are secure vaults available?
- Is water available to wash down aircraft?
- What aviation ground support equipment is available? (power units, air carts, hydraulic test stands, air compressors, heaters, light carts, jacks, maintenance stands)
- What MHE is available? Does the airfield provide operators?

Ports

- What size craft/vessel can the port support?
- What is the depth of the port?
- Do they operate 24/7?
- Are there tide restrictions for the craft we plan to use?
- What MHE is on hand?
- Do they have lighting for evening operations?
- What coordination is required prior to entering the port?
- What customs procedures are in place? How much lead-time is required?
- Is there a husbanding agent? What support can they provide?
- Quay wall & Roll-On/Roll-Off (RO/RO) ramps. Associated weight capacity?
- Available staging areas?
- Portable offices/heads?
- Wash racks? (permanent or portable).

- Pressure washers available?
- Lifting slings available for Lift-On/Lift-Off (LO/LO) operations?
- Port security access passes required for rentals?

Training Life Support

- What billeting is available? How is it funded? Contracting? ACSA? What is the capacity?
- Is separate female billeting required or available?
- Is linen provided? Are sleep systems necessary?
- Is there a potable water source in the billeting and training area? Is there an approved bottled water vendor?
- Is there a power source in the billeting and training area?
- Are there adequate head and shower facilities in the billeting and training areas?
- What chow is available? MREs? Contracted chow? DFAC?
- If DFAC, what information do they require? (roster, electronic data interchange personnel identifier (EDIPI), individual payment)
- What is the location of the nearest hospital?

Basing Life Support

- What hard-structure billeting exists?
- Is there an open area for expeditionary camp/billeting site? Size?
- Where are office spaces?
- What power requirements exist? What power can be provided? 110v or 220v?
- Location of the chow hall and feeding capacity? Hours? Mid-rats? Are augments required?
- For the chow hall, is a roster required beforehand, or do Marines simply swipe their CAC?
- Availability of portable heads/port-a-johns and funding procedures?
- Availability of General Service Agreement (GSA)/government vehicles for short-term leasing?
- Where is diesel/JP-8 available? Who is the POC? What funding docs/Letters of Agreement (LOAs) are required for services?
- Who is the contracting POC?
- Who is the financial POC? (think Military Interdepartmental Purchase Requests [MIPRs])
- What MHE exists? Who operates it? Procedures for use?
- What are the ammo storage, issue, use procedures?
- Is there a Servmart/GSA supply available?
- Are personnel taxes for base ops required? (security, drivers, mess hall)

Miscellaneous

- Are there personnel taxes for base ops? (security, drivers, mess hall)

Wash-down Facilities

- Is there a wash rack available on base?
- What are the procedures for using the wash rack?
- If there is no wash rack, is there a suitable place to rinse off vehicles?
- Are there any wash-down supplies available?

Base Supply

- What is required to purchase from base supply? (Delegation of Authority letter)
- What items do they have? (toilet paper, trash bags, cleaning supplies, etc.)
- How do we draw from the supply point, limitations and what classes of supply are available?
- What classes of supply do we need to contact local vendors for purchasing?
- Shipping address to deliver parts?
- Is there a Supply Management Unit (SMU) or SMU-like facility?

Basic Life Support

- Are there any barracks to stay in? What is their configuration? Will units be co-located or distributed throughout the base?
- Is there specific officer quarters?
- Is there specific female quarters?
- Do you have to draw linens for the barracks or can the Marines use their own bedding?
- Is there a designated motor pool area? Is it big enough for everyone?
- Is there a digging permit requirement?
- Are there any Moral Welfare and Recreation (MWR) center/activities on base? A gym? Is it free of charge to use?
- Are there washers and dryers available? Are they free? How many are there?
- If no washers or dryers, is there an established laundry contract or Army service?
- Are there adequate showers and toilets?
- How is trash disposed of?
- Is there a power source?
- How do you request port-a-johns for the ranges, POC, servicing schedule?
- What are their recycling requirements, if any?
- Staging and Marshalling areas for Reception Staging Onward Movement and Integration (RSO&I) operations and retrograde?
- Offload docks to drive vehicles off Tractor Trailers (TTs).
- Location of rail spur.
- Is there a base line haul capability to move vehicles and containers within local area

Fiscal

- Funding POC?
- Preferred method of payment? (MIPR, Contract)
- Deadline to have funding in place?

Outside Contiguous United States (OCONUS) Events/Exercises

- Where is the force landing? Beach? Landing Craft Utility (LCU) ramp? Pier side? Airfield?
- How close is the landing site to the exercise area, TT loading ramps?
- Where is the proposed bivouac area in comparison to the landing site?
- Bivouac site large enough for all elements participating in the exercise?
- Enough room at the bivouac site for vehicles, equipment and CPs, marshalling and staging?
- Enough room for tents, port-a-johns, and showers?
- Potable water available near bivouac site?
- How far is the range area from the bivouac site?

- Any barracks or other hardstand buildings to use?
- Fuel source available for use?
- Is there a place to put the ASP that is not too far from the bivouac site?
- What are the force protection requirements? (e.g. C-wire and guards)
- Restrictions from the HN for the establishment of the bivouac site.
- Customs lead time & requirements for cross border support.
- Unit Movement Control Center (UMCC) reporting procedures to higher, adjacent, HN?
- Blackout hours/convoy restrictions?
- Any contracting support available for all Transportation of Things/People (TOT/TOP), supplies, water, etc.?
- Any HN restriction for landing ammo at the beach (permits, reporting, placards/tarps required, etc.)
- Equipment restrictions for offload? (e.g. no weapons mounted on vehicles)

Appendix D

MAGTF Engineer Planning Considerations

The engineer planner should consider all the elements listed below even if not responsible for a particular area. See the staff responsibilities and Tactics, Techniques, and Procedures (TTPs) listed below.

Planning Preparation

- A. Identify SMEs that will participate in planning teams to assist in developing plans/orders.
- Clarify the roles and responsibilities between the MAGTF Staff engineers and MSC engineer reps during planning.
 - Coordinate external SME support for the following areas as required: topographic support, civil-military operations support, facilities, real estate, real property maintenance, civil engineering services, environmental control, and external construction support.
 - Coordinate appropriate SME representation from the joint force HQ, multinational organization, or HN.
- B. Review higher orders, with particular emphasis on:
- Base Plan (Operations Order)
 - Annex C (Operations)
 - Appendix 14 (Force Protection), Tab D (Counter-IED)
 - Appendix 21 (Breaching Plan)
 - Appendix 22 (Obstacle Plan)
 - Appendix 23 (Barrier Plan)
 - Annex D (Logistics)
 - Appendix 1 (Petroleum, Oil, Lubricant supply)
 - Appendix 5 (Civil Engineering Support Plan)
 - Appendix 13 (General Engineering)
 - Annex G (Civil Affairs)
 - Annex L (Environmental Considerations)
 - Discuss the MAGTF staff engineer's role in developing initial orientation products such as the IPB and MCOO with planning team leadership and intelligence representatives.

C. Review higher HQ construction directive(s).

Problem Framing

- A. Assist the G-2 with:
- Determining the threat and developing the MCOO.
 - Analyze the threat engineer mission, doctrinal templates, order of battle, and capabilities.
 - Analyze the mine, Unexploded Ordnance (UXO), and Improvised Explosive Device (IED) threat.

- Analyze the terrain particularly regarding mobility, drainage, infrastructure, bridges, ports, airfields, underground facilities, natural obstacles, and environmental hazards (e.g. flooding).
- Identify engineer requirements in the MAGTF's intelligence collection plan particularly regarding engineer reconnaissance and civil engineer survey teams.
- Assist in the management and prioritization of engineer-related requests for information such as field surveys, terrain studies, and route surveys.
- Assist in the development and analysis of the MCOO.
- Request geospatial products and services, environmental baseline surveys, and environmental health site assessments
- Obtain necessary geological, hydrologic, climatic data such as route and bridge classifications and existing minefield data.

B. Prepare the initial engineer staff estimate. The MAGTF Staff prepares staff estimates while the MSCs/MSEs prepare estimates of supportability.

- Identify engineer tasks.
- Identify and address any engineer factors that may influence or affect force deployment.
- Identify potential engineer capability/capacity shortfalls and excess based on estimated requirements.
- Identify risks and identify possible mitigations.
- Identify engineer material requirements.
- Identify construction requirements.
- Identify anti-terrorism/force protection requirements.
- Identify engineer transition points.

C. Review availability of organic, interagency, joint, multi-national, HN, and contracted construction assets, materials, and services.

- Determine engineer unit task organization and command relationships.
- Assess multi-national and HN engineer capabilities and limitations.
- Determine availability of engineer equipment.
- Determine availability and quality of construction materials.

D. Lend technical analysis of information regarding infrastructure by determining the capacity and capabilities of:

- Available facilities, airfields, and seaports.
- Lines of communication such as roads, tunnels, and bridges.
- Water sources (raw and potable).
- Energy sources for power generation/distribution.
- Fuel sources.
- Waste management resources.

E. Determine/review theater construction standards, base camp master planning documentation, and unified facilities criteria (if required).

F. Provide technical assessment of the capabilities and capacity of ground lines of communication to include recommending movement regulations.

COA Development

A. Update the engineer staff estimate.

- Provided one for each COA.

B. Review MSC estimates of supportability.

C. Provide input to each COA.

- Recommend engineering priorities.
- Provide advice on size & composition, task organization, command relationships, and deployment sequence of engineering forces.
- Evaluate the options and recommend methods to either bypass, cross, or breach obstacles.
- Provide advice on the employment of obstacles to achieve counter-mobility effects in harmony with targeting actions and defensive plans.
- Review the impacts of MAGTF engineering operations on battle space adjustments, shaping actions, or maneuver recommendations.
- Develop and estimate of time required to complete essential engineer activities necessary to conduct each COA.
- Determine alternate construction location, methods, means, materials, and timelines in order to give the commander options.

D. Recommend engineer tasks required to implement the plan.

- Determine adequacy of tasks relative to engineer reconnaissance, mobility, counter-mobility, survivability, general engineering, facilities and environmental considerations.
- Determine which engineer units can best accomplish required tasks.

E. Plan the deployment and employment of engineer assets to conduct the engineering functions identified in section 1001. MCWP 3-34, *MAGTF Engineering Operations* addresses each issue in-depth.

- If planning appears more appropriate at the MSC level, ensure their tasks reflect these missions.
- Review MSC engineering plans to identify potential conflicts with MAGTF CONOPs and other MSC efforts.

F. Determine real property and real estate requirements.

- May require augmentation and/or reach back support.

COA War Game

A. Update the engineer staff estimate and review updated MSC estimates of supportability.

- Check for changes in construction and movement time estimates.

B. Support the set up and conduct of the war game.

- Review initial dispositions and SOM of engineer forces and material.
- Identify task feasibility based on available assets.
- Understand friendly engineer movement rates.
- Understand friendly engineer construction timelines.
- Understand friendly engineer supply capabilities and limitations especially regarding engineer items in classes I, III, IV, V, VII, and IX.
- Understand threat engineer capabilities and capacities.

C. Recommend COA changes. Identify and record critical engineer tasks.

D. Recommend branches & sequels for further development particularly regarding gap crossing and engagement area transition.

COA Comparison and Decision

A. Assess the feasibility, acceptability, and suitability of the scheme of maneuver in terms of cost, time, and assets available.

B. Ensure the engineer staff estimate and MSC estimates of supportability are available to inform the commander's decision.

C. Be prepared to answer questions regarding the following for each COA:

- Concept of engineer support.
- Engineer mission priorities.
- Critical engineer events and/or actions.
- Engineer task organization and command and support relationships.
- Engineer capability limitations/shortfalls.
- Critical personnel and equipment.
- Production estimations.
- Barrier/obstacle overlay.
- Survivability estimate to include facility hardening, revetments, berms, barriers, perimeter fencing, security cameras and monitors.
- Critical tasks directed to subordinate units.
- Engineer's work time line.
- Risks.
- Recommended COA.

Orders Development

A. The MAGTF Engineer writes the sections of the operations plan/order listed below. Focus on the issues and information unique to the situation and environment rather than merely listing existing doctrine and unit Standing Operating Procedures.

Annex C (Operations)

- Appendix 12 (Force Protection), Tab D (C-IED). This tab describes the plan to counter IEDs in the MAGTF AO.
- Appendix 19 (Obstacle Plan & Barrier Plan). The obstacle plan describes the purpose and tasks associated with emplacing obstacles. This barrier plan describes the purpose and tasks associated with each barrier planned in the MAGTF AO.
- Appendix 20 (Breaching Plan). This annex describes the plan to conduct breaching operations.

Annex D (Logistics)

- Appendix 1 (Petroleum, Oils and Lubricants Supply).
- Appendix 5 (Civil Engineering). JP 4-04 provides detailed discussion for planning and executing civil engineering support for operations. Marine Corps engineers do not have a civil engineering capability. A significant civil engineering capability exists in the Army, Navy, and Air Force to support the MAGTF as part of a joint force operation. The engineer staff is responsible for developing requirements and coordinating this support.
- Appendix 13 (General Engineering). State the rationale if Appendix 5 (Civil Engineering) is not prepared. Indicate the general engineering support activities applicable to the basic operations order or plan and the policies for providing these services.

Annex L (Environmental Considerations). The MAGTF Environmental Compliance Officer prepares this annex with contributions provided by members of the Environmental Management Board and other members of the staff and Service components, to include legal, logistics, health services, and contracting personnel.

B. MAGTF staff Engineers provides input to the following sections of the plan/order. Annex/appendix naming, numbering and formats may vary. DOD formats are provided in CJCSM 3130.03A, *Planning and Execution Formats and Guidance*, provides and USMC unique formats unique formats are provided in MCWP 5-10.

Annex A (Task Organization). Ensure there is sufficient engineer capability to meet identified requirements and that command relationships are clear and appropriate. Additionally, provide input to the flow of the engineer force and materials per the TPFDD.

Annex B (Intelligence). Evaluate impacts on engineer operations and provide engineer-related IRs to the G-2 for inclusion within the intelligence planning products.

Annex C (Operations). Review and participate in the writing of Annex C (Operations).

- Appendix 8 (Air Base Operability). Focus on engineer support to airfield operations, including the five basic functions: to defend (installations), survive (provide expedient force protection), recover (assess damage, make repairs), generate (work-around for damaged systems), and support (the recovery effort).
- Appendix 10 (EOD). Ensure to integrate this appendix with engineer operations to defeat explosive hazards (including mines).

- Appendix 11, (Amphibious Operations). Focus on those engineering capabilities that are critical to amphibious operations such as improving ground traffic ability, bulk liquid planning, etc.
- Appendix 12 (Force Protection), Tab D (Barrier plan). This tab does not typically include close combat force protection actions such as the development of fighting and protective positions. Rather, it focuses engineering support to facility hardening, revetments, berms, and Installation security improvements (barriers, perimeter fencing, monitors, and cameras)
- Appendix 17 (Fire Support). Review the critical asset (infrastructure) protection plan and participates in target coordination to ensure critical infrastructure preservation.
- Appendix 18 (Counter-mechanized plan). Assist in developing the counter-mobility and survivability elements of this appendix.

Annex D (Logistics). Review entire annex for inputs, which will likely be required throughout.

- Appendix 4 (Mobility and Transportation). Review LOCs/MSRs and staging areas.
- Appendix 5 (Civil Engineering). Indicate the civil engineering support activities applicable to the basic operations order or plan and the policies for providing these services.

Annex G (Civil-Military Operations). Focus on engineer plans for assistance to displaced persons, HCA, HDM, government stability, and the reconstruction of civilian utilities and infrastructure. A thorough understanding of CA plans, and interface with NGOs and IGOs, is essential for success.

Annex R (Reports). Establish required reports, formats, and timelines.

Transition

A. Attend appropriate rehearsals, briefs and drills and be prepared to answer engineering questions regarding:

- Friendly and threat capabilities.
- Task organization.
- Concept of operations.
- Concept of support.

B. Coordinate appropriate engineer representation from external units, such as other Services, NGOs, IGOs, and civil engineers.

Summary

Logistics is the science of planning and carrying out the movement and maintenance of forces. It includes the provision of CSS to forces at the tactical level of war as well as the movement and sustainment of Marine forces at the operational level of war. Logistics provides the commander with the means to conduct and win battles, campaigns, and ultimately, the war. Annex D (Logistics/Combat Service Support) provides direction and guidance to the subordinate commanders and staffs on the provision of logistics and CSS in support of operations described in the OPORD or OPLAN. MCDP 4 provides the theory and

philosophy of logistics as practiced by the Marine Corps. MCTP 3-40.B, *Tactical-Level Logistics*, provides detailed information on CSS as well as amplifying instructions on the preparation of logistic planning documents. Annex D should address the command and control (C2) of logistics and CSS organizations, to include command relationships and C2 support requirements. It provides a general discussion of how to support the operation and to fully integrate with other critical concepts, such as maneuver, fires, and force protection. It requires only as much depth as is necessary to ensure understanding of envisioned logistic CSS operations by subordinate commanders and staffs. The G-4/S-4 is normally responsible for the preparation of annex D; however, the logistics combat element should be involved in the planning process. The concept of support should address phasing and significant anticipated changes in mission or tasks. Detailed or specialized information should appear in other subparagraphs or in appendices of annex D. Discuss or refer to aviation-specific logistic functions, such as supply and maintenance, in Appendix 1 (Supply) or in the ACE OPOD or OPLAN.

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Appendix E

Sample Annex D to an Operation Order

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ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation CODE WORD) (U)
LOGISTICS/COMBAT SERVICE SUPPORT (U)

(U) REFERENCES: Cite references necessary for a complete understanding of this annex.

1. (U) Situation

a. (U) Enemy. Refer to Annex B (Intelligence). Provide available information on enemy actions or intent to conduct actions to disrupt or degrade envisioned friendly logistic and combat service support (CSS) operations. Include information on enemy capabilities or assets that can augment friendly logistic and CSS operations.

b. (U) Friendly. List supporting logistics or CSS organizations not subordinate to the force and the specific missions and tasks assigned to each.

c. (U) Infrastructure. Refer to Annex B (Intelligence). Provide information on existing infrastructure, such as ports, factories, fuel and water sources, and lines of communications available to support friendly logistic and CSS operations.

d. (U) Attachments and Detachments. Refer to Annex A (Task Organization). List logistics and CSS units from other Services/nations attached to the force. List all Marine Corps logistic and CSS units detached to support other friendly forces.

e. (U) Assumptions. State realistic assumptions and consider the effect of current operations on logistic capabilities. Omitted in orders.

f. (U) Resource Availability. Identify significant competing demands for logistic resources where expected requirements may exceed resources. Include recommended solutions within resource levels available for planning, if any, and reasonably assured host-nation support.

g. (U) Planning Factors. Refer to and use approved planning factors and formulas, except when experience or local conditions dictate otherwise. When deviating from planning factors, identify the factors and the reason.

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2. (U) Mission. Provide the command's mission from the base order.
3. (U) Execution
 - a. (U) Concept of Logistics and Combat Service Support. State the concept for logistics and CSS operations necessary to implement the order or plan. Describe how the logistic and CSS assets will organize and position to execute the mission. The concept may include planned employment of other Service and nation logistic and CSS forces, host-nation support logistic capabilities, or operation of the lines of communications.
 - b. (U) Tasks
 - (1) (U) Assign logistic and CSS responsibilities to subordinate logistic organizations.
 - (2) (U) Identify and assign responsibility for logistics and CSS required from other commands, Services, or nations.
 - (3) (U) Identify and assign responsibility for logistics and CSS required for forces assigned or attached from other commands, Services, or nations.
 - (4) (U) Identify and assign responsibility for logistics and CSS required for Marine Corps forces assigned or attached to other commands, Services, or nations.
 - (5) (U) Assign responsibilities to support joint boards and committees, such as transportation and procurement and other Services or nations providing services.
4. (U) Administration and Logistics
 - a. (U) Logistics and Combat Service Support
 - (1) (U) Supply. Refer to Appendix 7 (Supply). Summarize the following, in coordination with supporting commanders and Service component commanders if different from standard planning factors. Place detailed discussions in the appendices and listings of supply depots, terminals, and lines of communications in tabs or the appropriate appendices.
 - (a) (U) Distribution and Allocation
 - 1 (U) Purpose, location, and projected displacement of main and alternate supply depots or points and supporting terminals and ports to use or consider.
 - 2 (U) Prepositioned logistic resource allocation.
 - 3 (U) Existing terminals and lines of communications and the known or estimated throughput capacity. Indicate the time-phased expansion necessary to support the plan.

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(b) (U) Level of Supply

1 (U) Indicate the time-phased operating and safety levels required to support the plan.

2 (U) Indicate the prepositioned war reserve materiel requirements to support the time-phased deployments pending resupply.

3 (U) Specify significant special arrangements required for materiel support beyond normal supply procedures.

4 (U) Indicate anticipated shortfalls.

5 (U) Indicate common user logistic supply support responsibilities and arrangements.

(c) (U) Salvage. Provide instructions for and identify the logistic impact of the collection, classification, and disposition of salvage.

(d) (U) Captured Enemy/Adversary Materiel. Provide instructions for the collection, classification, and disposition of enemy/adversary materiel. See Annex B (Intelligence) for further guidance. See Appendix 10 to Annex B (Intelligence) for specific instructions for the disposition of captured enemy/adversary cryptographic equipment.

(e) (U) Local Acquisition of Supplies and Services. See Joint Publication 4-01, *The Defense Transportation System*, and the current version of Department of Defense Instruction 1100.22, Policy and Procedures for Determining Workforce Mix.

1 (U) Identify acquisition of goods and services in the following categories:

a (U) The general categories of materiel and services available and contemplated as a supplement to regular sources.

b (U) Those used as emergency acquisition sources.

2 (U) Make a statement concerning the dependability of the local acquisition or labor source in each of the aforementioned categories and the joint or Service element that will obtain or manage these resources.

3 (U) State that all essential contractor services, to include new and existing contracts, have been reviewed to determine the services essential to OPLAN execution. Make a statement concerning the existence of contingency plans to ensure the continuation of these essential services.

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(f) (U) Petroleum, Oils, and Lubricants. Refer to Appendix 1 (Petroleum, Oils, and Lubricants Supply).

b. (U) External Support. Refer to Appendix 11 (External Support). Provide the required planning information including type and quantity of support and instructions where inter-Service and cross-Service arrangements for common supply and service support appear appropriate.

(1) (U) Summarize major support arrangements presently in effect or that will be executed in support of the plan.

(2) (U) Include significant inter-Service and cross-Service support arrangements. Refer to appropriate annexes or appendices.

(3) (U) Include foreign and host-nation support.

c. (U) Maintenance.

(1) (U) General. Refer to Appendix 12 (Maintenance).

(2) (U) Specific Guidance.

1 (U) Include sufficient detail to determine the requirements for maintenance facilities needed to support the plan.

2 (U) Indicate the level of maintenance to be performed and where it will occur including HN or contractor facilities, if applicable.

d. (U) Transportation

(1) (U) General. Refer to Appendix 4 (Mobility and Transportation). Provide general planning or execution guidance to subordinate and supporting organizations to facilitate transportation of the force and its sustainment. This can include movement and use priorities.

(2) (U) Mobility Support Force and Movement Feasibility Analysis. Provide an estimate of the mobility support and movement feasibility of the plan. Include in the analysis any appropriate remarks affecting mobility and transportation tasks.

Consider the availability of adequate lift resources for movements of personnel and equipment, airfield reception capabilities, seaport and aerial port terminal capabilities, and port throughput capabilities.

Also, consider any features that will adversely affect movement operations such as the effect of deployment or employment of forces and materiel on airfield ramp space (to include possible host-nation support).

e. (U) General Engineering Support Plan. Refer to Appendix 13 (General Engineering). State the rationale if Appendix 5 (Civil Engineering Support Plan) is not prepared. Indicate the general engineering support activities applicable to the basic OPORD or plan and the policies for providing these services.

f. (U) Health Services. Refer to Appendix 9 (Health Services).

g. (U) Services. Refer to Appendix 8 (Services).

h. (U) Mortuary Affairs. Refer to Appendix 2 (Mortuary Affairs) or, if not used, indicate the mortuary affairs activities applicable to the OPORD or plan and policy for providing these affairs.

i. (U) Ammunition. Refer to Appendix 6 (Nonnuclear Ammunition) or if not used, discuss any critical ammunition issues that may affect the ability of the force to accomplish the mission.

j. (U) Aviation Logistic Support. Refer to Appendix 10 (Aviation Logistic Support) or Annex D (Logistics/Combat Service Support) of the ACE OPORD or OPLAN. Discuss critical aviation logistic and CSS issues if they affect the ability of the force to accomplish the mission.

k. (U) Operational Security Planning Guidance for Logistics. Refer to Appendix 11 (Operations Security) to Annex I (Information). Provide comprehensive operations security planning guidance for planning, preparing, and executing logistic and CSS activities. At a minimum, address base, facility, installation, logistic stocks, physical, and line of communications security. Provide guidance to ensure logistic and CSS activities promote essential secrecy for operational intentions, capabilities committed to specific missions, and current preparatory operational activities.

(12) (U) Administration. Include general administrative guidance to support logistic and CSS operations for the basic OPORD or OPLAN. If reports are required, specify formats for preparation, time, methods, and classification of sub-mission.

5. (U) Command and Signal

a. (U) Command Relationships. Refer to Annex J (Command Relationships) for command relationships external to logistic units. Provide support relationships.

b. (U) Communications System. Refer to Annex K (Combat Information Systems) for

detailed communications and information systems requirements. Provide a general statement of the scope and type of communications required.

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ACKNOWLEDGE RECEIPT

Name
Rank and Service
Title

Appendices:

- 1–Petroleum, Oils, and Lubricants Supply
- 2–Mortuary Affairs
- 3–Sustainability Analysis
- 4–Mobility and Transportation
- 5–Civil Engineering Support Plan
- 6–Nonnuclear Ammunition
- 7–Supply Operations
- 8–Services
- 9–Health Services
- 10–Aviation Logistic Support (normally provided in the ACE plan or order.)
- 11–External Support
- 12–Maintenance
- 13–General Engineering
- 14–Operation Contract Support

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APPENDIX 1 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
CODE WORD) (U)
PETROLEUM, OILS, AND LUBRICANTS SUPPLY (U)

(U) REFERENCES:

- (a) (U) Joint Pub 4-03, Joint Bulk Petroleum and Water Doctrine
- (b) (U) DOD Manual 4140.25M, Management of Bulk Petroleum Products, Storage,
and
Distribution Facilities, Volume V
- (c) (U) MCWP 4-1, Logistics Operations
- (d) (U) MCTP 3-40B, Tactical Level Logistics
- (e) (U) MCRP 3-04B.5, Petroleum and Water Logistics Operations
- (f) (U) MCWP 4-12, Operational-Level Logistics

(U) TIME ZONE: ZULU

(U) TASK ORGANIZATION: See Annex A (Task Organization).

1. (U) Situation. The purpose of this Appendix is to provide information concerning the handling of POLs in support of MEF personnel.
 - a. (U) Enemy Forces. Refer to Annex B (Intelligence).
 - b. (U) Friendly Forces. Refer to Annex B (Intelligence).
 - c. (U) Infrastructure. Refer to Annex B (Intelligence).
 - d. (U) Attachments and Detachments. See Annex A (Task Organization).
2. (U) Assumptions.
 - a. (U) Host Nation (HN) will deliver POLs to locations per requirements identified within the Acquisition and Cross-Serving Agreement (ACSA) order.
 - b. (U) HN will accept and dispose of excess POLs and hazardous materials (HAZMAT).

c. (U) Modular Combined Petroleum Unit (MCPU), a NATO asset, will provide Class III theater sustainment.

3. (U) Planning Factors.

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- a. (U) Class III safety level is 3 DOS.
- b. (U) Class III (Packaged) will be ordered via Defense Logistics Agency-Energy (DLA-E).
- c. (U) Class III returned will incur a cost for disposal.
- d. (U) Cost for Class III will be per DLA-E pre-negotiated prices.
- e. (U) MEF will pay the HN via DLA-E for Class III.
- f. (U) Items shipped to locations in the HN must be received, accounted for, and stored by MEF personnel.

4. (U) Concept of Operations.

- a. (U) Type Fuel and Additives. Fuel for use in theater is F-34/JP8, Diesel 2 (DS2), and MOGAS. There are no additional additives required.
- b. (U) Inter and Intra-theater distribution concepts. HN will coordinate delivery of POLs to locations within the operations/exercise area. Quantities and dates to support MEF forces will be coordinated with U.S. Marine Corps Forces and the HN.
 - (1) (U) MCPU. The MCPU will be established and will conduct operational-level storage and distribution of Class III. The MCPU is designed to deliver at least 5 DOS of ground fuel.
 - (2) (U) MEF. MEF, in close coordination with U.S. Marine Corps Forces will register and coordinate delivery of Class III with the HN and MCPU, as required. Additionally, MEF will execute tactical-level storage and distribution of Class III in support of the organic exercise force. Tactical-level distribution includes ground and aviation fuel.
- c. (U) Amphibious Bulk Liquid Transfer System requirements. (Omitted)
- d. (U) Offshore petroleum distribution system (OPDS) requirements. (Omitted)
- e. (U) Inland petroleum distribution system (IPDS) requirements. (Omitted)

- f. (U) Console-capable tanker requirements. (Omitted)
- g. (U) Quality assurance and surveillance. MEF will oversee quality control of POLs.
- h. (U) HN support agreements or augmentation. Support from the HN will be via ACSA orders coordinated through U.S. Marine Corps Forces.

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- i. (U) Engineer construction support required. Tactical Fuel Systems will require MEF to use organic engineer support as required to build Class III storage areas.

5. (U) Responsibilities.

a. (U) MEF (G4)

- (1) (U) Oversee the POL support plan.
- (2) (U) Assist with coordinating Class III support with DLA-E, U.S. Marine Corps Forces (G4), HN, and MCPU.
- (3) (U) Assist with sourcing tactical fuel storage and distribution equipment from home station and Marine Corps Prepositioning Program.

b. (U) MLG

- (1) (U) Serve as the MEF POL manager responsible for designing, implementing, and managing the POL support plan.
- (2) (U) Receipt, maintain, and turn-in equipment required to establish tactical fuel storage locations with MEF.
- (3) (U) Conduct tactical fuel storage and distribution of Class III.
- (4) (U) Maintain at least 3 DOS on-hand capacity of Class III.
- (5) (U) Develop and submit a concept of inland Class III distribution to MEF (G4).
- (6) (U) Provide fuel quality assurance and testing support in coordination with MEF (G4).
- (7) (U) Coordinate distribution of Class III with MAW, MARDIV, and subordinate commands/elements.
- (8) (U) Consolidate Class III support requirements and reporting documentation and submit to MEF (G4).

(9) (U) Submit requests for HN and MCPU Class III support to MEF (G4).

c. (U) MARDIV

(10) (U) Coordinate Class III requirements for storage and delivery with MLG (FWD).

(11) (U) Develop a concept of inland Class III distribution.

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(12) (U) Maintain at least 3 DOS on-hand capacity of Class III.

(13) (U) Order Class III (Packaged) via DLA-E.

(14) (U) IAW MEF (G4) reporting procedures, provide estimates of Class III requirements and availability to MLG (FWD).

d. (U) MAW

(1) (U) Coordinate Class III requirements for storage and delivery with MLG (FWD).

(2) (U) Establish and maintain forward arming and refueling points (FARPs) as required.

(3) (U) Order Class III (Packaged) via DLA-E.

(4) (U) Coordinate Class IIIA with the HN via MEF.

(5) (U) IAW MEF (G4) reporting procedures, provide estimates of Class III requirements and availability to MLG (FWD).

e. (U) All Subordinate Commands/Elements

(1) (U) Coordinate Class III requirements for storage and delivery with MLG (FWD).

(2) (U) Develop and submit a concept of inland Class III distribution to MLG (FWD).

(3) (U) Order Class III (Packaged) via DLA-E.

(4) (U) IAW MEF (G4) reporting procedures, provide estimates of Class III requirements and availability to MLG (FWD).

6. (U) Limiting Factors.
- a. (U) Limited resources will be available to store and distribute Class III during deployment and redeployment operations.
- b. (U) Storage and distribution within the HN is subject to weather conditions and civilian traffic.

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APPENDIX 2 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
CODE WORD) (U)
MORTUARY AFFAIRS (U)

(U) REFERENCES:

- (a) (U) HSS Theater Smartpack
- (b) (U) DODI 2205.02, Humanitarian and Civic Assistance (HCA) Activities, 23 Jun 14
- (c) (U) DODI 3002.03, DOD Personnel Recovery - Reintegration of Recovered Personnel, 26 Apr 16
- (d) (U) DODI 3000.05, Stability Operations, 16 Sep 09
- (e) (U) DODD 6000.12E, Health Services Support, 3 Oct 13
- (f) (U) DODD 6200.04, Force Health Protection, 23 Apr 2007
- (g) (U) DODD 6205.02, Policy and Program for Immunizations to Protect the Health of Service Members and Military Beneficiaries, 19 Sep 2006
- (h) (U) DODD 6490.02E, Comprehensive Health Surveillance (NCMI), 3 Oct 13
- (i) (U) DODI 6490.05, Maintenance of Psychological Health in Military Operations, 2 Oct 13
- (j) (U) DODI 6480.04, Armed Services Blood Program Operational Procedures, 2 Oct 13
- (k) (U) DODI 6000.11, Patient Movement, 22 Jun 2018
- (l) (U) AFJH 44-152 (TM 8-227-12, NAVMED P-6530, AFH44-152_IP), Armed Services Blood Program –Joint Blood Program, 1 DEC 2011
- (m) (U) MCWP 4-11.1, Health Service Support Operations, 10 Dec 2012
- (n) (U) Army Regulation 638–2, Casualty and Mortuary Affairs Army Mortuary Affairs Program, 28 Nov 2016
- (o) (U) JP 4–06, Joint Mortuary Affairs, 12 Oct 2011
- (p) (U) DODD 1300.22E DoD Directive Mortuary Affairs Policy

1. (U) Situation. Leading up to, during the conduct of, and following the operation,

the losing unit commander is responsible for the recovery, accountability, and evacuation of the unit's deceased personnel.

a. (U) Enemy. Refer to Annex B, Intelligence.

b. (U) Friendly.

(1) (U) Refer to Annex A.

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(2) (U) USAR is responsible for theater mortuary affairs.

(3) (U) MARFOR is responsible for initiating contact and coordination with USAR.

2. (U) Mission. See base order.

3. (U) Execution

a. (U) Concept of Operations. The concept of mortuary affairs will first maximize MEF organic assets for the rapid repatriation of remains and, if all other avenues are exhausted, leverage the use of existing host nation and civilian agency systems and resources. Losing units will recover remains, transport the deceased to the nearest CSSA, and arrange follow-on movement to the MEF collection point, ensuring the remains are appropriately escorted throughout. CSSA 1 will be the MEF mortuary affairs collection point due to establishment of a STRATLIFT hub. The losing unit is responsible for the initial recovery of the deceased; should civilian agencies be leveraged, the losing unit shall transport the deceased to the first trafficable route accessible by assigned HNS IOT transfer the remains for follow-on transport. The losing unit is required to accompany the remains from initial recovery, through the transfer to supporting unit or HN transportation and medical agencies, and until properly relieved by follow-on authorities for transfer back to CONUS per ref (c). Mass casualty event escorts can be facilitated by an appropriate quantity of unit representatives at a less than one-to-one ratio. Contaminated remains shall be recovered only after the appropriate authorities declare the recovery site safe with requisite PPE, and all efforts will be made to mitigate the contaminant in order to facilitate return through routine mortuary channels. Contaminated remains, once tested at the recovery site, will be handled and transported in accordance with CBRNE procedures. Reports from losing units will include any suspicions of contaminated remains and confirmed contamination findings in order to source and allocate appropriate resources. If necessary, contaminated remains that still pose a threat to public health shall be placed in temporarily interment until safe handling procedures are identified; health of service members must take precedence over rapid repatriation of remains. Authority for temporary interment resides with the geographic

Combatant Commander. CJFMCC is the Executive Agent for the search and recovery of remains at sea in the CJFMCC AO.

b. (U) Tasks:

(1) (U) MLG

(a) (U) BPT establish, operate, and maintain mortuary and holding facilities.

(b) (U) BPT to support the preparation and aerial evacuation of remains.

(c) (U) BPT participate in the activation and staffing of the Joint Mortuary Affairs Office (JMAO), and the establishment of subordinate JMAOs if necessary.

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(2) (U) All Subordinate MEF Organizations

(a) (U) Coordinate with MEF for reporting requirements via MEF G-1, coordinating instructions via MEF G-4, and other appropriate guidance via MEF G-3 and MEF COC.

(b) (U) BPT transport, or coordinate the transportation with adjacent military and civilian units, of the deceased to the MEF STRATLIFT hub.

(c) (U) Establish and operate unit collection points, field processing centers, and personal effects depots to facilitate repatriation of remains.

(d) (U) BPT escort the deceased until proper custody transfer occurs per the references.

(e) (U) Ensure all personnel understand the COMMSTRAT talking points when discussing any incident resulting in deceased military personnel and civilian personnel.

(f) (U) Immediately seek guidance from MEF on authorized responses and statements when an incident occurs.

(g) (U) BPT coordinate Search and Recovery (S&R) operations with MEF and ensure members of S&R teams are familiar with the appropriate forms, have personal protective equipment, and procedures associated with conducting S&R. Commanders at all levels are responsible for the search and recovery of remains of coalition military personnel, coalition non-combatants, US DOD/coalition civilians, and coalition contractors within the AO.

(h) (U) BPT investigate, mitigate, and determine extent of contamination level for contaminated remains.

(i) (U) BPT facilitate host nation notification and host nation control of civilian and enemy combatant human remains.

c. (U) Coordinating Instructions.

(1) (U) The losing unit will be responsible for reporting, movement to a trafficable route, transfer to civilian HNS if necessary, and escorting of deceased.

(2) (U) While transporting deceased, ensure the deceased is properly covered and out of sight. Vehicle commanders must obstruct all view of the deceased while transporting to the most trafficable route.

(3) (U) Should a transfer of the deceased occur, ensure the deceased is cared for and transferred in a respectable manner and covered.

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(4) (U) Escorts will ride within the same vehicle as the deceased, to include civilian HNS. If riding in the same vehicle is not permitted or possible, the escort will follow in an organic asset.

d. (U) Civilian Deceased.

(1) (U) Upon an incident causing death, the witnessing unit will report it as soon as possible in order to receive the authorized responses and talking points regarding the incident.

(2) (U) When a unit witnesses a death of a civilian, they will maneuver their vehicles to obstruct the view of the deceased if possible.

(3) (U) MEF personnel will gain control of the incident site to ensure there is no frustration of the site until HNS arrive and takes control of the site and deceased.

(4) (U) MEF personnel are authorized to assist HN authorities as required for directing traffic around incident site until the HN has the capacity to execute traffic control.

(5) (U) MEF personnel are not permitted to transport host nation civilian deceased.

e. (U) Evacuation Operations. Once human remains, portions, and disassociated effects have been tagged, the human remains should always be:

- (1) (U) Carried feet first.
- (2) (U) Treated with dignity, reverence, and respect.
- (3) (U) Loaded head first onto fixed-wing aircraft.
- (4) (U) Loaded feet first onto vehicles or rotary-wing aircraft.
- (5) (U) Escorted to the most convenient Mortuary Affairs facility.

f. (U) Enemy Combatants. When possible, locations of human remains, portions, and disassociated effects of enemy combatants will be relayed to the host nation for host nation action.

4. (U) Administration and Logistics.

5. (U) Personal Effects

a. (U) The personal effects of the deceased personnel will be inventoried and cared for by the losing unit. This inventory will be documented by item type and quantity utilizing two personnel IOT ensure two-person integrity of personal effects.

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b. (U) Personal effect movement and shipment will be coordinated via the chain of command with MEF G4.

6. (U) Command, Control, and Communications and Computers. Refer to Base Order.

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APPENDIX 3 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
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SUSTAINABILITY ANALYSIS (U)

(U) REFERENCES:

(a) (U) MEF TACSOP

1. (U) Situation. See Base Order. This appendix provides general guidelines regarding the planning, directing, and assessing of logistics operations for MEF in execution of a forward deployed, non-garrison environment. The intent is to identify and highlight any significant differences between required operational capabilities based on mission analysis and the force capability requirements provided in the mission requirements via an approved OPORD.

a. (U) Enemy Forces. Refer to Annex B (Intelligence).

b. (U) Friendly Forces. Refer to Annex A.

2. (U) Mission. See Base Order.
3. (U) Execution.
 - a. (U) Commander's Intent. This appendix describes sustainability considerations to support MEF units.
 - b. (U) Concept of operations.
 - (1) (U) Forecasting. The MEF Supply Officer, with assistance from functional area SMEs, will develop forecasts on all classes of supply based on pre-deployment assessments, theater specific requirements, and projected shortfalls. Submit forecasted material requirements to the LCE to coordinate sustainment support through the Marine Corps' Supply System while deployed.
 - (2) (U) Planning. As required, MSC/Es provide an equipment distribution plan by unit, quantity, and POC for each unit to MEF G-4 Supply.
 - (a) (U) MSC/Es, or using units, will receipt/account for equipment.
 - (b) (U) All units will ensure 100 percent supply accountability of personnel, weapons, optics, and key management infrastructure, and any other high-values items.

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(c) (U) Classes of Supply Planning Factors (Table 1):

Class of Supply	Description	Planning Factors
Class I	Subsistence (Food/Water)	30 DOS at ISB 15 DOS at CSSA
Class II	Individual Combat Equipment	Will Deploy with required equipment per the issued gear list.
Class III	Petroleum Supplies	30 DOS at ISB 15 DOS at CSSA
Class IV	Construction and Barrier Material	30 DOS tied to projected theater requirements
Class V	Ammunition	30 Days of Ammunition (DOA) based on projected expenditure rate and storage capability
Class VI	Personal Demand	Individual Marine deploys with hygiene necessities. Sustainment coordinated via LCE.
Class VII	Principle End Items	Validated by HQMC and sourced from MEF based on Mission, Enemy, Terrain, and Time (METT)

Class VIII	Medical/Dental Supplies	30 DOS at ISB 15 DOS at CSSA (less blood)
Class IX	Repair Parts	Based on Class VII on hand and storage capacities

Table 1: Classes of Supply Planning Factors

(3) Supply Systems.

- (a) (U) Supply System Requirements. Use automated logistics systems to request supplies, movement of people and things, and services.
- (b) (U) Particular attention to Marine Corps Automated Readiness Evaluation System (MARES) Reportable items.
- (c) (U) Pay particular attention to Mission Essential Equipment Reportable items.
- (d) (U) Maintenance. The policy of MEF is to promote maintenance discipline through a team effort with input from operators, maintainers, and supervisors. Maintenance is continuous and accomplished at all levels of command throughout all phases of

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operations and training. All maintenance conducted will be performed IAW current technical publications, the authorized echelon of maintenance according to the T/O&E, and will be documented on appropriate forms and reports.

- 4. (U) Administration and Logistics
 - a. (U) Administration. See Annex E (Personnel).
 - b. (U) Logistics. See Annex D (Logistics / Combat Service Support).
- 5. (U) Command and Signal
 - a. (U) Command. See Annex J (Command Relationships).
 - b. (U) Signal. See Annex K (Communications Plan).

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APPENDIX 4 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
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MOBILITY AND TRANSPORTATION (U)

(U) REFERENCES:

- (a) (U) MEF Operation Order
- (b) (U) CJCSM 3122.02D, JOPES Volume III, CJSC Manual for Force Deployment Planning and Execution Volume III (FDP&E) 1 Apr 11
- (c) (U) DOD 4500.9-R Part III, Defense Transportation Regulations, Mobility, Mar, 2018
- (d) (U) DOD 4500.9-R Part VI, Defense Transportation Regulations, Management and Control of Intermodal Containers, May 2018
- (e) (U) Joint Pub 3-17, Air Mobility Operations, 30 September 2013

- (f) (U) Joint Pub 4-09 Distribution Operations, 19 December 2013
- (g) (U) Joint Pub 4-01.8, Joint Tactics, Techniques and Procedures for Reception, Staging, Onward Movement and Integration (RSO&I), 13 June 2000
- (h) (U) Joint Pub 4-07, Joint Tactics, Techniques and Procedures for Common User Logistics during Joint Operations, 11 June 2001
- (i) (U) MCDP 4, Logistics, 21 February 97
- (j) (U) MCWP 3-40, Logistics Operations, 02 May 2016
- (k) (U) MCTP 3-40C, Operational-Level Logistics, 02 May 2016
- (l) (U) MCTP 3-40F, Transportation Operations, 02 May 2016
- (m) (U) MCWP 5-10, 02 May 2016

1. (U) Concept of Mobility and Transportation Operations

a. (U) MAGTF Deployment and Distribution Operations Center (MDDOC)

(1) The MDDOC interacts with the Theater Logistics Task Force and the host nation (HN) concerning the use of terminals and highway management. The MDDOC is the single in-theater transportation manager for all MEF forces and is responsible for ensuring inter- and intra-theater transportation complements the strategic flow of forces and enables an efficient theater distribution system. The MDDOC performs functions identified in reference (b) and provides redeployment planning and TPFDD inputs when tasked by the COCOM.

(2) (U) The MDDOC is the MEF senior mobility and movement coordination agency. The MEF MDDOC consists of four elements: MMCC, strategic air and surface (sea) mobility sections (to include Prepositioning), Force Deployment Planning and Execution (FDP&E) section and distribution management section who are all responsible for

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coordination with higher and external commands and agencies regarding inter and intra-theater transportation requirements, priorities, and allocation of resources. The MDDOC is the single control organization for all MEF deployment and redeployment movement support activities. The MMCC, strategic air and surface (sea) mobility sections, and distribution management section are headquartered and embedded in the MDDOC (FWD).

b. (U) MAGTF Movement Control Center (MMCC). The MMCC coordinates and controls intra-theater ground movement for MEF and serves as the “central clearing house” for all MEF transportation requests submitted by MSCs. The MMCC has authority to task MSCs for transportation assets and personnel. MMCC responsibilities include:

(1) (U) Controlling all logistical and administrative ground movement on MSRs and ASRs in the MEF AO.

(2) (U) Receiving and consolidating daily ground movement requirements (organic ground convoy) submitted by MSC Unit Movement Control Centers (UMCCs) via Ground Transportation Requests (GTRs); de-conflicting registered ground movements with tactical maneuver operations via transportation working group; publishing a daily Ground Transportation Order (GTO) and ensuring compliance with it.

(3) (U) Clearing convoys for approved movements and providing necessary information for daily convoy briefs. Relevant information includes road hazards, enemy, tactical radio frequencies, diversion instructions, and strip maps that include theater Traffic Control Points (TCPs) and Check Points (CPs).

(4) (U) Coordinating changes to scheduled movements due to emergent requirements.

c. (U) Air and Surface (sea) Mobility Section. The Air and Surface Mobility section coordinates the strategic deployment and redeployment of all MEF forces. The Air and Surface Mobility section responsibilities include:

(1) (U) Operational control of the MAGTF deployment support agencies providing RS&O movement and throughput of MAGTF personnel, supplies, and equipment. These agencies include, but are not limited to:

(a) (U) Arrival/Departure Airfield Control Groups (A/DACGs)

(b) (U) Port Operations Groups (POGs)

(c) (U) Beach Operations Groups (BOGs)

(d) (U) Distribution Liaison Cells (DLCs)

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(2) (U) Production and control of the MEF mobility Schedule of Events (SOE). The MDDOC OIC reviews and approves all changes to the mobility SOE.

(3) (U) Coordination for and execution of all MEF inter-theater (strategic) transportation requirements and intra-theater air and sealift requirements.

(4) (U) Transmitting requests for both inter and intra-theater airlift and sealift for action.

d. (U) Force Deployment Planning and Execution (FDP&E) Section. The FDP&E section exercises overall staff cognizance on all matters pertaining to force deployment planning and execution; ensuring that TPFDD for MEF forces is generated to support CCDR requirements and Service initiatives to include exercises and force development. FDP&E involves several functional areas across multiple levels of command,

and requires a total unity of effort in planning the deployment and redeployment of the force and effectively managing execution. Main functional areas include:

- (1) (U) MAGTF plans/Joint Operations Planning and Execution System (JOPES)
- (2) (U) Global Force Management (GFM)
- (3) (U) Deployment and distribution
- (4) (U) Supply and sustainment
- (5) (U) War Reserve Requirements Program (WRRP)
- (6) (U) Personnel

e. (U) Distribution Management Section. The Distribution Management Section coordinates with supporting agencies, adjacent and HHQ for MAGTF distribution support to enable the rapid throughput velocity of sustainment materiel throughout the enterprise distribution pipeline. Their responsibilities include:

- (1) (U) Serve as the ITV coordinator for the MAGTF.
- (2) (U) Manage distribution Automated Information Systems/Technology (AIS/AIT) within the MAGTF.
- (3) (U) Establish, coordinate and monitor USTRANSCOM commercial carrier Next Generation Delivery Services (NGDS), International Heavyweight Air Tenders (IHAT) support.
- (4) (U) Monitor and coordinate, as necessary, Defense Logistics Agency (DLA) transportation efforts, including the establishment of theater consolidated shipping points

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(TCSP).

- (5) (U) Monitor and identify distribution networks disruptions, analyze issue and develop rapid and efficient solutions.

f. (U) Unit Movement Control Centers (UMCC). MEF MSCs and their respective major subordinate elements (MSEs--Regiments, Air Groups, Battalions, Squadrons, and separate detachments and companies) establish UMCCs. MSE UMCCs coordinate transportation and movement requirements with their respective MSC UMCC. MSC UMCCs coordinate transportation and movement requirements beyond the commands' organic capabilities with the MMCC by submitting TMRs. Additionally, MSC UMCCs

register administrative and logistical movement requirements with MDDOC via submission of a GTR. Following are MSC UMCC responsibilities:

- (1) (U) Planning, coordination, and execution of intra-theater movement for the MSC/MSE.
- (2) (U) Provision of transportation support to external organizations as tasked by the MDDOC.
- (3) (U) Requesting convoy clearance via the MDDOC for all MSC administrative and logistical convoys/ground movement not requiring external support or resources via submission of a GTR.
- (4) (U) Requesting transportation support beyond MSC organic capabilities submission of a Transportation Movement Request.
- (5) (U) Execution of the GTO as related to that respective MSC. UMCC's report movement commencement and completion to the MDDOC, as required.

g. (U) Distribution Liaison Cells (DLC). The DLCs are distribution elements manned by the LCE. DLCs are task organized and structured to perform various tasks at ports of embarkation/debarkation or Forward Operating Areas, to include but not limited to providing support forward deploying MAGTFs. Roles and responsibilities of the DLC are to:

- (1) (U) Establish and manage freight operations.
- (2) (U) Synchronize operational, tactical, and sustainment distribution.
- (3) (U) Maintain asset visibility for sustainment cargo.
- (4) (U) Coordinate the receiving, shipping, and delivery of materiel to and from supported units.
- (5) (U) Coordinate the shipment and retrograde of personal effects and baggage of

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medically evacuated, emergency leave, or other special category personnel.

- (6) (U) Coordinate materiel transshipment to supported units.
- (7) (U) Coordinate preservation, packing, packaging and marking (P3&M) operations.
- (8) (U) Certify HAZMAT for shipment.

(9) (U) Movement Control Meetings.

h. (U) Transportation Working Group (TWG). The TWG meets daily and is co-chaired by the MEF MAGTF Distribution Officer (MDO) and G3 Current Operations Officer (COPs). It is facilitated by the MMCC Officer-in-Charge (OIC) and/or Chief. Membership include representatives from G1, G-2, G-3 Current Operations and Air Officer, G-4 MDDOC, MMCC, Operations, Engineers, liaison officers (LNOs) from each of the MEF MSCs, adjacent/supporting commands, Anti-Terrorism/Force Protection, and Civil Affairs. The TWG identifies and prioritizes movement above the MSCs organic capability according to the MEF commander's priorities. The TWG reviews movement requests per the following method:

(1) (U) Reviews previously scheduled requirements, emergent requirements, in-progress transportation actions, and mobility issues affected by maintenance, enemy activity, friendly forces activity, and road hazards.

(2) (U) Confirms movement requirements for the next 24 hours.

(3) (U) Reviews movement requirements for the next 48 hours.

(4) (U) Validates movement requirements for the next 96 hours.

b. (U) Deployment Operations Team (DOT). The DOT meets twice a week and is chaired by the MEF MDDOC OIC. It is facilitated by the force deployment officer and/or chief. Members include representatives from G-1, G-33, G-37, FDP&E, G-4 MDDOC, MMCC, Operations, LNOs from each of the MEF MSCs, adjacent/supporting commands, and HN LNO. The DOT

focuses on deployment and redeployment planning and execution across functional areas of MEF in support of GFM requirements and DFTs. The DOT synchronizes unit/individual movements for max utilization of lift that supports optimal timelines and throughput per the following method:

(1) (U) Verify TPFDD with associated SSDM data, load plans, and transportation request.

(2) (U) Confirm inter- and intra-theater movement requirements.

(3) (U) De-conflict arrivals/departures at PODs/POEs.

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2. (U) Movement Control System and Required Documents

a. (U) Transportation Capacity Planning Tool. TCPT is a USMC approved web-based software application for transportation management and is the primary MEF ground transportation management system of record and will be the driving tool for all ground movement documentation. Transportation movement requests (TMR) and Ground Transportation Requests (GTR) will only be accepted via TCPT except for rare occasions where the requestor cannot access TCPT. In the event TCPT is down for an extended period (24 or more hours) or during a critical TMR/GTR submission event, MMCC may authorize the use of official or other tertiary means as a backup method for requesting support. The following are the documents generated by TCPT.

b. (U) Transportation Movement Request (TMR). The TMR is used to request transportation support above a MSC's organic capability. MSC UMCCs will complete the TMR and submit it to the MMCC for sourcing. The MMCC will attempt to provide support with MEF assets. If required, the MMCC will forward TMRs not supported by MEF assets (via the MDDOC) to theater and/or HN support via Logistics Functional Area Services (LOGFAS) to the JLSG.

c. (U) Ground Transportation Request (GTR). The GTR is used to request logistics ground movement in the MEF AO. UMCCs and external organizations requesting to move in the MEF AO will prepare and submit GTRs to the MMCC.

d. (U) Ground Transportation Order (GTO). Prepared by the MMCC, the GTO depicts all approved and pending approval ground movement within the MEF AO for a given day. GTO is posted to the MMCC SharePoint and is a "living document." As a living document, the GTO is subject to frequent updates and changes, necessitating constant monitoring by UMCCs.

e. (U) Assault Support Requests (ASRs). Use ASRs to request Marine air support.

f. (U) Air Movement Requests (AMRs). Use AMRs to request Army air support.

g. (U) Joint Movement Requests (JMRs). Use JMRs to request Air Force air support.

h. (U) NATO Movement Requests (NMRs). Coordinate NMRs LOGFAS.

3. (U) Concept of Deployment. Force deployment will be time-phased to meet operational requirements. RSO will be conducting in accordance with the below guidance.

a. (U) MEF deploys from CONUS to the COCOM Area of Operations (AO) via United States Transportation Command (USTRANSCOM) aircraft and ships. Strategic sealift is the rule for deployment of supplies and equipment into and out of theater. Strategic airlift of supplies and equipment is by exception and only considered when the cargo is justified as critical low-density and time-sensitive. Strategic airlift is the primary means for personnel deployment into and out of theater. Force deployment is time-phased through the Joint Operation Planning and Execution

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System (JOPES) to meet operational requirements with a balanced, combat-capable and sustainable force. Established JOPES business rules and theater policies are utilized for all strategic movements and for intra-theater movements synchronized with strategic movements (Single Ticket Program (STP)).

b. (U) MEF coordinates the CONUS movement and embarkation of deploying forces and the in-theater reception, staging, and onward movement (RS&O) of arriving forces. Additionally, MEF plans and coordinates intra-theater movement. Movement occurs via airlift using either organic MEF or externally sourced assets. All movement in MEF's AO and between the deployment/redeployment nodes is tightly controlled. To control and coordinate movement, MEF operates one movement coordination agency: the MAGTF Deployment and Distribution Operations Center (MDDOC), which coordinates/controls all inter and intra-theater air and sealift to and from the HN as well as all ground movements in the country.

4. (U) Movement Support.

a. (U) Transportation Prioritization. Validate all transportation requirements and establish priority of use of assets assigned or allocated based on the MEF Commander's priorities.

(1) (U) Air and Surface Liaison Elements (A/SLEs) are MAGTF agencies and are OPCON to the MDDOC dependent upon GEO location.

(2) (U) As required, MSCs will provide A/SLE drivers, equipment operators, embarkation, and other key personnel IAW references (n) and (p).

(3) (U) MSCs will register all administrative and logistical ground movement via GTR and comply with the daily GTO.

(4) (U) MSCs will maximize use of organic MSC transportation capability.

(5) (U) As required, MSCs will provide motor transport, maintenance, MHE, and MHE operator support to other MEF MSCs when tasked by the MDDOC.

b. (U) Intra-Theater transportation

(1) (U) Intra-Theater Air. MAGTF Aviation is the primary source of intra theater airlift. If MAGTF aviation cannot support a requirement, submit an AMR/JMR to the MDDOC for external sourcing. Submit AMR/JMRs in support of contingency operations NLT 96 hours before the Earliest Arrival Date (EAD). Submit AMRs/JMRs in support of non-contingency operations NLT eight days before the EAD. Requests submitted inside deadlines require general officer approval.

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(2) (U) Intra-Theater Sealift. Sealift is the primary means of long haul cargo movement and distribution throughout the AO, and may also be requested through the MDDOC IOT supplement ground transportation. MDDOC will utilize LOGFAS IOT submit requisitions to the HN for intra-theater sealift.

(3) (U) Ground Transportation. Traffic control points, maintenance collection points, refueling points, and other checkpoints may be established as necessary to support MSC movement.

1 (U) Report locations to the MDDOC.

2 (U) Report road hazards, enemy activity, and friendly activity on the MSRs and ASRs obtained during convoy commander debriefs after each mission.

(4) (U) Maximize Cargo Unitization. Unitization refers to containerization, palletization, and mobile loading of supplies and equipment to reduce lift foot print and break-bulk or stand-alone cargo.

c. (U) Seaports and Sealift Operations

(1) (U) Pilsner Port is the strategic seaport for cargo deployment and redeployment operations of MEF forces. Pilsner Port is primarily used by commercial services that support sustainment operations. Stout Port will serve as an alternate strategic seaport.

(2) (U) Surface Deployment and Distribution Command (SDDC) is the sealift manager for all SDDC provided sealift for operations.

(3) (U) Ale Port is the strategic seaport of all CONUS amphibious ship deployments and redeployments for LPD and LSD class ships as well the T-AVB and the alternate strategic seaport.

(4) (U) Lager and Pale Ports are the commercial seaports for liner deployments and re-deployments and will serve as strategic ports for amphibious vessel and T-AVB deployments and re-deployments.

(5) (U) Sour Port is the strategic seaport for Maritime Prepositioning Operations.

(6) (U) Farmhouse Port is the commercial seaport for amphibious ships wash down and backload operations.

(7) (U) Red beach is a suitable landing zone for all ship-to-shore, MPF, and amphibious operations.

d. (U) Airports and Airlift Operations

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(1) (U) All personnel deploying via strategic airlift from CONUS will fly out of MEF established APOEs: MCAS Cherry Point or MCAS Beaufort.

(2) (U) Smithville and Rockport are the strategic APOE/Ds and Interim Location (ILOC) for intra-theater strategic movement for personnel deployment and redeployment operations. Follow-on movement to final destination will be via inter-theater [Single Ticket Program (STP)]

e. (U) Deployment and Redeployment Air Flow. The STP is used for the deployment and redeployment of MEF passengers (PAX) except cargo custodians accompanying deploying supplies and equipment. Air Mobility Command (AMC) and Combined Force Air Component Command's (CFACC) Air Mobility Division (AMD) coordinate inter-theater and intra-theater flights so that both legs of air movement are synchronized creating a movement. PAX are TPFDD'd to their final destination. PAX arrive in theater for initial reception, briefing, and preparation for onward movements. Dwell times are at or about 24 hours, but should not exceed 48 awaiting movement. PAX awaiting onward movement are provided temporary life support facilities. The redeployment of PAX reverses this process. PAX movement from strategic APOE to operational APOD is scheduled and validated via the JOPES movements published by newsgroup. AMC's Tanker and Airlift Control Center (TACC) coordinates the inter-theater portion of the STP movement, which is visible in JOPES and IGC/IDE. The MDDOC sends STP Unit Line Numbers (ULN's) by newsgroup notifying AMD that TACC is synchronizing an STP movement.

(1) (U) Air Liaison Elements (ALE). MEF ALEs are OPCON to the MDDOC. A/DACG's at each APOE/D are OPCON to the ALE at the respective nodes. In addition to operations of the A/DACG, the ALE ensures all measures necessary to receive incoming passengers and cargo are taken and that onward movement is coordinated and ready execution. For outgoing passengers and cargo, the ALE ensures all measures necessary for embarkation are completed, to include completion of all inspections, manifesting, load planning, briefings, and coordination for life support for personnel awaiting embarkation.

(2) (U) Arrival/Departure Airfield Control Group (A/DACG). The MEF A/DACG elements interface with air terminal operations, HN representation, allied transportation agencies, Contingency Response Element (CRE), Mission Support Team (MST), or other entities to receive incoming passengers and cargo at an APOE/D. After reception, the ALE

manages the movement of the passengers/ cargo off of the airfield, stages them and coordinates their movement to forward locations via the local UMCC. A/DACG's are OPCON to MEF Air Liaison Elements (ALE's) that are assigned to APOE/D's.

(3) (U) Host Nation (HN) Transportation Support. MSC will maximize the use of organic capabilities prior to requesting HN support. If required, the MDDOC via MMCC will coordinate HN support through submitted TMRs. HN transportation support request will be submitted utilizing LOGFAS to the TF Support.

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5. (U) Ports

a. (U) Airports. MEF will use Smithville and Rockport as the primary aerial ports of debarkation/embarkation (APOD/E). Orland will be the alternate APOD/E.

b. (U) Seaports. MEF will use Porter and Witbier as the primary sea ports of debarkation/embarkation (SPOD/E) operations.

c. (U) Inland Ports and Terminals.

6. (U) Rail. All rail operations will be coordinated by MEF MDDOC.

7. (U) Responsibilities of Supporting and Subordinate Commands

a. (U) Tasks

(1) (U) Marine Logistics Group (MLG)

(a) (U) Provide ground transportation support to MEF forces in the theater of operations.

(b) (U) Provide a port operations group (POG) at the port of Porter for the deployment of CONUS based sealift cargo deploying o/o after the MDDOC coordinates the commercial booking.

(c) (U) Provide a POG at seaports of debarkation (SPODs) of Limbic, Saison, Bock, and Dunkel for the deployment and re-deployment of all strategic sealift cargo and the intra-theatre sealift movement.

(d) (U) O/O, provide a POG at port of Barley (primary), Kolsch (alternate), IOT support the Task Force via watercraft.

(e) (U) O/O, provide railhead operations group (RHOG) at Stoneburg rail terminal IOT support the Task Force via railway.

(f) (U) O/O, provide a POG at the port of Helles IOT support the Task Force via watercraft.

(g) (U) O/O, Provide a beach operations group (BOG) at Dubbel ISO in-stream off-load operations.

(h) (U) Provide an Arrival/Departure Airfield Control Group (A/DACG) at the aerial ports of embarkation and debarkation (APOE/D) at Tripel.

(i) (U) Provide MAGTF Materiel Distribution Center (MMDC) and P3&M

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capabilities at Tripel.

(j) (U) Provide Distribution Liaison Cells (DLCs) as required to ensure the timely and accurate flow of material and personnel throughout the AO.

(k) (U) Establish and operate a MLG UMCC and establish subordinate UMCCs, as required, to perform movement coordination and control.

(l) (U) Provide qualified Preventive Medicine Teams (PMT) to U. S. Treasury Department Customs inspectors to conduct USDA agriculture and customs inspections of outgoing personnel baggage and cargo, as required. When operating at a POE, PMTs and Customs inspectors are OPCON to the A/SLEs operating at that port.

(m) (U) BPT provide additional BOGs, POGs, and RHOGs not listed above. When established, these groups are OPCON to the MDDOC.

(n) (U) Keep in place the CLC21 A/DACG capability currently operating at MCAS Cherry Point.

(o) (U) Provide in-transit/asset visibility (ITV/AV) and movement reports of MEF cargo and equipment as required.

(2) (U) Marine Air Wing (MAW)

(a) (U) Establish and operate a MAW UMCC and establish subordinate UMCCs, as required, to perform movement coordination and control.

(b) (U) Provide an Arrival/Departure Airfield Control Group (A/DACG) at the aerial ports of embarkation and debarkation (APOE/D) at location.

(3) (U) Marine Division (MARDIV)

- (a) (U) Establish and operate a DMCC and establish subordinate UMCCs, as required, to perform movement coordination and control.
- (b) (U) Establish and operate TMCC in Division battlespace to coordinate movement control.
- (4) (U) MEF Information Group (MIG). Establish and operate a MIG UMCC and establish subordinate UMCCs, as required, to perform movement coordination and control.
- (5) (U) MEF Support Battalion (MSB). Establish and operate a MSB UMCC to perform movement coordination and control.

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8. (U) Capabilities and Limiting Factors

- a. (U) Intra-theater sealift, organic and external ground transportation, and organic and external fixed and rotary wing assets maximize MEF mobility, agility, and sustainment throughout deployment.
- b. (U) MEF and external movement control agencies coordinate actions to maximize the capabilities of the road networks and all intra-theater lift and minimize congestion in staging areas and along the MSRs and ASRs.
- c. (U) Port staging capacity and throughput is dependent on the host nation.

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TAB:
A – MAGTF Movement Control

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TAB A TO Appendix 4 to ANNEX D TO OPERATION ORDER OR PLAN (Number)
(Operation CODE WORD) (U)
MAGTF MOVEMENT CONTROL PROCEDURES (U)

(U) REFERENCES:

- (a) (U) MEF Operation Order 0001-01
- (b) (U) MEF 11240 Motor Transport SOP
- (c) (U) MCO 5100.19E Traffic Safety Program (DRIVESAFE)
- (d) (U) MSTP 4-0.1 Movement Control
- (e) (U) MCWP 3-40 Logistics Operations
- (f) (U) MCTP 3-40B Tactical-Level Logistics
- (g) (U) MCTP 3-40F Transportation Operations
- (h) (U) MEF MT Cold Weather Quick Reference Guide

1. (U) Concept of Operations. The MAGTF Deployment and Distribution Operations Center (MDDOC) will establish the MAGTF Movement Control Center (MMCC). The MMCC will schedule and coordinate movements/requests based on the MAGTF Commanders priorities and the host nation road authority disposition. The MMCC will consider the final disposition of forces, destination of forces, transportation requirements and asset availability when coordinating movements. MMCC will receive and consolidate daily ground movement request (organic ground convoy) submitted by MSC Unit Movement Control Centers (UMCCs) via Ground Transportation Request (GTR); MMCC will publish a daily Ground Transportation Order (GTO), mode of delivery TBD.

2. (U) Convoy Procedures. Convoys will follow the procedures outlined in ref (b), (c), (d) and (h) which are detailed below:

- a. (U) Convoy Briefs. Convoy Commanders (CC) are responsible to ensure a comprehensive operator/driver's brief is provided prior to each serial's departure.
- b. (U) Vehicle Inspections. Unit motor transport personnel and MSC Roadmasters will inspect all vehicles for road-worthiness and the CC and/or the Assistant Convoy Commanders (ACC) will conduct pre-combat checks and inspections prior to departure. MSC Roadmasters will conduct pre-convoy inspections to ensure compliance with ref (b), (c), (d) and (h).
- c. (U) Convoy communications. Units will provide CCs with adequate communications assets to conduct safe convoy operations. The use of cell phones is authorized if no other tactical communications are available for use. Convoys must be able to communicate with their UMCCs to report departure/arrival notification, acknowledgement of check points, and any

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case that their convoy is halted or delayed. UMCC will in turn report to the MMCC.

- d. (U) Convoy communications. Units will provide CCs with adequate communications assets to conduct safe convoy operations. The use of cell phones is authorized if no other tactical communications are available for use. Convoys must be able to communicate with their UMCCs to report departure/arrival notification, acknowledgement of check points, and any case that their convoy is halted or delayed. UMCC will in turn report to the MMCC. UMCCs will, at a minimum, provide the MMCC with hourly updates on their MSE's convoy status and physical position. The use of Distributed Tactical Communication Systems (DTCS) radios, Joint Battle Command-Platform (JBC-P) and like communication assets are recommended for command and control during convoy operations.
- e. (U) Route. See Exhibit 1 to this Tab.
- f. (U) Check Points & Maintenance Collections. (TBD).
- g. (U) Rate of Movement. The CC will set the rate of march to ensure the serials maintain interval. Tactical vehicles will not exceed 45 MPH, posted limit, or per road conditions.
- h. (U) Self-recovery, Breakdowns & Flat-towing.
- (1) (U) Units will attempt the expedient repair of vehicle defects if there is a roadside breakdown during convoy operations. If expedient repairs cannot be accomplished within five minutes, then the CC will direct flat tow, or self-recovery/recovery. If expedient repairs can be accomplished, the CC will continue along the predesignated route until reaching a collection point or a safe haven where further repair or recovery/self-recovery can occur.

(2) (U) In the case of a vehicle leaving the roadway or overturning where flat tow or self-recovery is not an option. The only vehicles attempting recovery will be the LVSR or MTRV Wreckers. LVSR and MTRV Wreckers are the primary method of recovery; however, the use of tow bars is an acceptable method of self-recovery when wrecker assets are not available.

(3) (U) Strict adherence to the following is directed for the use of tow bars during the exercise. To safely flat tow the disabled vehicle, the Gross Vehicle Weight (GVW) (weight of vehicle plus cargo) of towing vehicle must be greater than the disabled vehicle. (i.e., an unarmored HMMWV will not tow an armored or Expanded Capacity Vehicle or an unarmored vehicle with a load).

(a) (U) While operating on HN roadways only the LVSR Wrecker can tow all tactical wheeled vehicles, not to include LAVs, the MTRV Wrecker can tow all MTRV and HMMWV, and the MTRV can tow the HMMWV.

(b) (U) For off-road or within the exercise training areas, the following applies; LVSR

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can flat-tow any vehicle, MTRV can tow MTRV or HMMWV, and HMMWV can tow HMMWV. HN has the capacity to tow USMC vehicles as well.

(c) (U) The maximum speed limit for all vehicles while flat towing on or off-highway will not exceed 25 MPH and at no time will passengers be transported in the back of a vehicle being towed. Accountability of all equipment and serialized gear is the responsibility of the CC and owning unit.

(d) (U) If self-recovery is not an option and recovery support beyond the CCs capabilities is required, notify the respective MSC UMCC and the UMCC will notify the MMCC that assistance is required.

(e) (U) Due to the narrow roadways, geographic separation of supporting/supported units, and limited general support recovery capabilities, units will incorporate chains, tow bars, spare tires and organic maintenance resources into their preparation for convoy operations. Special attention will be considered when requesting equipment from MCPP-N.

i. (U) Operator/Driver Rest

(1) (U) Duty time limits will comply with reference (c) and any additional international standards as applicable. All operators will be provided with at least eight hours of rest in a 24 hour period. Additionally, no operator will drive until 12 hours have elapsed after consuming alcohol.

(2) (U) The limitation on driving hours for driver/vehicle operators

transporting personnel is ten (10) hours.

(3) (U) When transporting hazardous material or explosives, two certified drivers will be assigned if the trip will require more than eight (8) hours of travel.

(4) (U) Drivers will take rest breaks (at least 15 minutes) every two (2) hours of driving or every 100 miles, whichever occurs first.

j. (U) Accidents. All government vehicle accidents will be reported to units UMCC's and forwarded immediately to MMCC. Convoy commanders are responsible to ensure the SF91 is properly completed and uploaded into TCPT.

k. (U) Winter and Convoy Regulations.

(1) (U) Convoys will not exceed 12 vehicle/trailers or four (4) oversized vehicle/trailers.

(2) (U) Convoy markings. Must have one sign on the front of the first vehicle and one sign on the back of the last vehicle. Signs must be black capitalized block letters on a white

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board; "MILITARY CONVOY". Dimension to be 25cm x 75cm (10 in X 30 inches) for overall size of the sign.

(3) (U) Lighting.

1 (U) Headlights must be on at all times while vehicle is in motion; low beams during daylight hours.

2 (U) If vehicle is fitted with yellow rotating light(s), then the light(s) must be used.

(4) (U) Vehicle size and weight limits. Vehicles exceeding the below dimensions and weights require prior coordination with MMCC 96 hours prior to the movement request time.

1 (U) Width (including all projections): 2.55 meters (8.3 feet)

2 (U) Length of vehicle:

3 (U) Single vehicle: 12.0 meters (39 feet)

4 (U) Prime mover and trailer: 19.5 meters (63.9 feet)

5 (U) Tractor and semi-trailer: 17.5 meters (57.4 feet)

- 6 (U) Height (including cargo): 4.5 meters (14.7 feet)
- 7 (U) Class Military Load Classification: 50 tons or more.
- (5) (U) Administrative movements. Viewing through weapon sights is not authorized. Weapons will remain in the vehicles while traveling on host nation roads off military facilities.
- (6) (U) Mobile loads. Cargo being transported over public roads ways will not exceed the cargo bed area and will be properly secured and inspected.
- (7) (U) Hazardous Cargo. All units are responsible for proper packaging and certification of hazardous cargo and must be properly identified on the GTR. Drivers and A-drivers are authorized to haul hazardous cargo following the host nation agreement.
- (8) (U) Seat Restraints. All personnel will utilize the vehicles seat restraints; for admin movements. Passengers traveling in the rear of vehicles will ensure a troop strap or authorized seat restraint is properly used, before any movement of the vehicle.
- (9) (U) Driving on public roads.

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- (a) (U) Drivers are always responsible for safety.
- (b) (U) Civilian traffic must be allowed to integrate with military convoys.
- (c) (U) High traffic periods: 0700-0900 and 1500-1700
- (d) (U) Roads within the HN have many tunnels varying in length (<1km - 8km) and are two-lanes (one in each direction)
- (10) (U) Distance between vehicles on public roads.
 - (a) (U) Vehicles less than 3,500 Kgs (7716 lbs): 3 seconds
 - (b) (U) Vehicles equal to or more than 3,500 Kgs (7716 lbs): 6 seconds
 - (c) (U) Ice/Snow present: Double vehicle distance.
- (11) (U) Required when stopped along a public road.
 - (a) (U) High visibility reflective vest for all personnel

- (b) (U) Road triangle dispersed over 100 yard span tapered in increments of 33 yards from the vehicle.
- (c) (U) 360 degree yellow warning light
- (d) (U) 360 degree rotating light on tracked and oversized vehicles
- (e) (U) Personnel must exit the vehicle and move to the side of road
- (12) (U) Winterization of vehicles.
- (a) (U) Cold weather periods requiring winterization

- 1 (U) HN Area of Operations: 16 Oct -30 Apr
- 2 (U) General vicinity south of AO: 1 Nov-30 Apr
- 3 (U) Climate: See Exhibit 2 to this Tab.
- 4 (U) If weather conditions (snow/ice) exist, chains and studded tires are required to be used outside of the specified period.
- 5 (U) USMC tire chains equipment configurations. See Exhibit 3 to this Tab

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- (b) (U) Vehicles/trailers up to 3,500 Kg
- 1 (U) Minimum 3mm tread depth.
- 2 (U) Studs may be used only on winter tires (Tire label M+S, MS, M-S, M&S, "Mud and Snow", 3PMSF, or 3 Peak Mountain Snowflake) be studded.
- 3 (U) If vehicle has studded tires, then all tires must be studded.
- (c) (U) Vehicles/trailers more than 3,500 Kg
- 1 (U) Winter tires must be on all axles.
- 2 (U) Winter tires can either be studded or friction tires (Tire label M+S, MS, M-S, M&S, "Mud and Snow", 3PMSF, or 3 Peak Mountain Snowflake)
- 3 (U) Studded tires must be mounted on all wheels of the same axle, non-studded tires can be used on adjoining axles.
- 4 (U) Minimum 5mm tread depth on tires.

- 5 (U) Authorized snow chains for use on public roads are required for every vehicle/trailer.
- 6 (U) Chains must be with the vehicle/trailer during the winter period and applied as required.
- 7 (U) Single wheel (minimum 3 chains): One chain on steering axle and two chains on driving axle.
- 8 (U) Single wheel with trailer (minimum 5 chains) One chain on the steering axle, two chains on driving axle, and two on trailer wheels.
- 9 (U) Dual wheel with trailer (minimum 7 chains): One chain on the steering axle, four chains on driving axle, and two on trailer wheels; see Diagram 1.
- 10 (U) Tracked vehicles: Per Technical Manual guidelines
- 11 (U) Fine for driving with sub-minimum tread depth and/or without winter tires when required is \$100 per tire imposed to the driver.
- 12 (U) Driving a vehicle illegally with studded tires or chains, or if chains are not brought along, a fine of \$200 can be imposed to the driver.

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- EXHIBITS:
- 1 – Approved Routes
 - 2 – Climate
 - 3 – Chain Configuration

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APPENDIX 5 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
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CIVIL ENGINEERING SUPPORT PLAN (U)

(U) REFERENCES:

- (a) (U) MEFEX OPORD 0015-20 (Base Order)
- (b) (U) JP 3-34, Joint Engineer Operations
- (c) (U) MCWP 3-33.1, MAGTF Civil-Military Operations
- (d) (U) JP 3-08, Inter-organizational Coordination During Joint Operations
- (e) (U) NWP 4-04, Naval Civil Engineering Operation

(U) TIME ZONE: ZULU

- 1. (U) Situation. See Base Order.
- a. (U) Enemy Forces. Refer to Annex B (Intelligence).

- b. (U) Friendly Forces. Refer to Annex A.
- 2. (U) Mission. See Base Order.
- 3. (U) Execution.
 - a. (U) Commander's Intent and Concept of Operations.
 - b. (U) Commander's Intent. This appendix describes civil engineering functions to secure Marine Expeditionary Force (MEF) Objectives in the HN.
 - c. (U) Concept of Civil Engineer Operations. The HN will be the main provider of HNS within means and capabilities in accordance with (IAW) established memorandum of agreements (MOA). Support will be supplemented by contractors when HNS cannot meet the requirements.
 - d. (U) Concept of Civil Engineer Support.
 - e. (U) General Engineering. The HN has guaranteed its full cooperation and support to allies and CJFMCC and has authorized the use of all resources, facilities, infrastructure and military installations in the execution of operations.
 - f. (U) Host-Nation Support (HNS). The HN will be the main provider of HNS within their

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means and capabilities in accordance with extant HNS MOUs. FNs / SNs are responsible for identifying HNS requirements for their forces and allies are responsible for establishing the coordination process in consultation with their respective nations. Subordinate commanders will maximize the use of HNS to obtain services, equipment and supplies within HN or another allied partner with particular emphasis in the following functional areas:

- (1) (U) Line-haul transportation and bulk fuel transportation.
- (2) (U) Food and water supply.
- (3) (U) Port and terminal support and services.
- (4) (U) MHE.
- (5) (U) Bridging support via HN bridges.
- f. (U) General Priority of Development. Civil engineer efforts will be prioritized based on relative geographic, operational, and logistic impact.
- g. (U) Protective Construction Policy. The command policy for protective construction and repair of damage will include:

- (1) (U) The enemy's capability to inflict damage.
- (2) (U) Protection required for weapon systems, personnel, and materiel.
- (3) (U) Self-help versus engineer troop effort.
- h. (U) Contractor. HN should be utilized to the greatest extent possible; support will be supplemented by contractors when HNS cannot meet the requirements.
- 4. (U) Administration and Logistics
 - (1) (U) Administration. See Annex E (Personnel).
 - (2) (U) Logistics. See Annex D (Logistics/Combat Service Support).
- 5. (U) Command and Signal
 - (1) (U) Command. See Annex J (Command Relationships).
 - (2) (U) Signal. See Annex K (Communications Plan).

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ACKNOWLEDGE RECEIPT

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APPENDIX 6 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
CODE WORD) (U)
NONNUCLEAR AMMUNITION

(U) REFERENCES:

- (a) (U) NAVSEA OP5 VOL 1
- (b) (U) NAVSEA OP5 VOL 3
- (c) (U) DoD 6055.09-M
- (d) (U) MCO 8020.10
- (e) (U) CJCSI 4360.01B
- (f) (U) SWO20-AF-HBK-010
- (g) (U) AFMAN 24-204
- (h) (U) MCO 5530.14A
- (i) (U) MCO 4400.201 VOL 7
- (j) (U) MCO 8025.1E
- (k) (U) MARADMIN 194/13

- (l) (U) MCO 8023.3C
- (m) (U) NAVSUP P-801
- (n) (U) MCO 3570.1C

1. (U) General. Class V (A) support will be provided to facilitate the MEF mission which may include support of Host Nation and foreign requirements.
2. (U) Concept of Ammunition Supply Operations.
 - a. (U) All ammunition operations will be conducted IAW the listed references and Host Nation Law.
 - b. (U) During the initial phase Class (A) ammunition will be issued based on TPFDD information to accommodate forces as they arrive in country.
 - c. (U) Class V(A) requirements for MEF Supported Units will be issued from MEF FWD ASP (and other locations) during Phase 1 of the operation. Sustainment ammunition will be requested and drawn as needed.
 - d. (U) Supported units will maintain and manage CLASS V(A) requirements IAW applicable references utilizing Ammunition Staging Points.

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- e. (U) Class V(A) will be stored in locations authorized by the HN. Other existing Class V storage locations are available from the Host Nation.
- f. (U) MPF will be activated during the initial phase of operations which will require the use/need for sea ports. MPF Class V(A) offloads will be coordinated by the Aviation Ordnance Section, MEF (G-4) IAW HN laws and applicable regulations.
- g. (U) All vehicle movement of Class V will be conducted IAW HN laws and applicable references. Class V will be transported over local roadways by HN vehicles and drivers. Limited movement in designated tactical areas will be conducted by organic transportation.
- h. (U) Security of all Class V assets will be in accordance with reference (h) and Host Nation laws.
- i. (U) Release of Prepositioned stocks will be coordinated with the Navy Ammunition Logistics Command – Crisis Response Cell, NAVFOR, and the Fleet Commander by the MEF G-4 Aviation Ordnance section.
- j. (U) Ammunition sustainment requirements will be provided by MEF G-3 at the commencement of the OPLAN. Sustainment requirements will be coordinated through the Navy Ammunition Logistics Command – Crisis Response Cell, NAVFOR, and the Fleet Commander Quarterly for movement by sea. This will be the preferred means of obtaining

and sustaining Class V(A) requirements. Transportation by air must be arranged by MEF in coordination with the parties mention above.

3. (U) Responsibilities

a. (U) MLG FWD

(1) (U) Provide Class V(W) support by working with the Host Nation to distribute and manage prepositioned stocks and establishing field ammunition supply points (ASPs). Establish three field ASP's IVO of CSSA 1, 2, and 3. Upon IOC of CSSA 3, begin to collapse field ASP 2 to SPOD for embark, relocate to ASP 4 upon seizure of MEF OBJ 4.

(2) (U) Provide support for Maritime Preposition Force (MPF) offload operations at Doppelbock Port which includes offload of vessels and movement to storage locations.

(3) (U) BPT provide disaggregated Class V(W) support.

(4) (U) Maintain and provide qualified explosive ordnance disposal (EOD) personnel to support disposal operations.

(5) (U) Maintain adequate stocks of Class V(W) on hand to support MEF mission accomplishment.

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(6) ((U) Report all expenditures of Class V(W) to MEF G4 daily by 1700.

b. (U) Marine Division FWD

(1) (U) Establish Basic Load Ammunition Holding Areas in IAW references (a), (b), (h) and Host Nation law as needed

(2) (U) Report all expenditures of Class V(W) to MEF G4 daily by 1700.

c. (U) Marine Air Wing

(1) (U) Establish Ammunition Holding Areas in IAW references (a), (b), (h) and Host Nation law as needed

(2) (U) Report all expenditures of Class V(A) to MEF G4 daily by 1700.

4. (U) Limiting Factors.

a. (U) The terrain and weather will adversely affect ammunition operations. Class V(A) transportation is possible throughout the country. However, due to weather road conditions may prevent throughput to locations requiring replenishment. As a result of road

restrictions, ammunition movement may need to be accommodated by air or sea in combination with operational roadways.

b. (U) Current MHE and transportation assets may not reliably operate due to the weather conditions. This may limit or terminate ammunition operations.

c. (U) Communication can be limited due to the climate and weather conditions. Furthermore, satellite communication can be complicated due to location related to the position of the satellite in space.

5. (U) Ammunition Requirements. The list of Class V (A) requirements, critical and non-critical, will be determined/provided by MEF G3.

a. (U) The Munitions Report (MUREP) will be utilized daily by Subordinate Commands to report consolidated expenditures of Class V (A) assets to MEF G-4. Additionally, the MUREP will be utilized to track Class V (A) requirements and current stock levels. The reports will include percentages to prompt requisitions to restock ammunition shortfalls. Percentages that prompt sustainment requisitions may be unique for certain Department of Defense identification code (DODICs) based on worldwide inventory and expenditure rates.

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A—Munitions Matrix (Omitted)

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APPENDIX 7 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
CODE WORD) (U)
SUPPLY OPERATIONS (U)

(U) REFERENCES:

- (a) (U) MEF Base Order
- (b) (U) Joint Pub 4-01, Joint Logistics, 16 Oct 2013
- (c) (U) Joint Pub 4-03, Joint Bulk Petroleum and Water Doctrine, 11 Jan 2016
- (d) (U) Joint Pub 4-12, Sealift Support to Joint Operations, 29 Dec 2015
- (e) (U) MCTP 3-40B Tactical Level Logistics
- (f) (U) MCWP 3-40 Logistics Operations
- (g) (U) AJP-4, Allied Joint Doctrine for Logistics

(U) TIME ZONE: ZULU

1. (U) Situation. See Basic Order.

- a. (U) Enemy Forces. Refer to Annex B (Intelligence).
 - b. (U) Friendly Forces. Refer to Annex B (Intelligence).
 - c. (U) Infrastructure. See Annex B (Intelligence).
 - d. (U) Attachments and Detachments. See Annex A (Task Organization).
2. (U) Mission. See Basic Order
3. (U) Execution
- a. (U) Requirements. Plan, budget, and identify sustainment requirements in order to support the exercise. Sustainment requirements beyond organizational capacity/capability will be coordinated via Defense Logistics Agency (DLA), Acquisition and Cross Servicing Agreements (ACSAs), and Contracts.
- (1) (U) Class I. See Tab A to Appendix 7 Annex D
- (2) (U) Class II. All units will deploy with initial issue of individual equipment. The deployed AACs Responsible Officer will draw all Extreme Cold Weather (ECW) and

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Intermediate Cold Weather (ICW) for their respective personnel. MSCs will identify an appropriate Responsible Officer in order to facilitate accountability of all equipment. The intermediate supply activity (ISA) will deploy with a limited replacement block for essential individual combat equipment and extreme cold weather equipment. Follow-on replacement items will be coordinated through a contingency Class II block and MARFOR, via MEF G4.

- (3) (U) Class III. See Appendix 1 to Annex D
- (4) (U) Class IV. Units will deploy with limited quantities of construction materials, if required. Requirements above the unit's on-hand stock will be coordinated through the MEF G-4.
- (5) (U) Class V. See Appendix 6 to Annex D
- (6) (U) Class VI. Initial issue of personal demand items are a responsibility of the individual and unit. MEF G-4 will coordinate follow-on essential personal demand items such as hygiene items, with assistance from the ISA. MEF forces will exercise Category I and Category II MCCS capabilities at various locations under the discretion of unit commanders.

(7) (U) Class VII. Units will submit their equipment density list (EDL) requirements to this HQ for approval and sourcing. All Key Management Infrastructure (KMI) equipment will be identified by serial number and managed according to all applicable orders during the transfer to the deployed DODAACs KMI account. All small arms/light weight weapons will be accounted for on the deployed DODAAC property records. Accountable Officers/Responsible Officers will ensure all weapons are transferred in CRANE in order to maintain accountability throughout the exercise.

(8) (U) Class VIII. Units will submit requirements for medical supplies to the the supporting Medical Logistics (MEDLOG) detachment. See Annex Q for additional guidance regarding class VIII.

(9) (U) Class IX. Units will submit EDLs to MLG FWD to determine repair part requirements for 30 days of sustainment.

(10) (U) Class X. Omitted.

b. (U) Procurement MARFOR appointed Ordering Officials and MEF Warrented Contracting Officers will use ACSAs and contracting to procure sustainment in order to support the exercise. Financial obligations will not exceed the approved statement of requirements.

(1) (U) Class I. Procurement for subsistence will be through MEF G-4.

(2) (U) Class II. The MEF G-4 will coordinate with supporting elements for replacement and procurement of individual equipment items. Units will apprise this HQ of any critical shortfalls of individual equipment.

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(3) (U) Class III. See Appendix 1 to Annex D.

(4) (U) Class IV. Units will notify the MEF G-4 of any requirements to procure construction or building materials to support operations.

(5) (U) Class V. See Appendix 6 to Annex D.

(6) (U) Class VI. MEF forces will exercise Category I and Category II MCCA capabilities at various locations under the discretion of unit commanders.

(7) (U) Class VII. Units will deploy with approved EDL, or have assets issued via prepositioned equipment. The MEF G-4 will coordinate with appropriate agencies for replacement of damaged or destroyed principal end items.

(8) (U) Class VIII. Units will submit requirements for medical supplies to the supporting MEDLOG detachment. MEF G-4 will coordinate with MEDLOG and other

supporting elements for procurement of additional requirements. See Annex Q for additional guidance regarding class VIII.

(9) (U) Class IX. Units will utilize the ISA as their first source of supply for repair parts and systems. The ISA will coordinate with outside sources of supply for requirements that exceed their on-hand stock.

(10) (U) Class X. Omitted.

c. (U) Storage

(1) (U) Class I. See Tab A to Appendix 7 Annex D .

(2) (U) Class II. Storage will be in accordance with applicable orders and SOPs.

(3) (U) Class III. See Appendix 1 to Annex D

(4) (U) Class IV. Storage will be in accordance with applicable orders and SOPs.

(5) (U) Class V See Appendix 6 to Annex D.

(6) (U) Class VI. Storage will be in accordance with applicable orders and SOPs.

(7) (U) Class VII. Storage will be in accordance with applicable orders and SOPs.

(8) (U) Class VIII. Storage will be in accordance with applicable regulations, orders, and SOPs.

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(9) (U) Class IX. Storage will be in accordance with applicable orders and SOPs.

(10) (U) Class X. Omitted.

d. (U) Distribution

(1) (U) Class I. See Tab A to Appendix 7 Annex D.

(2) (U) Class II. Units will coordinate tactical level distribution with their supporting elements. MEF Strategic Mobility and Distribution Management Office will coordinate operational and strategic level distribution with MARFOR G-4, MEF G-4, and other supporting elements.

- (3) (U) Class III. See Appendix 1 to Annex D.
- (4) (U) Class IV. Units will coordinate tactical level distribution with their supporting elements. MEF Strategic Mobility and Distribution Management Office will coordinate operational and strategic level distribution with MARFOR G-4, MEF G-4, and other supporting elements.
- (5) (U) Class V. See Appendix 6 to Annex D.
- (6) (U) Class VI. Units will coordinate tactical level distribution with their supporting elements. MEF Strategic Mobility and Distribution Management Office will coordinate operational and strategic level distribution with MARFOR G-4, MEF G-4, and other supporting elements.
- (7) (U) Class VII. Units will coordinate tactical level distribution with their supporting elements. MEF Material Readiness Branch (MRB), Strategic Mobility, and Distribution Management Office will coordinate operational and strategic level distribution with MARFOR G-4, MEF G-4, and other supporting elements.
- (8) (U) Class VIII. The supporting MEDLOG detachment will distribute medical supplies per established priorities. Units will coordinate tactical level distribution with their supporting elements. The MEDLOG detachment will coordinate operational and strategic level distribution with the applicable source of supply with assistance from MEF Health Services Support, Strategic Mobility, Distribution Management Office, and other supporting elements. See Annex Q for additional guidance regarding class VIII.
- (9) (U) Class IX. Units will coordinate tactical level distribution with their supporting elements. The ISA will coordinate operational and strategic level distribution with the applicable source of supply with assistance from MEF MRB, Strategic Mobility, Distribution Management Office, and other supporting elements.

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(10) (U) Class X. Omitted.

e. (U) Salvage

- (1) (U) Class I. See Tab A to Appendix 7 Annex D.
- (2) (U) Class II. Units will dispose of unused, expired, or degraded individual equipment items in accordance with applicable regulations, orders, and SOPs.
- (3) (U) Class III. See Appendix 1 to Annex D.

- (4) (U) Class IV. Units will dispose of unused, expired, or degraded construction and building materials in accordance with applicable regulations, orders, and SOPs.
- (5) (U) Class V. See Appendix 6 to Annex D.
- (6) (U) Class VI. Units will dispose of unused, expired, or degraded personal demand items in accordance with applicable regulations, orders, and SOPs.
- (7) (U) Class VII. See Appendix 12 to Annex D.
- (8) (U) Class VIII. All unused or damaged medical supplies will be salvaged in accordance with applicable rules, regulations, and guidance from the supporting MEDLOG detachment. See Annex Q for additional guidance regarding class VIII.
- (9) (U) Class IX. Units will dispose of expired and/or degraded repair parts and systems in accordance with applicable regulations, orders, and SOPs. MEF directs roll back to the ISA of unused repair parts.
- (10) (U) Class X. Omitted.
4. (U) Administration and Logistics.
- a. (U) Administration. See Annex E (Personnel).
- b. (U) Logistics. See Annex D (Logistics/Combat Service Support).
5. (U) Command and Signal
- a. (U) Command. See Annex J (Command Relationships).
- b. (U) Signal. See Annex K (Communication Information Systems).

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A—Supply

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TAB A TO APPENDIX 7 TO ANNEX D TO OPERATION ORDER OR PLAN (Number)

(Operation CODE WORD) (U)

SUPPLY (U)

(U) REFERENCES:

- (a) (U) MCO 10110.14N Marine Corps Food Service and Subsistence Program
- (b) (U) Marine Corps Reference Publication (MCRP) 3-40G.1
- (c) (U) NAVMED P5010 Tri-Service Food Code
- (d) (U) Defense Logistics Agency (DLA) and HQMC Performance Based Agreement ANNEX War Reserve-Operational Rations

1. (U) Situation. The purpose of this appendix is to outline logistical support IAW Annex D Operational Order in the execution of Class I and food service support within the HN during the MEF operation.

2. (U) Mission. The mission of the Class I and food service support is to provide quality food service and subsistence support for allied forces within the Combined Joint Operations Area (CJOA) by implementing the proper mix of rations and equipment while maintaining sea control, restoring territorial integrity, and force protection. If establishing a field mess is unfeasible, and logistically unsupportable, contracted meals and/or Host Nation support (HNS) may be used with proper authorization.

3. (U) Execution.

- a. (U) MEF units will deploy with sufficient personnel and equipment organic to their command T/O&E structure.
- b. (U) MEF forces will draw 1 DOS Meals-Ready to-Eat (MRE) from the MLG Rations Warehouse and deploy to the HN. Prior to flight, the field ration heater is required to be removed due to flight regulations.
- c. (U) While enroute, MEF forces will deploy with an additional 4 DOS pre-staged for follow-on echelon APOE Marine Corps Air Station (MCAS), Cherry Point for flight.
- d. (U) Upon arrival to the HN, units will consume MRES during the first 48 hours from the offload, and indoctrination of the theater.
- e. (U) There will be 1 Combat Service Support Area (CSSA) established IVO Porter, Amber,

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Trappist, and Rye for a total of 4 in the CJOA. Each CSSA will be joint-operated by DIV, MLG, and HN staff, and will maintain 15 DOS of rations at all times.

- f. (U) HN feeding and reporting will be executed IAW food service subsistence SOP. All written agreements, payments to provide and support HN, and contract feeding will be finalized prior to support being provided. All documentation will be submitted to MEF G-4 food service for review.

4. (U) Requirements. Units will submit requirements to MEF G-4 in order to establish required DOS for subsistence in theater. See Appendix 3 Annex D for stockage objectives.

5. (U) Storage. The ISA will store subsistence items at established support areas, once established. Units will store their on-hand subsistence stocks in accordance with applicable rules, regulations, and SOPs.

6. (U) Distribution. Units will coordinate tactical level distribution with their supporting elements. MEF Strategic Mobility and Distribution Management Office will coordinate operational and strategic level distribution with MARFOR G-4, MEF G-4, and other supporting elements.

7. (U) Salvage. Units will dispose of unused, expired, or degraded subsistence items in accordance with applicable regulations, orders, and SOPs.

8. (U) Planning Factors.

a. (U) Operational rations general characteristics.

(1) (U) MRE: unit of issue is box (12 meals per box): 48 boxes per standard warehouse pallet; 12 meals per box x 48 boxes per pallet = 576 meals per pallet. (Special note: 760 boxes fit in a 20 foot ISO container).

(2) (U) UGR-H&S: unit of issue is each ("each" is one module of 50 portions; 1 portion is 1 meal): each module comes in 3 boxes; 24 boxes (8 modules) per standard warehouse pallet; 50 portions per module (3 boxes) x 8 modules (24 boxes) per pallet = 400 portions per pallet.

(3) (U) UGR-M: unit of issue is each ("each" is one module of 50 portions; 1 portion is 1 meal): each module comes in 3 boxes; 24 boxes (8 modules) per pallet; 50 portions per module (3 boxes) x 8 modules (24 boxes) per pallet = 400 portions per pallet.

b. (U) Food service equipment characteristics.

(1) (U) Expeditionary field kitchen (EFK) / (One per 750 personnel).

(a) (U) One EFK x 90 minutes of fuel consumption per EFK per meal = 90 minutes.

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(b) (U) One and a half hours per meal x 14 meals = 21 hours; (5) gallons of fuel will burn continuously in the EFK for approximately 1 hour. Note: Actual fuel usage is dependent on the amount of equipment operating at the same time. Calculations are based off of averages needed to support an estimated 90 minutes per 750 personnel.

(2) (U) Enhanced tray ration heating system (ERTHS)/(One per 350 personnel).

(a) (U) Five gallons of fuel will burn continuously in the E-TRHS for approximately 1.75 hours. Note: Actual fuel usage is dependent on the amount of equipment operating at the same time. Calculations are based off of averages needed to support the estimated 90 minutes per 350 servings and is based on using multiple feeding sites.

(b) (U) Five gallons of fuel per 1.75 hour period x 25.6 hours of operational time = 128 gallons.

(c) (U) 128 gallons of fuel will support 44.8 hours of operational time. Note: Additional fuel requirements depend on the quantity and type of generators used and the usage rate for the SFRS; for detailed information, coordinate with bulk fuel and utilities.

(3) (U) Tray ration heating system (TRHS)/(One per 250 personnel).

(a) (U) Three TRHS x 90 minutes of fuel consumption per TRHS per meal = 270 minutes. Note: The estimated 90 minutes per 250 servings is based on using multiple feeding sites; 270 minutes divided by 60 minutes per hour = 4.5 hours operational time.

(b) (U) Four and half hours per meal x 14 meals = 63 hours; (5) gallons of fuel will burn continuously for approximately 10 hours; 63 hours divided by 10 hours = (6.3) 10-hour periods. Note: The TRHS will automatically shut off and turn on when the switch is placed on automatic, allowing for more than 10 hours of use.

(4) (U) Freezing points for the most commonly used fuel

(a) (U) Diesel (DF-2) freeze point less than or equal to 30 °F.

(b) (U) F-24 freeze point less than or equal to -40 °F.

(c) (U) JP-5 freeze point less than or equal to -45 °F.

(d) (U) JP-8 freeze point less than or equal to -47 °F

c. (U) For field feeding planning, refer to Table D-7-1 below.

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Personnel (PAX) (per feeding site)	Menu Plan					LOGCAP/ Contract Oversight	
	A*	B*	C*	D*	E*		
	POR/UGR-E (3) Meals	UGR-H&S (1) Hot (2) MRE	UGR-H&S (2) Hot (1) MRE	UGR-M (2) Hot (1) MRE	UGR-M/A (2) Hot (1) MRE		
1-99	0 (0)	1 (1)	2 (2)	3 (3)	3 (4)	1 (1)	
100-150	0 (0)	1 (2)	2 (2)	3 (3)	3 (4)	1 (2)	
150-199	0 (0)	2 (2)	2 (2)	3 (4)	4 (4)	2 (2)	
200-250	0 (0)	2 (2)	3 (3)	3 (4)	4 (4)	3 (3)	
251-350	0 (0)	3 (3)	4 (4)	3 (5)	4 (6)	3 (3)	
351-450	0 (0)	3 (5)	5 (6)	6 (6)	5 (8)	4 (3)	
451-550	0 (0)	4 (6)	6 (6)	6 (10)	5 (10)	4 (4)	
551-650	0 (0)	4 (8)	6 (8)	6 (12)	6 (14)	5 (4)	
651-750	0 (0)	6 (10)	9 (10)	9 (14)	6 (18)	5 (5)	
Equipment	N/A	TRHS, Power/Water Source, and Limited Refrigeration		E-TRHS, Power Plus	EFK, Power Plus	Responsible for: Quality Assurance, Entry Control and Force Protection	
		Water Source and Refrigeration					
		Water Source, Refrigeration and Freezer					

Table D-7-1

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APPENDIX 8 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
CODE WORD) (U)
SERVICES (U)

1. (U) Command Services. Command Services are the responsibility of the MSCs. MSCs will coordinate with MEF G-4 to rectify or mitigate any critical shortfalls.

- a. (U) Personnel administration
- b. (U) Religious ministries
- c. (U) Financial management
- d. (U) Communications
- e. (U) Billeting
- f. (U) Messing
- g. (U) Band
- h. (U) Morale, welfare, recreation

2. (U) CSS Services. CSS services are enabled by supporting logistics units. MLG will be the principle provider of these services via the CSSAs.

- a. (U) Disbursing. MLG will provide disbursing services from CSSAs upon FOC.
- b. (U) Postal services. MLG will provide postal services from CSSAs upon IOC.
- c. (U) Exchange services. MLG will provide exchange services from CSSAs upon FOC.
- d. (U) Security support.
- e. (U) MLG is assigned as the rear area coordinator (RAC).
- f. (U) RAC will request intelligence support and augmentation as appropriate from MIG.
- g. (U) RAC will request intelligence support and augmentation as appropriate from MIG.

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- h. (U) The RAC will establish phase lines, contact points, objectives, and checkpoints as necessary to coordinate Rear Area maneuver. The Rear Area Coordinator will establish fire support coordination measures (FSCMs), as necessary and ICW the HN, which will permit or restrict fires in and around bases in the Rear Area. No-fire areas may be required to protect combat outposts, observation posts, and patrols from friendly fire. The Rear Area Coordinator will ensure all established control graphics are coordinated with MSCs and HN to minimize interference, misunderstandings, and collateral damage.
 - i. (U) Legal services support. MLG will provide legal services from CSSAs upon FOC.
 - j. (U) Civil affairs support. MLG will provide legal services from CSSAs upon IOC.
3. (U) Mortuary Affairs Services. See appendix 2 (mortuary affairs). MEF's remains collection point will be Smithville Airfield.

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APPENDIX 9 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
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HEALTH SERVICES (U)

Refer to Annex Q (Medical Services).

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APPENDIX 10 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
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AVIATION LOGISTIC SUPPORT (U)

Refer to Annex W (Aviation Operations).

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APPENDIX 11 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
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EXTERNAL SUPPORT (U)

1. (U) Higher and adjacent. Listed are supporting logistics or combat service support organizations not subordinate to MEF.

a. (U) Theater Sustainment Command (TSC). TSC is responsible for mission command of operational sustainment across the theater; conduct Reception, Staging, Onward movement and Integration; executes theater opening, theater distribution, and theater sustainment in support of the COCOM and allied operations. Specifically, TSC is responsible for:

(1) (U) Establish and operate a movement control center (MCC) and establish subordinate MCCs, as required, to perform movement coordination and control.

(2) (U) Assume responsibility for inland transportation and theater support activities theater-wide, in accordance with inter-service support agreements at G-Day.

(3) (U) Provide transportation support as needed to CJTF forces as required.

(4) (U) Coordinate all rail operations.

(5) (U) Provide common user line haul transportation to all CJTF forces within the CJOA.

b. (U) Theater Logistics Task Force (TF LOG). TF LOG is the lead task group for logistics support and sustainment ashore within the CJFMCC area of operations and assigned the following tasks:

(1) (U) Coordinate with CJTF for sustainment of all forces ashore.

(2) (U) Coordinate and execute the Material Control Officer program (MATCONOFF) in CJFMCC AO.

(3) (U) TF LOG will provide CJTF with a Recognized Logistic Picture (RLP). The RLP will require input from all participating units. Participating units are to provide regular updates to TF SUPT HQ to include: critical logistic assets, capabilities and stock holdings. Logistics

Functional Area Services (LOGFAS) and Logistics Reporting (LOGREP) will also contribute to the RLP.

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(4) (U) The overall responsibility coordination of the sustainment process rests with the TF LOG HQ, this includes direct coordination with the Host Nation (HN) to register transportation requirements that necessitate the use of HN Merchant Marine, civil, and private watercraft.

c. (U) Host Nation. MEF will receive significant logistical and service support from HN. See Annex P for further details.

(1) (U) ICW TF LOG, coordinate the allocation of Real Estate to the incoming forces.

(2) (U) IAW reference A, provide necessary permissions, customs and border crossing procedures to facilitate smooth and timely deployment/sustainment of CJTF Forces.

(3) (U) Provide access to key logistics facilities (including designated APOD/Es, RPOD/Es SPOD/Es) prioritizing CJTF utilization and throughput for participating forces.

(4) (U) Maintain a database of HN capabilities and capacities applicable to the operation that is accurate and easily accessible to OPERATION participants.

(5) (U) Maintain and reinforce cooperation between CJTF Forces and HN's military and civil organizations to ensure effective delivery and use of HN resources.

(6) (U) In the absence of specific instructions to the contrary, HN is to provide Force Protection and route security for TF LOG (nodes and MSRs).

d. (U) Requests For Forces (RFFs). The below RFFs have been registered with the CJFMCC.

(1) (U) USA Multi Role Bridging Company. Organic capability resident to the Naval Construction Regiment (NCR) only permits dry gap crossing. RFF is to augment existing bridging option with a wet gap capability. Additionally, this RFF will enable multiple bridging operations to occur concurrently during phases 3A and 3B. With wet gap crossing as the primary concern, the RFF specifically requests a US Army Multi Role Bridging Company.

(2) (U) USN Expeditionary Medical Facility (EMF). The EMF is a multiple modular design with theater hospitalization capabilities in mobile operations. The EMF configuration includes medical, dental, and preventive medicine equipment and/or supporting facility and utility infrastructure items and their associated consumables, materials, and supplies. It includes vehicle and construction, weight and handling equipment, and other materials, such

as outfitted shelters, packing systems, and shipping containers, used to deploy, set up, support, and sustain various levels of medical and dental care capabilities. The RFF is for an IOC of a 200 bed configuration by Phase 3A with the ability to expand to 400 bed spaces by Phase 3C if required. EMF will be established so as

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to be geographically adjacent to the principle STRATLIFT node within MEF's AO to enable the theater evacuation of WIA personnel who require extended hospitalization.

(3) (U) USA Rapid Port Opening Element (RPOE). RPOEs are tasked to provide a joint expeditionary capability to rapidly deploy, establish and initially operate an Aerial or Sea Port of Debarkation (APOD/SPOD), conduct cargo handling and movement operations to a forward node, facilitate port throughput in support of combatant commander executed contingencies. RPOEs are subordinate units to SDDC. RFF reasoning is that the distances involved, and the overwhelming reliance on maritime transit within the MEF's AO, require increased resident knowledge and experience in port operations than what organically resides within the MEF and subordinate MSCs. This shortcoming will be critical when the regeneration of port operations is critical to the furtherance of MEF's mission.

(4) (U) USA Watercraft Capability. MEF's mission is dependent on Maritime transportation. The majority of this requirement is anticipated to be met via TF LOG ICCW HN Merchant Marine and regional commercial vessel options for movement of material from the primary sea port to costal points throughout the AO. Additionally, through TF LOG, MEF will coordinate with the HN to support ferry crossings when and where necessary. CJTF, CJFMCC, and MEF all expect that the adversary forces will target key infrastructure nodes such as bridges and tunnels. Bridging solutions may not be timely or achievable at certain locations and we anticipate that we may strain host nation ferrying capacity beyond its capability to support. Request that elements of the US Army Transportation Brigade (TSB) be deployed to theater as a subordinate unit to TF LOG and placed in general support of MEF. As a planning factor, we are requesting the capacity to move the maneuver elements of a battalion from a point to point crossing of 5km or less (as might be the case with a destroyed bridge) in 12 hours, and point to point movement of less that 75km in 48 hours.

(5) (U) USMCR Personnel Retrieval and Processing (PRP) Company. MEF does not have an organic PRP capability. RFF is for a PRP Company with the capacity to process 80 remains within 24 hours, with the potential to surge to 120 remains in a single 24 hour period. The PRP Company will be subordinate to the MLG and operate from the primary airfield.

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APPENDIX 12 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
CODE WORD) (U)
MAINTENANCE (U)

(U) REFERENCES:

- (a) (U) MEF Base Order.
- (b) (U) U.S. Marine Corps Forces, Exercise Directive
- (c) (U) MCTP 3-40B Tactical Level Logistics
- (d) (U) Joint Pub 4-01
- (e) (U) DOD Instruction 3020.37
- (f) (U) MEF TACSOP
- (g) (U) UM 4000-125
- (h) (U) MCO 4400.201

1. (U) Situation. See Basic Order.

a. (U) Enemy Forces. Refer to Annex B (Intelligence).

b. (U) Friendly Forces. Refer to Annex B (Intelligence).

c. (U) Infrastructure. See Annex B (Intelligence).

d. (U) Attachments and Detachments. See Annex A (Task Organization).

2. (U) Mission. See Basic Order.

3. (U) Execution. The force will plan, budget, and identify maintenance requirements in support of the exercise. The force must deploy with the ability to conduct organizational-level maintenance for all assets used in support of the exercise. The force will conduct organizational and intermediate level maintenance throughout the conduct of the exercise. Return military equipment drawn from the Marine Corps pre-positioning program condition code B and SL-3 complete (or as issued). The force will deploy with Class IX (to include secondary repairable (SECREPs) to support the force. Coordinate use of

prepositioned Class IX at least 60 days prior to execution. (ADD LOCATION) does not possess Class IX or SECREPs. DLA can store Class IX in support of reconstitution operations. Coordinate with DLA at least 90 days prior to execution.

a. (U) Maintenance costs.

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(1) (U) The force will provide MEF maintenance costs for organizational equipment used during the exercise no later than 60 days post exercise.

(2) (U) MEF (Prepositioning) will account for prepositioned equipment maintenance costs resulting from the force. Additional guidance provided by MARFOR (Prepositioning) via separate correspondence.

(3) (U) The force will conduct limited technical inspections (LTIs) (to include SL-3 inventories) on owning unit equipment before and after redeployment. Furthermore, prepositioned equipment will be LTI'd prior to use and before returning to prepositioned stocks. Copy of LTIs for assets requiring repair or SL-3/4 will be provided to MEF (Maintenance) for cost validation.

(4) (U) Exercise/deployed force will reimburse costs of equipment damaged due to negligence; includes tactical and non-tactical assets (i.e., rental vehicles).

b. (U) Sustainment.

(1) (U) During reception, staging, onward movement, and integration, sustainment will be sourced from organic and contracted means. Equipment will be sourced from the U.S. based forces, and prepositioned assets. The LCE provides direct support (DS) and general support (GS) Field Level of Maintenance on tactical ordnance, engineering, motor transport, ground-electronics, and combat systems. Operator/crew level of maintenance and organic Conduct field level of maintenance at the unit level. Evacuate equipment requiring depot level maintenance to collection points to determine the total maintenance requirement. Units will coordinate support with their supporting units for common coalition and US equipment, or for evacuation support beyond coalition forces organic capability through MEF G-4. As a last resort, commanders at the using unit level are authorized to approve selective interchange and cannibalization, if the commander determines it is an operational necessity.

(2) (U) MEF units will utilize GCSS-MC, and other appropriate automated information systems IOT track supply accountability and maintenance transactions on all equipment loaded to their DODAACs.

(3) (U) Readiness reports will be sent via NIPR/SIPR through authorized automated information systems (AIS). Readiness reporting will take place once per 24 hour period to be received or uploaded NLT 1500 each day “depending on battle rhythm.” Readiness reports will focus on MCBUL 3000 critical TAMCNS plus those additional TAMCNS deemed relevant by the CG of each MSC.

(4)

(4) (U) Inspection and Classification. Perform inspection and classification at the unit level.

The supporting LCE will assess unit repairs that exceed using unit capability. Complete requests for support in the appropriate AIS. The LCE will determine the level of

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maintenance required to repair the damaged or inoperable piece of equipment.

(1) (U) Service, Adjustment, Tuning. Coordinated requirements that exceed unit organic maintenance capability or capacity through their appropriate supporting unit.

(2) (U) Testing and Calibration. Coordinate requirements that exceed unit organic maintenance capability or capacity through their appropriate supporting unit.

c. (U) Repair. The intent is to repair forward. The forward effort is to replace components or subcomponents at the point of breakdown or the maintenance collection point. If replacement or repair cannot take place forward, then evacuate the unserviceable component or system to the combat service support area (CSSA) for repair. Maintenance support elements will make every effort to anticipate operational requirements and will position maintenance capability forward to ensure immediate access to repair parts and maintenance support. The forward CSSA, once established, will provide limited component repair by the GS (General Support) field LOM support. GS support must be determined by the direct support (DS) component Field LOM units. Requisitions of all Class IX, to include secondary repairables, will cease at a point in time when equipment is ready for embarkation or during EATO transfer as identified in Appendix 7.

(1) (U) Rebuilding and Overhaul. Sustainment LOM support is provided at the CSSA. Sustainment level support must be determined by the sustainment LOM units. Operational Readiness Floats (ORF) and Weapon Systems Replacement will not be available.

(2) (U) Recovery and Evacuation. MEF subordinate units and coalition forces are responsible to use self-recovery as the first means to accomplish recovery and evacuation. If organic level recovery is not possible, units will coordinate through their supporting unit. Units will notify MEF G-4 if there are any issues with the recovery of military equipment. If organic recovery is not available, Host Nation Support may be utilized.

(3) (U) Replacement. Replacement of equipment lost through training loss

or maintenance deficiencies will be coordinated through the MEF G-4.

(4) (U) Reconstitution. During reconstitution phase of operation, priorities for equipment repair will be determined by MEF G4.

4. (U) Administration and Logistics

a. Administration. Refer to Annex D.

b. Logistics. Refer to Annex D.

5. (U) Command and Signal

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a. (U) Command. Refer to Annex J (Command Relationships).

b. (U) Signal. Refer to Annex K (Communication Info Sys) Omitted.

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APPENDIX 13 TO ANNEX D TO OPERATION ORDER OR PLAN (Number) (Operation
CODE WORD) (U)
GENERAL ENGINEERING (U)

(U) REFERENCES:

- a. (U) MEFEX OPORD (Base Order)
- b. (U) Joint Pub 3-34, Engineer Doctrine for Joint Operations
- c. (U) MCWP 0-1, Marine Operations
- d. (U) MCWP 4-11.6, Petroleum and Water Logistics Operations
- e. (U) MCWP 4-11, Tactical Level Logistics
- f. (U) MCWP 3-17, Engineering Operations
- g. (U) MCRP 3-40D.17 Electric Power Generation and Distribution
- h. (U) MCRP 3-40B.5, Petroleum and Water Logistics Operations
- i. (U) NTTP 3-10.1M, Seabee Operations in the Marine Air-Ground Task Force (MAGTF)

(U) TIME ZONE: ZULU

1. (U) Situation. See Base Order.
 - a. (U) Enemy Forces. Refer to Annex B (Intelligence).
 - b. (U) Friendly Forces. Refer to Annex A.
 - c. (U) Assumptions. The Host Nation (HN) will be the main provider of Host Nation Support (HNS) within means and capabilities in accordance with (IAW) established

memorandum of agreements (MOA). Support will be supplemented by contractors when HNS cannot meet the requirements.

2. (U) Mission. See Base Order.

3. (U) Execution.

a. (U) Commander's Intent and Concept of Operations.

(1) (U) Commander's Intent. This appendix describes engineering functions to secure MEF Objectives in the AO. Each MSC will use organic engineer assets prior to requesting additional assets from MEF. The Naval Construction Element (NCE) will provide general engineering to MEF.

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(a) (U) Concept of Engineer Operations. MSC engineer forces provide MEF with the full-range of engineering functions.

(b) (U) During Phase 0, the priority of effort will be determining engineering and infrastructure shortfalls and generating a prioritized list in support of future phases.

(c) (U) During Phase 1, the priority of effort will be establishing infrastructure to support reception, staging, and onward movement. As the operation evolves, mobility and sustainment of the force will be the priorities.

(d) (U) During Phase 2, the priority of effort will be to support shaping operations by providing engineer capabilities across the forces in preparation for Phase 3.

(e) (U) During Phase 3, the priority of effort will be to support combat operations in the joint operating area by prioritizing and task-organizing engineer assets.

4. (U) Tasks

a. (U) Marine Division – GCE (across all phases and stages)

(1) (U) Be prepared to (BPT) conduct breaching operations ISO MEF operations.

(2) (U) BPT provide obstacle-clearing detachment.

(3) (U) Provide Engineer Reconnaissance capabilities.

(4) (U) Provide obstacle reduction and fighting positions in support of the scheme of maneuver (SOM).

(5) (U) BPT improve positions in order to meet force protection requirements.

(6) (U) Maintain self-sufficiency for engineering capability to the maximum extent possible through employment of organic capabilities.

(7) (U) Determine, prioritize, and submit Class IV requirements in excess of organic capabilities in support of mobility breaching operations to MEF G-4/Engineer Branch.

(8) (U) BPT provide base camp construction, power generation and distribution as required.

b. (U) MLG Forward – LCE (across all phases and stages)

(1) (U) Determine, prioritize, and submit Class IV requirements in support of combat service support area operations to MEF G-4/Engineer Section.

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(2) (U) Provide general engineering support (GS) to include, but not limited to bulk liquids, non-standard gap crossing, and EOD support to MEF forces.

(3) (U) Provide Engineer Reconnaissance capabilities.

(4) (U) Provide capabilities to conduct mobility enhancement operations to include construction, improvement, and maintenance of lines of communications and supply routes.

(5) (U) BPT provide base camp construction, power generation and distribution as required.

(6) (U) Provide general engineering support including vertical and horizontal construction of mission essential facilities and infrastructure, to include Airfield Damage Repair (ADR).

(7) (U) BPT augment MEF forces with EOD support as required.

(8) (U) BPT use organic engineer support as required to build Class III storage areas for the Tactical Fuel Systems within the AOA.

(9) (U) BPT attach part of ESB to the NCE IOT aggregate general engineering capabilities.

(10) (U) BPT provide controlled environments for all water Principal End Items as well as the product produced when conducting water support operations (showers, laundry, water purification, water resupply points) during cold weather operations.

(11) (U) Provide Class III services and support as required.

c. (U) X Marine Air Wing Forward – Air Combat Element (ACE) (across all phases and stages)

(1) (U) Provide rapid runway and airfield damage repair as required in the AOA.

(2) (U) BPT execute vertical and horizontal construction of mission essential facilities and infrastructure.

(3) (U) BPT establish a FARP in support of Naval Aircraft within the AO.

(4) (U) BPT augment MEF forces with EOD support as required.

(5) (U) BPT provide base camp construction, power generation and distribution as required.

(6) (U) BPT provide controlled environments for all water Principal End Items as well as the product produced when conducting water support operations (showers, laundry, water purification, water resupply points) during cold weather operations.

d. (U) MEF Information Group (MIG) (across all phases and stages)

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(1) (U) Maintain self-sufficiency for general engineering capability to the maximum extent possible through employment of organic capabilities.

(2) (U) Determine, prioritize, and submit Class IV requirements in support of the buildup ashore and sustainment operations to MEF G-4/Engineer Section.

(3) (U) BPT provide base camp power generation and distribution as required.

e. (U) Naval Construction Regiment

(4) (U) Determine, prioritize, and submit Class IV requirements in support of the buildup ashore to MEF G-4/Engineer Section.

(5) (U) Provide General Engineering support to MEF.

- (6) (U) Evaluate MEF AO for infrastructure shortfalls and generate a prioritized list with initial material and duration estimates.
 - (7) (U) BPT conduct underwater surveys ISO port operations
 - (8) (U) Establish the MEF Prioritized Engineer Projects List (PEPL) Working Group and execute routinely with support from Engineer Branch.
5. (U) Administration and Logistics
- a. (U) Administration. See Annex E (Personnel).
 - b. (U) Logistics. See Annex D (Logistics/Combat Service Support).
6. (NU/REL) Command and Signal
- c. (NU/REL) Command. See Annex J (Command Relationships).
 - d. (NU/REL) Signal. See Annex K (Communications Plan).

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APPENDIX 14 TO ANNEX D TO OPERATION ORDER OR PLAN (Number)
(Operation CODE WORD) (U)
OPERATIONAL CONTRACT SUPPORT (U)

- (U) REFERENCES:
- (a) (U) FEDERAL ACQUISITION REGULATIONS (FAR)
 - (b) (U) DEFENSE FEDERAL ACQUISITION REGULATIONS SUPPLEMENT (DFARS)
 - (c) (U) DEPARTMENT OF DEFENSE FINANCIAL MANAGEMENT GUIDE (DOD FMR)
 - (d) (U) NAVSUPINST 4205.3F DEPARTMENT OF THE NAVY (DON)

CONTRACTING OFFICER'S REPRESENTATIVE

(e) (U) NAVY AND MARINE CORPS ACQUISITION REGULATIONS
SUPPLEMENT (NMCARS)

(f) (U) MARINE CORPS ACQUISITION PROCEDURES SUPPLEMENT (MAPS)

(g) (U) CJCSI 2120.01D ACQUISITION AND CROSS-SERVICE AGREEMENT

1. Operational Contract Support Integration Cell (OCSIC). (U) Marine Expeditionary Forces (MEF) G-4 shall develop an Operational Contract Support Integration Cell (OCSIC), composed of a G-3 planner, G-4 planner, Operational Contract Support (OCS), Contracting officers (KO), dispersing officers and G-8 Comptroller. OCS, G-4 planner and KO will work within the G-4 space. G-8 and dispersing will work within their designated area. The purpose of the OCSIC Cell is to review and validate all requirements for supplies and services. The OCSIC will meet twice a day, morning and evening to validate any requirement received. MLG Expeditionary Contracting Platoon (ECP) will execute operational and tactical contract support, executing contracting authority by purchasing supplies and services for use by all Marine Corps forces in Theater.

a. (U) OCS Working Group (OCSWG). GCE, LCE, ACE, and MIG shall provide Supply Officers to the weekly OCS Working Group (OCSWG) to stay informed of Contracting and acquisition and cross-servicing agreement (ACSA) related issues that may arise.

b. (U) Approvals. All Contracting and ACSA requirements will be initially approved by MEF G3 and executed by the OCSIC. MSC's will not be given authority to execute orders at their level.

(1) (U) Request for services. All requests for services will be submitted by the MSCs, through MEF G3, to the OCSIC via AGATRS for ACSA. For contracts everything will be submitted through Purchase Request Builder (PRB) at www.prbuilder.usmc.mil to the OCSIC for validation and approval.

(2) (U) PR Builder. Three deployed PR Builder workflows will be created; Micro-Purchases, Contracting, and ACSA orders.

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c. (U) Receipt for supplies and services. MSCs will appoint responsible individuals using a DD577 who will receipt for contracted and ACSA services by submitting Receipt and Acceptance (R&A) DD250's to the OCSIC for submittal of final payment packages.

2. (U) Tasks

a. (U) Major Subordinate Commands.

(1) (U) The MSCs will coordinate all contracting requirements via AGATRS and PRB through the OCSIC Cell to be reviewed and validated for final approval by G-3 for supplies and services.

(2) (U) Designate personnel will be nominated by their commands to serve as the Contracting Officers Representatives (CORs) to managed and accept contracted supplies, services, and ACSA services. CORs are responsible for ensuring contractors provide the supplies or services contracted for in accordance with the terms and conditions of the contract and for reporting issues or contract completion to the Contracting Cell via their Camp Mayors or Supply Officers.

(3) (U) CORs will be appointed in accordance with Federal Acquisition Regulations (FAR) 1.602-2(d), Navy Supplemental Instruction (NAVSUPINST) 4205.3F and Marine Acquisition Procedures Supplement (MAPS) 1.602-2.

(4) (U) COR Training. All personnel that are identified as unit points of contact for contracted supplies, services, and ACSA services will complete the required COR training. Required COR training consists of three online courses:

- (a) CLM 003 – OVERVIEW OF ACQUISITION ETHICS
- (b) CLC 106 – CONTRACTING WITH A MISSION FOCUS
- (c) CLC 011 – CONTRACTING FOR THE REST OF US

(5) (U) These courses are available at www.dau.mil, and final contract training will be given face-to-face prior to deployment. An official certificate will be provided at the end of the training. CORs are not authorized to commit the U. S. Government. CORs are the eyes and ears of the contracting officer and are appointed to ensure the vendor performs in accordance with the terms of the contract. Any changes to the contract must be approved by a warranted contracting officer (KO) to avoid an unauthorized commitment.

(6) (U) MSCs and staff shall report to the OCSIC all Government Commercial Purchase Credit Cards (GCPC) in the AOR, Field and Pay agents, and contract related issues to the OCSIC.

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(7) (U) MSCs and staff shall report to the OCSIC all Government Commercial Purchase Credit Cards (GCPC) in the AOR, Field and Pay agents, and contract related issues to the OCSIC.

3. (U) Ordering procedures

a. (U) Requirement management – Requirements will fall into three categories: commercial micro-purchase, commercial contract, and Host Nation Support (HNS). All requirements shall be submitted via PRB to the OCSIC for approval, funding,

and execution. PR document type codes will be either “CC” for micro-purchases, “SU” for contracts, or “MD” for HN Support.

b. (U) Ordering Management - The OCSIC, using the PR identifier, will direct the requirement to the appropriate ordering mechanism. The mechanism will be either PRB or AGATRS.

(1) (U) Commercial micro-purchase will be assigned to GCPC at the using unit level, GCPC at the command element (CE) level, SF44 at the direction of the contracting officer (KO) either by self or through the use of a FOO/PA team. The unit will submit a PR request to the OCSIC for approval.

(2) (U) Commercial contract requirements will be executed by the KO team located within the OCSIC Cell at the CE level. Lead times required for contract depend on dollar value and overall complexity of the requirement. The current Simplified Acquisition threshold is currently up to \$250,000.

>\$1,000,000	60 days lead time
>\$250,000	40 days lead time
<\$250,000(SAT)	20 days lead time

(3) (U) Requirements will be generated from the Statement of Requirements (SORs) that was accepted in the Host Nation contracting system. The OCS officer or chief will combine like requirements from CE, GCE, LCE, and ACE; enter the orders into AGATRS, and at completion of services, take R&A DD250’s from elements to receipt for services in AGATRS.

c. (U) Capacity Management – The customer should know if their requirement is commercial or non-commercial. The OCSIC can assist the customer with this identification.

(1) (U) Contracts and micro-purchases are commercial and customers should have an idea of commercial sources available. Customers should submit their PR, a minimum of two quotes from two different sources with each micro-purchase or contract PR thru PRB. OCSIC will validate and approve the requirement and send request back to unit for action.

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(2) (U) HNS is all non-commercial requirements. Any requirement being provided by a foreign Government is non-commercial HNS, even when the actual execution is done by, what appears to be, a commercial vendor. All requirements will be submitted via AGATRS to the OSCIS for action and approval. Upon approval, OCS will submit requirements thru AGATRS to HN for action.

d. (U) Order Satisfaction – The OCSIC with assistance from the customer will track closure of each order. Each order will only be satisfied upon final payment.

(1) (U) Final payment for GCPC takes place when monthly statements have been certified and the issuing bank has been paid by DFAS (upwards of 60 days after transaction date).

(2) (U) SF44's are closed when the KO or FOO/PA team clears their cash distribution with disbursing.

(3) (U) Contracts can be closed when the KO receives R&A DD250 from the customer and payment is made to the vendor from DFAS.

(4) (U) ACSA orders for HN support will be closed upon receipt of R&A DD250 and when final ACSA payment is made by DFAS (upwards of 60 days).

4. (U) Unauthorized Commitments (UAC)

a. (U) UACs occur when anyone other than a Contracting Officer makes an agreement, either verbally or in writing, with a contractor or private individual to commit the United States Government to make payment for actions taken. These unauthorized commitments may sometimes be made inadvertently; however, it does not excuse the individual at fault. Therefore, individuals involved in such cases may be held liable by the Government to make payment for unauthorized goods and services made outside of a warranted Contracting Officers authority.

(1) (U) Resolution of a UAC is lengthy, time-consuming, process requiring a statement of facts from the offending person to the Commanding Officer.

(2) (U) Commanders will endorse the ratification package (statement of facts, proof of funds, invoice from vendor, and route that to the first flag officer in the chain of command. From there, the GO endorses it and it goes back to EACO, contracting.

(3) (U) Further steps include legal review and approval, as well as commanding general

(CG) approval at the local level, and possibly HQMC approval to ratify.

b. (U) Warranted KO, GCPC, and ACSA ordering officials are the only office authorized to obligate money on behalf of the U.S. Forces. UAC training is available from the OCSIC cell. Utilize your Camp Mayors or Supply Officers to inform the OCSIC cell of requirements to

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avoid unauthorized commitments.

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Glossary

Part I – Acronyms

ACE	aviation combat element
AC/S.....	assistant chief of staff
ACSA.....	acquisition and cross-servicing agreement
AI.....	area of influence
AO	area of operations
ASP	ammunition supply point
ASR.....	alternate supply route
BAS.....	battalion aid station
CAC	common access card
C2PC.....	command and control personal computer
CBRN.....	chemical, biological, radiological, and nuclear
CE.....	command element (USMC)
CG	commanding general
CLB.....	combat logistics battalion
COA.....	course of action
CONOPS.....	concept of operations
CP.....	command post
CSS.....	combat service support
DLC	distribution liaison cell
DODIC.....	Department of Defense identification code
DOS	days of supply
DZ	drop zone
EDIPI	Electronic Data Interchange Personnel Identifier
EOD	explosive ordnance disposal
EOF	escalation of force
EVAC.....	eva cuation
FARP.....	forward arming and refueling point
FASP.....	field artillery support plan

FAST fleet antiterrorism security team

FISDU flight in support of deployed unit

FM field manual (USA)

FUELCON.....fuel
container

G-1personnel/personnel staff section (USMC)

G-2 intelligence/intelligence staff section (USMC)

G-3.....Army or Marine Corps component operations staff
officer (Army division or higher staff, Marine Corps brigade or higher staff); assistant chief
of staff, operations

G-4.....Army or Marine Corps component logistics staff
officer (Army division or higher staff, Marine Corps brigade or higher staff); assistant chief
of staff, logistics/logistics staff section (USMC)

G-5 assistant chief of staff, plans/plans staff section (USMC)

G-6communications/communications system staff section (USMC)

GCE.....ground combat element (USMC)

GCSS..... Global Command Support System

GERS.....ground expedient refueling
system

GSA.....General Services Administration

HAZMAT..... hazardous material

HERS helicopter expedient refueling system

HHQhigher headquarters

HLZhelicopter landing zone

HMMWVhigh mobility multipurpose wheeled vehicle

HN.....hos
t nation

HQ.....head
quarters

ICU.....intensive care unit

IR..... intelligence requirement

ITESS.....Instrumented Tactical Engagement Simulation
System

ITS.....individual training standards

JOPEBJoint Operation Planning and Execution System

KOcontracting officer

LAV light armored vehicle

LCElogistics combat element (USMC)

LCU..... landing craft, utility

LO/LO..... Lift-
On/Lift-Off

LTI..... limited technical inspection

MARES Marine Corps Automated Readiness Evaluation System

LNO.....liaison
officer

LOTS.....logistics over-the-shore

LVSRLogistics Vehicle System Replacement

MAGTF..... Marine Air-Ground Task Force

MCDP Marine Corps doctrinal publication

MCPP Marine Corps Planning Process

MCPP-N Marine Corps Prepositioning Program-Norway

MCRP..... Marine Corps reference publication

MCWP Marine Corps Warfighting Publication

MCX..... Marine Corps Exchange

MEDEVAC..... medical evacuation

METT-T .. mission, enemy, terrain and weather, troops and support available-time available

MEU.....Marine expeditionary unit

MHE.....materials handling equipment

MILAIR.....militar
y airlift

MILES..... multiple integrated laser engagement system

MIPR.....military interdepartmental purchase request

MLG..... Marine logistics group

MOGmaximum (aircraft) on ground

MOGAS.....motor
gasoline

MOUTmilitary operations on urbanized terrain

MREmeal, ready to eat

MSCmajor subordinate command

MTmotor
transport

MTVRmedium tactical vehicle replacement

NCHBNavy cargo handling battalion

NEX.....Naval Exchange

OCONUS.....Outside Contiguous United States

OPDSoffshore petroleum discharge system (USN)

OPLAN.....operati on plan

OPORDoperation order

OPS.....op erations

OPToperational planning team

PAX.....pa ssenger

POCpoint of contact

POLpetroleum, oils, and lubricants

PX.....post exchange

RFI request for information

RO/RO.....roll-on/roll-off

SESAM special effects small arms marking rounds

SMEsubject matter expert

SMUspecial mission unit

SOFAstatus-of-forces agreement

SOPstandard operating procedure

STON short ton

STP single ticket program

TCN.....transportation control number

TOT/P transportation of things/people

TPFDD.....Time-Phased Force Deployment Data

TT tractor trailer

UGRunitized group ration

USA.....United States Army

USN..... United States Navy

Part II – Definitions

A

Airfield - An area prepared for the accommodation (including any buildings, installations, and equipment), landing, and takeoff of aircraft. See also departure airfield; landing area; landing site. (JP 3-17)

Amphibious force - An amphibious task force and a landing force together with other forces that are trained, organized, and equipped for amphibious operations. Also called AF. See also amphibious operation; amphibious task force; landing force. (JP 3-02)

Area of influence - A geographical area wherein a commander is directly capable of influencing operations by maneuver or fire support systems normally under the commander's command or control. (JP 3-0)

Area of interest - That area of concern to the commander, including the area of influence, areas adjacent thereto, and extending into enemy territory. Also called AOI. See also area of influence. (JP 3-0)

Area of operations - An operational area defined by a commander for land and maritime forces that should be large enough to accomplish their missions and protect their forces. Also called AO. See also area of responsibility; joint operations area; joint special operations area. (JP 3-0)

Area of responsibility - The geographical area associated with a combatant command within which a geographic combatant commander has authority to plan and conduct operations. Also called AOR. See also combatant command. (JP 1)

Assessment - 1. A continuous process that measures the overall effectiveness of employing capabilities during military operations. 2. Determination of the progress toward accomplishing a task, creating a condition, or achieving an objective. 3. Analysis of the security, effectiveness, and potential of an existing or planned intelligence activity. 4. Judgment of the motives, qualifications, and characteristics of present or prospective employees or “agents.” (JP 3-0)

Assign - 1. To place units or personnel in an organization where such placement is relatively permanent, and/or where such organization controls and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel. 2. To detail individuals to specific duties or functions where such duties or functions are primary and/or relatively permanent. See also attach. (JP 3-0)

Assumption - A specific supposition of the operational environment that is assumed to be true, in the absence of positive proof, essential for the continuation of planning. (JP 5-0)

Attach - 1. The placement of units or personnel in an organization where such placement is relatively temporary. 2. The detailing of individuals to specific functions where such functions are secondary or relatively temporary. See also assign. (JP 3-0)

B

Battlespace - The environment, factors, and conditions that must be understood to successfully apply combat power, protect the force, or complete the mission. This includes the air, land, sea, space, and the included enemy and friendly forces; facilities; weather; terrain; the electromagnetic spectrum; and the information environment within the operational areas, areas of interest, and areas of influence.

Beach - 1. The area extending from the shoreline inland to a marked change in physiographic form or material or to the line of permanent vegetation (coastline). 2. In amphibious operations, that portion of the shoreline designated for landing of a tactical organization. (JP 3-02)

Branch - 1. A subdivision of any organization. 2. A geographically separate unit of an activity, which performs all or part of the primary functions of the parent activity on a smaller scale. 3. An arm or service of the Army. 4. The contingency options built into the base plan used for changing the mission, orientation, or direction of movement of a force to aid success of the operation based on anticipated events, opportunities, or disruptions caused by enemy actions and reactions. See also sequel. (JP 5-0)

C

Casualty - Any person who is lost to the organization by having been declared dead, duty status – whereabouts unknown, missing, ill, or injured. (JP 4-02)

Casualty evacuation - The unregulated movement of casualties that can include movement both to and between medical treatment facilities. Also called CASEVAC. See also casualty; evacuation; medical treatment facility. (JP 4-02)

Casualty rate - The number of casualties per 1,000 population at risk. (DODI 8620.04)

Center of gravity - The source of power that provides moral or physical strength, freedom of action, or will to act. Also called COG. See also decisive point. (JP 5-0)

Chemical, biological, radiological, and nuclear defense - Measures taken to minimize or negate the vulnerabilities to, and/or effects of, a chemical, biological, radiological, or nuclear hazard or incident. Also called CBRN defense. (JP 3-11)

Chief of Staff - The senior or principal member or head of a staff who acts as the controlling member of a staff for purposes of the coordination of its work or to exercise command in another's name. Also called COS. (JP 3-33)

Classes of Supply - The ten categories into which supplies are grouped to facilitate supply management and planning. I. Rations and gratuitous issue of health, morale, and welfare items. II. Clothing, individual equipment, tentage, tool sets, and administrative and housekeeping supplies and equipment. III. Petroleum, oils, and lubricants. IV. Construction materials. V. Ammunition. VI. Personal demand items. VII. Major end items, including tanks, helicopters, and radios. VIII. Medical. IX. Repair parts and components for equipment maintenance. X. Nonstandard items to support nonmilitary programs such as agriculture and economic development. See also petroleum, oils, and lubricants. (JP 4-09)

Combat Service Support - The essential capabilities, functions, activities, and tasks necessary to sustain all elements of all Fleet Marine Forces in theater at all levels of warfare. Also called CSS. See also combat support. (JP 4-0)

Combat Support - Fire support and operational assistance provided to combat elements. Also called CS. See also combat service support. (JP 4-0)

Command - 1. The authority that a commander in the armed forces lawfully exercises over subordinates by virtue of rank or assignment. 2. An order given by a commander; that is, the will of the commander expressed for the purpose of bringing about a particular action. 3. A unit or units, an organization, or an area under the command of one individual. See also combatant command; combatant command (command authority). (JP 1)

Command and Control - The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Also called C2. (JP 1)

Command Element - The core element of a Marine air-ground task force (MAGTF) that is the headquarters. The command element is composed of the commander, general or executive and special staff sections, headquarters section, and requisite communications support, intelligence, and reconnaissance forces, necessary to accomplish the MAGTF's mission. The command element provides command and control, intelligence, and other support essential for effective planning and execution of operations by the other elements of the MAGTF. The command element varies in size and composition; and, in a joint or multinational environment, it may contain other Service or multinational forces assigned or attached to the MAGTF. Also called CE.

Commander's Critical Information Requirement - An information requirement identified by the commander as being critical to facilitating timely decision making. Also called CCIR. See also information requirements; intelligence; priority intelligence requirement. (JP 3-0)

Commander's Estimate - The commander's initial assessment in which options are provided in a concise statement that defines who, what, when, where, why, and how the course of action will be implemented. (JP 5-0)

Commander's Intent - A clear and concise expression of the purpose of the operation and the desired military end state that supports mission command, provides focus to the staff, and helps subordinate and supporting commanders act to achieve the commander's desired

results without further orders, even when the operation does not unfold as planned. See also assessment; end state. (JP 3-0)

Commander's Planning Guidance - Directions and/or instructions that focus the staff's course of action development during the planning process. Also called CPG.

Command Relationships - The interrelated responsibilities between commanders, as well as the operational authority exercised by commanders in the chain of command; defined further as combatant command (command authority), operational control, tactical control, or support. See also chain of command; combatant command (command authority); command; operational control; support; tactical control. (JP 1)

Concept of Logistics Support - A verbal or graphic statement, in a broad outline, of how a commander intends to support and integrate with a concept of operations in an operation or campaign. Also called COLS. (JP 4-0)

Concept of Operations - A verbal or graphic statement that clearly and concisely expresses what the commander intends to accomplish and how it will be done using available resources. Also called CONOPS. (JP 5-0)

Concept Plan - An operation plan in an abbreviated format that may require considerable expansion or alteration to convert it into a complete operation plan or operation order. Also called CONPLAN. See also operation plan. (JP 5-0)

Constraint - In the context of planning, a requirement placed on the command by a higher command that dictates an action, thus restricting freedom of action. See also limitation; restraint. (JP 5-0)

Convoy - 1. A number of merchant ships and/or naval auxiliaries usually escorted by warships and/or aircraft—or a single merchant ship or naval auxiliary under surface escort— assembled and organized for the purpose of passage together. 2. A group of vehicles organized for the purpose of control and orderly movement with or without escort protection that moves over the same route at the same time and under one commander. (JP 3-02)

Course of Action - 1. Any sequence of activities that an individual or unit may follow. 2. A scheme developed to accomplish a mission. Also called COA. (JP 5-0)

Critical Capability - A means that is considered a crucial enabler for a center of gravity to function as such and is essential to the accomplishment of the specified or assumed objective(s). (JP 5-0)

Critical Information - Specific facts about friendly intentions, capabilities, and activities needed by adversaries for them to plan and act effectively so as to guarantee failure or unacceptable consequences for friendly mission accomplishment. (JP 2-0)

Critical Vulnerability - An aspect of a critical requirement which is deficient or vulnerable to direct or indirect attack that will create decisive or significant effects. (JP 5-0)

Culminating Point - The point at which a force no longer has the capability to continue its form of operations, offense or defense. (JP 5-0)

D

Decision Support Template - A combined intelligence and operations graphic based on the results of wargaming that depicts decision points, timelines associated with movement of forces and the flow of the operation, and other key items of information required to execute

a specific friendly course of action. Also called DST. See also course of action; decision point. (JP 2-01.3)

Detainee - Any person captured, detained, or otherwise under the control of Department of Defense personnel. (JP 3-63)

Detainee Collection Point - A facility or other location where detainees are assembled for subsequent movement to a detainee holding area. Also called DCP. (JP 3-63)

Detainee Holding Area - A facility or other location where detainees are administratively processed and provided custodial care pending disposition and subsequent release, transfer, or movement to a theater detention facility. Also called DHA. (JP 3-63)

Detainee Operations - A broad term that encompasses the capture, initial detention and screening, transportation, treatment and protection, housing, transfer, and release of the wide range of persons who could be categorized as detainees. (JP 3-63)

E

Explosive Ordnance Disposal - 1. The detection, identification, on-site evaluation, rendering safe, recovery, and final disposal of unexploded explosive ordnance. 2. The organizations engaged in such activities. Also called EOD. (JP 3-42)

F

Feasibility - The plan review criterion for assessing whether the assigned mission can be accomplished using available resources within the time contemplated by the plan. See also acceptability; adequacy. (JP 5-0)

Fragmentary Order - An abbreviated operation order issued as needed to change or modify an order or to execute a branch or sequel. Also called FRAGORD. (JP 5-0)

Friendly Force Information Requirement - Information the commander and staff need to understand the status of friendly force and supporting capabilities. Also called FFIR. (JP 3-0)

Future Operations Section - 1. In Marine air-ground task force operations, a section normally under the staff cognizance of the G-3 that focuses on planning/producing new fragmentary orders or the next change of major subordinate command mission. This section forms and leads the integrated planning effort with a planning horizon of 72 to 120 hours out. It also develops branch plans and sequels. 2. In Marine aviation, that portion of the tactical air command center and aviation combat element commander's battlestaff responsible for the detailed planning and coordination of all future air operations conducted by the aviation combat element in support of the Marine air-ground task force. The section plans for and publishes the next air tasking order(s) (normally a 48- to 72-hour period). Also called FOS. See also current operations section; operational planning team.

G

General Support - 1. Support given to the supported force as a whole and not to any particular subdivision thereof. See also close support; direct support; mutual support; support. 2. A tactical artillery mission. Also called GS. See also direct support; general support-reinforcing. (JP 3-09.3)

Health Service Support - All services performed, provided, or arranged to promote, improve, conserve, or restore the mental or physical well-being of personnel. Also called HSS. (JP 4-02)

H

Host Nation - A nation which receives forces and/or supplies from allied nations and/or North Atlantic Treaty Organization to be located on, to operate in, or to transit through its territory. Also called HN. (JP 3-57)

Host-Nation Support - Civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, crises or emergencies, or war based on agreements mutually concluded between nations. Also called HNS. See also host nation. (JP 4-0)

I

Implied task - In the context of planning, a task derived during mission analysis that an organization must perform or prepare to perform to accomplish a specified task or the mission, but which is not stated in the higher headquarters order. See also essential task; specified task. (JP 5-0)

Intelligence estimate - The appraisal, expressed in writing or orally, of available intelligence relating to a specific situation or condition with a view to determining the courses of action open to the enemy or adversary and the order of probability of their adoption. (JP 2-0)

Intelligence preparation of the battlespace - The analytical methodologies employed by the Services or joint force component commands to reduce uncertainties concerning the enemy, environment, time, and terrain. Also called IPB. See also joint intelligence preparation of the operational environment. (JP 2-01.3)

J

Joint - Connotes activities, operations, organizations, etc., in which elements of two or more Military Departments participate. (JP 1)

L

Line of Effort - In the context of planning, using the purpose (cause and effect) to focus efforts toward establishing operational and strategic conditions by linking multiple tasks and missions. Also called LOE. (JP 5-0)

Line of Operation - A line that defines the interior or exterior orientation of the force in relation to the enemy or that connects actions on nodes and/or decisive points related in time and space to an objective(s). Also called LOO. (JP 5-0)

Logistics - Planning and executing the movement and support of forces. (JP 4-0)

Logistics Combat Element - The core element of a Marine air-ground task force (MAGTF) that is task-organized to provide the combat service support necessary to accomplish the MAGTF's mission. The logistics combat element varies in size from a small detachment to one or more Marine logistics groups. It provides supply, maintenance, transportation, general engineering, health services, and a variety of other services to the MAGTF. In a joint or multinational environment, it may also contain other Service or multinational forces assigned or attached to the MAGTF. The logistics combat element itself is not a formal command. Also called LCE.

Logistics over-the-Shore Operations - The loading and unloading of ships without the benefit of deep draft-capable, fixed port facilities; or as a means of moving forces closer to tactical assembly areas dependent on threat force capabilities. Also called LOTS operations. See also joint logistics over-the-shore operations. (JP 4-01.6)

M

Main supply route - The route or routes designated within an operational area upon which the bulk of traffic flows in support of military operations. Also called MSR. (JP 4-01.5)

Marine air-ground task force - The Marine Corps' principal organization for all missions across the range of military operations, composed of forces task-organized under a single commander capable of responding rapidly to a contingency anywhere in the world. The types of forces in the Marine air-ground task force (MAGTF) are functionally grouped into four core elements: a command element, an aviation combat element, a ground combat element, and a Logistics Combat Element. The four core elements are categories of forces, not formal commands. The basic structure of the MAGTF never varies, though the number, size, and type of Marine Corps units comprising each of its four elements will always be mission dependent. The flexibility of the organizational structure allows for one or more subordinate MAGTFs to be assigned. In a joint or multinational environment, other Service or multinational forces may be assigned or attached. Also called MAGTF.

Marine logistics group - The logistics combat element of the Marine expeditionary force (MEF). It is a permanently organized command tasked with providing combat service support beyond the organic capabilities of supported units of the MEF. The Marine logistics group is normally structured with direct and general support units, which are organized to support a MEF possessing one Marine division and one Marine aircraft wing. It may also provide smaller task organized logistics combat elements to support Marine air-ground task forces smaller than a MEF. Also called MLG.

Marine Corps Planning Process - A six-step methodology that helps organize the thought processes of the commander and staff throughout the planning and execution of military operations. It focuses on the mission and the threat and is based on the Marine Corps philosophy of maneuver warfare. It capitalizes on the principle of unity of command and supports the establishment and maintenance of tempo. The six steps consist of problem framing, course of action development, course of action war game, course of action comparison and decision, orders development, and transition. Also called MCPP. (Note: Tenets of the MCPP include top-down planning, single-battle concept, and integrated planning.)

Maritime prepositioning equipment and supplies - Unit equipment and sustaining supplies associated with a Marine air-ground task force and a Navy support element that are deployed on maritime prepositioning ships. Also called MPE/S.

Maritime Prepositioning Force - A task organization of units under one commander formed for the purpose of introducing a Marine air-ground task force and its associated equipment and supplies into a secure area. The maritime prepositioning force is composed of a command element, a maritime prepositioning ships squadron, a Marine air-ground task force, and a Navy support element. Also called MPF.

Maritime Pre-Positioning Force Operation - A rapid deployment and assembly of a Marine expeditionary force in a secure area using a combination of intertheater airlift and forward-deployed maritime pre-positioning ships. Also called MPF operation. See also maritime pre-positioning ships. (JP 4-01.6)

Maritime Pre-Positioning Ships - Civilian-crewed, Military Sealift Command-chartered ships that are usually forward-deployed and loaded with pre-positioned equipment and up to

30 days of supplies to support Marine expeditionary brigades. Also called MPSs. See also Navy cargo handling battalion. (JP 3-02)

Materiel - All items necessary to equip, operate, maintain, and support military activities without distinction as to its application for administrative or combat purposes. See also equipment; personal property. (JP 4-0)

Medical Logistics Support - Class VIII medical supplies (medical material to include medical peculiar repair parts used to sustain the health service support system), optical fabrication, medical equipment maintenance, blood storage and distribution, and medical gases. Also called MEDLOG support. (JP 4-02)

Mission - 1. The task, together with the purpose, that clearly indicates the action to be taken and the reason therefore. (JP 3-0) 2. in common usage, especially when applied to lower military units, a duty assigned to an individual or unit; a task. (JP 3-0) 3. The dispatching of one or more aircraft to accomplish one particular task. (JP 3-30)

Mission-Oriented Protective Posture - A flexible system of protection against chemical, biological, radiological, and nuclear contamination in which personnel are required to wear only that protective clothing and equipment appropriate to the threat level, work rate imposed by the mission, temperature, and humidity. Also called MOPP. See also mission-oriented protective posture gear. (JP 3-11)

Mission-Oriented Protective Posture Gear - Military term for individual protective equipment, including suit, boots, gloves, mask with hood, first aid treatments, and decontamination kits, issued to authorized personnel. Also called MOPP gear. See also decontamination; mission-oriented protective posture. (JP 3-11)

Mission Statement - A short sentence or paragraph that describes the organization's essential task(s), purpose, and action containing the elements of who, what, when, where, and why. See also mission. (JP 5-0)

Modified Combined Obstacle Overlay - A joint intelligence preparation of the operational environment product used to portray the militarily significant aspects of the operational environment, such as obstacles restricting military movement, key geography, and military objectives. Also called MCOO. See also joint intelligence preparation of the operational environment. (JP 2-01.3)

Mortuary Affairs - Provides for the search, recovery, identification, preparation, and disposition of human remains of persons for whom the Services are responsible by status and executive order. Also called MA. See also joint mortuary affairs office. (JP 4-0)

N

Named Area of Interest - The geospatial area or systems node or link against which information that will satisfy a specific information requirement can be collected, usually to capture indications of adversary courses of action. Also called NAI. See also area of interest. (JP 2-01.3)

Node - 1. A location in a mobility system where a movement requirement is originated, processed for onward movement, or terminated. (JP 3-17) 2. In communications and computer systems, the physical location that provides terminating, switching, and gateway access services to support information exchange. (JP 6-0) 3. An element of a system that represents a person, place, or physical thing. (JP 3-0)

Nongovernmental Organization - A private, self-governing, not-for-profit organization dedicated to alleviating human suffering; and/or promoting education, health care, economic development, environmental protection, human rights, and conflict resolution; and/or encouraging the establishment of democratic institutions and civil society. Also called NGO. (JP 3-08)

O

Objective - 1. The clearly defined, decisive, and attainable goal toward which an operation is directed. 2. The specific goal of the action taken which is essential to the commander's plan. See also target. (JP 5-0)

Objective Area - A geographical area, defined by competent authority, within which is located an objective to be captured or reached by the military forces. Also called OA. (JP 3-06)

Operation - 1. A sequence of tactical actions with a common purpose or unifying theme. (JP 1) 2. A military action or the carrying out of a strategic, operational, tactical, service, training, or administrative military mission. (JP 3-0)

Operational art - The cognitive approach by commanders and staffs—supported by their skill, knowledge, experience, creativity, and judgment—to develop strategies, campaigns, and operations to organize and employ military forces by integrating ends, ways, and means. (JP 3-0)

Operational Control - The authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Also called OPCON. See also combatant command; combatant command (command authority); tactical control. (JP 1)

Operational Control Authority - The naval commander responsible within a specified geographical area for the naval control of all merchant shipping under Allied naval control. Also called OCA. (JP 3-15)

Operational Design - The conception and construction of the framework that underpins a campaign or operation plan or order. See also campaign; major operation. (JP 5-0)

Operational Environment - A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. Also called OE. (JP 3-0)

Operational logistics - The art of applying the military resources available to Fleet Marine Forces to achieve national military objectives in a theater or area of operations or to facilitate the accomplishment of assigned missions in a military region, theater, or campaign. At the operational level of war, logistics involves fundamental decisions concerning force deployment and sustainability functions in terms of identifying military requirements, establishing priorities, and determining allocations necessary to implement the commander's concept.

Operational Planning Team - A group built around the future operations section that integrates the staff representatives and resources. The operational planning team may have representatives or augmentation from each of the standard staff sections, the six warfighting functions, staff liaisons, and/or subject matter experts. Also called OPT.

Organization for Combat - In amphibious operations, task organization of landing force units for combat, involving combinations of command, ground and aviation combat, combat support, and combat service support units, for accomplishment of missions ashore. See also amphibious operation; task organization. (JP 3-02)

P

Patient Movement - The act or process of moving a sick, injured, wounded, or other person to obtain medical and/or dental care or treatment, which include medical regulating, patient evacuation, and enroute medical care. Also called PM. See also patient movement items; patient movement requirements center. (JP 4-02)

Phase - In planning, a definitive stage of a campaign or operation during which a large portion of the forces and capabilities are involved in similar or mutually supporting activities for a common purpose. (JP 5-0)

Planning Factor - A multiplier used in planning to estimate the amount and type of effort involved in a contemplated operation. (JP 5-0)

Planning Order - A planning directive that provides essential planning guidance and directs the development, adaptation, or refinement of a plan/order. Also called PLANORD. (JP 5-0)

R

Request for Information - 1. Any specific time-sensitive ad hoc requirement for intelligence information or products to support an ongoing crisis or operation not necessarily related to standing requirements or scheduled intelligence production. 2. A term used by the National Security Agency/Central Security Service to state ad hoc signals intelligence requirements. Also called RFI. See also intelligence. (JP 2-0)

Restraint - In the context of planning, a requirement placed on the command by a higher command that prohibits an action, thus restricting freedom of action. See also constraint; limitation. (JP 5-0)

S

Scheme of Maneuver - The central expression of the commander's concept for operations that governs the development of supporting plans or annexes of how arrayed forces will accomplish the mission. (JP 5-0)

Sequel - The subsequent operation or phase based on the possible outcomes of the current operation or phase. See also branch. (JP 5-0)

Specified Task - In the context of planning, a task that is specifically assigned to an organization by its higher headquarters. See also essential task; implied task. (JP 5-0)

Staff Estimate - A continual evaluation of how factors in a staff section's functional area support and impact the planning and execution of the mission. (JP 5-0)

Standard Operating Procedure - A set of instructions applicable to those features of operations that lend themselves to a definite or standardized procedure without loss of effectiveness. Also called SOP; standing operating procedure. (JP 3-31)

Subordinate Command - A command consisting of the commander and all those individuals, units, detachments, organizations, or installations that have been placed under the command by the authority establishing the subordinate command. (JP 1)

Support - 1. The action of a force that aids, protects, complements, or sustains another force in accordance with a directive requiring such action. 2. A unit that helps another unit in battle. 3. An element of a command that assists, protects, or supplies other forces in combat. See also close support; direct support; general support; inter-Service support; mutual support. (JP 1)

Supported Unit - As related to contracted support, an organization that is the recipient, but not necessarily the requester, of contracted support. See also requiring activity. (JP 4-10)

Supporting Plan - An operation plan prepared by a supporting commander, a subordinate commander, or an agency to satisfy the requests or requirements of the supported commander's plan. See also supported commander; supporting commander. (JP 5-0)

Sustainment - The provision of logistics and personnel services required to maintain and prolong operations until successful mission accomplishment. (JP 3-0)

Synchronization - 1. The arrangement of military actions in time, space, and purpose to produce maximum relative combat power at a decisive place and time. 2. In the intelligence context, application of intelligence sources and methods in concert with the operation plan to answer intelligence requirements in time to influence the decisions they support. (JP 2-0)

T

Tactical Logistics - The art of sustaining forces in combat. At the tactical level of war, logistics involves the performance of supply, maintenance, transportation, health services, general engineering, and other services with resources immediately or imminently available. Tactical logistics draws upon resources made available at the operational level and focuses on the provision of support within the force.

Target Area of Interest - The geographical area where high-value targets can be acquired and engaged by friendly forces. Also called TAI. See also area of interest; high-value target; target. (JP 2-01.3)

Task Organization - An organization that assigns to responsible commanders the means with which to accomplish their assigned tasks in any planned action. (JP 3-33)

Terminal - A facility designed to transfer cargo from one means of conveyance to another. See also facility. (JP 4-01.6)

Theater Distribution - The flow of personnel, equipment, and materiel within theater to meet the geographic combatant commander's missions. Also called TD. See also distribution; theater; theater distribution system. (JP 4-09)

Theater Distribution System - The four independent and mutually supported networks within an area of responsibility to meet the geographic combatant commander's requirements: the physical network, the financial network, the information network, and the communications network. See also distribution; distribution plan; distribution system; theater; theater distribution. (JP 4-01)

Throughput - 1. In transportation, the average quantity of cargo and passengers that can pass through a port on a daily basis from arrival at the port to loading onto a ship or plane, or from the discharge from a ship or plane to the exit (clearance) from the port complex. (JP 4-01.5) 2. In patient movement and care, the maximum number of patients (stable or stabilized) by category, that can be received at the airport, staged, transported, and received at the proper hospital within any 24-hour period. (JP 4-02)

Throughput capacity (text reads capability) - The estimated capacity of a port or an anchorage to clear cargo and/or passengers in 24 hours usually expressed in tons for cargo, but may be expressed in any agreed upon unit of measurement. See also clearance capacity. (JP 4-01.5)

U

Unity of Command - The operation of all forces under a single responsible commander who has the requisite authority to direct and employ those forces in pursuit of a common purpose. (JP 3-0)

Unity of Effort - Coordination and cooperation toward common objectives, even if the participants are not necessarily part of the same command or organization, which is the product of successful unified action. (JP 1)

V

Vision - A guiding image of success—a succinct description of the ideal end state—that provides direction for development of strategy.

Vulnerability - 1. The susceptibility of a nation or military force to any action by any means through which its war potential or combat effectiveness may be reduced or its will to fight diminished. (JP 3-01) 2. The characteristics of a system that can cause it to be degraded (incapability to perform the designated function or mission) as a result of being subjected to a certain level of effects in an unnatural (man-made) hostile environment. (JP 3-60) 3. In information operations, a weakness in information system security design, procedures, implementation, or internal controls that could be exploited to gain unauthorized access to information or an information system. See also information operations. (JP 3-13)

Vulnerability Assessment - A Department of Defense, command, or unit-level evaluation (assessment) to determine the vulnerability of an installation, unit, exercise, port, ship, residence, facility, or other site to a terrorist attack. Also called VA. (JP 3-07.2)

W

Warfighting Functions - The six mutually supporting military activities integrated in the conduct of all military operations. The six warfighting functions are command and control, fires, force protection, intelligence, logistics, and maneuver. See also command and control; fires; force protection; intelligence; logistics; maneuver.

Wargaming - A step-by-step process of action, reaction, and counteraction for visualizing the execution of each friendly course of action in relation to enemy/adversary courses of action and reactions. It explores the possible branches and sequels to the primary plan resulting in a final plan and decision points for critical actions.

Warning Order - 1. A preliminary notice of an order or action that is to follow. 2. A planning directive that initiates the development and evaluation of military courses of action by a commander. Also called WARNORD. (JP 5-0)

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