NATO STANDARD

ALP-4.2

LAND FORCES LOGISTIC DOCTRINE

Edition B Version 1

DECEMBER 2015

NORTH ATLANTIC TREATY ORGANIZATION

ALLIED LOGISTICS PUBLICATION

Published by the
NATO STANDARDIZATION OFFICE (NSO)

INTENTIONALLY BLANK

NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

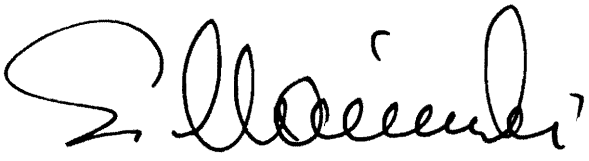
NATO LETTER OF PROMULGATION

8 December 2015

1. The enclosed Allied Logistics Publication ALP-4.2 Edition B, Version 1, LAND FORCES LOGISTIC DOCTRINE, which has been approved by the nations in the Military Committee Land Standardization Board, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 2406.

2. ALP-4.2, Edition B, Version 1, is effective upon receipt and supersedes ALP-4.2, Edition A, which shall be destroyed in accordance with the local procedure for the destruction of documents.

4. This publication shall be handled in accordance with C-M(2002)60.



Edvardas MAŽEIKIS
Major General, LTUAF
Director, NATO Standardization Office

INTENTIONALLY BLANK

RESERVED FOR NATIONAL LETTER OF PROMULGATION

INTENTIONALLY BLANK

RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

INTENTIONALLY BLANK

RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
DEU	Annex A-5 "Logistics": Germany reserves the right to complement the definition "Medical and health service support. (AAP-6 & MC 0319)" by adding a footnote saying that "Belgium, Czech Republic, Germany, Hungary, Slovakia, and the United States do not consider medical and health service support to be a logistics function." Justification: Terms and definitions have to point out exceptions without the need to consult other references, here MC 0319/3. A definition once made as reference has to be placed in another document identically to avoid misunderstandings.
HUN	Chapter 9, 0901-0915 subpoints are not accepted as logistics functions in HDF. Only the listed services of Chapter 9, 0916 subpoint are accepted logistics function in HDF: food preparation, clothing replacement, shower, laundry, clothing and textile repair and water support.
TUR	Military Engineering functions of Turkish Armed Forces doesn't contain activities about installation and/or restoration of railroads and stations.
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

INTENTIONALLY BLANK

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

There has been a paradigm shift in military operations over the last two decades. Due to new and emerging adversaries the nature of conflict has changed causing a shift from traditional state on state conflict to operations that are more expeditionary in nature against symmetric and asymmetric threats. The shift to more expeditionary operations has had significant implications for NATO logistics. The broadening scope for operations for NATO forces increases the probability of a rapid military response beyond NATO territory. Expeditionary operations include the deployment of forces to locations with little or no Host Nation Support (HNS), at much greater distances than previously necessary, as well as, operating along extended and perhaps very limited lines of communication. In addition, deployable logistics support units commonly accustomed to combat formations will also need assured access to strategic lift and deployable enablers to be properly configured for expeditionary type operations. With this logistic perspective in mind, the purpose of ALP-4.2 is to provide a common NATO Land Forces Logistic Doctrine. ALP-4.2 is NATO Land Force doctrine for national commanders and staff of the land component in optimizing the use of logistic resources in multinational operations across a range of military operations. ALP-4.2 is also to be used for NATO-led operations involving non-NATO nations.

SECTION I – PURPOSE, APPLICABILITY, AND SCOPE

0101. Purpose. ALP-4.2 describes principles, concepts, and guidelines that apply to logistical support to military Land Forces in preparation for deployment to, sustainment in and redeployment from an area of operations. ALP-4.2 focuses on providing doctrinal guidance for the Land Component Command and its subordinate formations, regardless of the level of command across the full spectrum of conflict. It harmonizes Land Force logistic operations with joint logistic operations. When applicable, it synchronizes logistics terminology with the maneuverist operational concept to ensure a common language for discussion of logistics concepts of support. It is intended to provide guidance in the face of significant new challenges:

a. The need to implement the principle of collective responsibility for logistic support.

b. The need to integrate non-NATO military forces and their logistic support into a multinational (joint) logistic structure.

c. The desire to implement multinational and/or contracted support to operations (CSO) logistics with a view to maximizing operational effectiveness and/or cost efficiency and

d. The desire to adapt civil technology/resources for logistics.

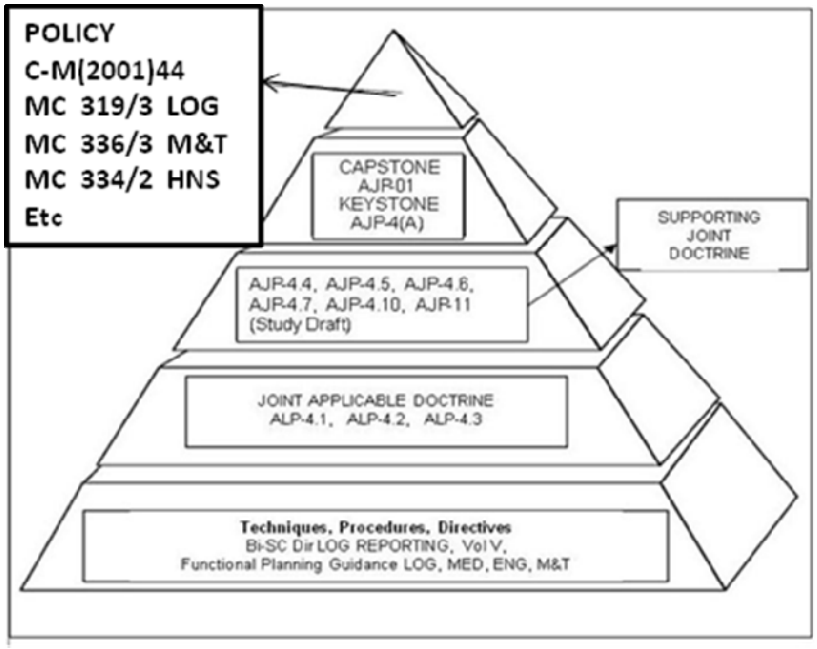
0102. Logistics is inherently joint and there is an increasing likelihood that formation headquarters, even at the lowest levels, will incorporate elements of the other Services. Depending on the crisis response criteria, it is likely that the Land Force will be the predominant force in the joint operational area. As such, it is highly possible

that Land Force logistic elements may be required to provide common user logistic support to other Services, but only when a Joint Logistic Support Group is not established.

0103. A Joint Task Force (Land) Component leading an operation may have under its command air and/or maritime units and/or Special Forces with logistic support requirements. Insofar as these requirements can be met by land logistic units, land logistic doctrine and procedures should be followed. Similarly, land units receiving support from air or maritime logistic units should be prepared to embrace their doctrine and procedures where they differ from those of the Land Forces and where applicable.

0104. Applicability. This publication is applicable across a full spectrum of potential NATO operations, both Article 5 and non-Article 5 CRO, as well as in exercises, including those conducted in cooperation with the United Nations (UN), the Organization for Security and Cooperation in Europe (OSCE) (MC319), African Union and, once the cooperation protocols have been agreed by the North Atlantic Council, in accordance with NATO-EU Framework SG (2003)0355, 17 March 2003, the European Union (EU). It is also applicable for non-NATO Nations participating in NATO led operations and exercises.

0105. ALP-4.2 derives its authority from other NATO policy, conceptual and doctrinal publications. It is complementary to the understanding of the approach to military operations identified in other NATO doctrinal documents such as AJP-3, Allied Joint Doctrine for the Conduct of Operations, AJP-3.2, Allied Joint Doctrine for Land Force Operations, AJP-4 Allied Joint Doctrine for Logistics.



0106. Scope. Logistics as defined in AAP-6, NATO Glossary of Terms and Definitions, is: The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, logistics covers those aspects of military operations that deal with:

a. Design and development, acquisition, storage, transport, distribution, maintenance, evacuation and disposition of materiel,

b. Transport of personnel,

c. Acquisition or construction, maintenance, operation and disposition of facilities,

d. Acquisition or furnishing of services,

e. Medical and health service support[1]

f. Personnel Management.

0107. Logistics encompass the broad range of sustainment activities across a full spectrum of conflict. Since this document primarily focuses on the operational level land logistic, activities such as design, development, construction, acquisition and disposition of equipment and facilities are only addressed indirectly in this document, namely only if and insofar as these activities play a role during operations. For the purpose of this document the definition of logistics is used in its widest sense to include the personnel, administrative and field services which support the morale and welfare of personnel across a full spectrum of conflict.

SECTION II– LOGISTICS PRINCIPLES

0108. Logistic Principles. MC 319/3 and AJP-4 describe the logistic principles that apply to logistics in all operations. Although the procedures and terminology used may differ among NATO nations, these principles provide a common frame of reference to commanders and their staffs which should be observed in the planning and execution of logistic operations. Below is a summary of the logistic principles and there relevancy to logistic operations.

a. Primacy of Operational Requirements. All logistics support efforts, from both the military and the civilian sector, should be focused to satisfy the operational requirements necessary to guarantee the success of the ADM.

b. Authority. The responsibility assigned to any NATO commander must be matched with the delegation of authority by nations and NATO to allow the adequate discharge of responsibilities in order to receive, employ, sustain and redeploy capabilities assigned to NATO by nations in the most efficient manner.

c. Coordination and Cooperation. Cooperation and coordination across the full spectrum of logistics, including between the civilian and military sector within and between Allies, will contribute to the best use of limited resources. Generic and

[1] Not all NATO nations consider medical and health service support and personnel management to be a logistics function.

standing pre-arranged agreements are the tools to facilitate logistic coordination and cooperation. The overall responsibility for coordination lies with NATO and should be conducted as a matter of routine under the authority of the NAC. Cooperation and coordination with partner nations and relevant international organisations will be implemented by NATO bodies and staff in accordance with C-M(2008)0029-COR1, C-M(2011)0022, PO(2011)0124 and other relevant decisions, including those taken at the Lisbon Summit.

d. Assured Provision. Nations and NATO must ensure the provision of logistics resources to support the forces and capabilities allocated to NATO during peace, crisis and conflict.

e. Sufficiency. Logistics support must be available in the necessary quantity and quality, when and where it is required throughout the full spectrum of AOM. It must be ensured for any NATO-led operation continuously for the duration required to accomplish the mission.

f. Simplicity. Uncomplicated mission-orientated logistics organizations, structures and procedures minimise confusion and help to ensure that the support provided meets NATO commander's requirements. Additionally, clear orders, simple plans and reporting mechanisms ensure accurate and efficient dissemination of information and minimise misunderstandings.

g. Flexibility. Logistics support must be adaptive and flexible to be effective. Adequate planning allows NATO and nations to react in a timely manner to changes in the operational situation and/or requirements.

h. Efficiency. Logistics resources and capabilities must be used effectively and efficiently. Requirements must be identified and addressed in a timely manner to optimise the efficient provision and effective use of such resources and capabilities. Therefore, from the onset of the Operations Planning Process (OPP), NATO and nations must consider multinational solutions prior to deciding to choose national solutions.

i. Visibility. Visibility of logistics resources and capabilities is essential for effective and efficient logistics support and will be provided by NATO and nations' logistics information management services, as required. National and NATO logistics information services require a facilitation of the delivery of the right information, because NATO commanders require timely, accurate and relevant information to make effective decisions and to plan and coordinate logistics operations in the Joint Operations Area (JOA). Visibility of nations support arrangements (e.g. LOCs and transit areas) will assist NATO commanders in the planning for and execution of AOM. The key to this information is visibility on logistics requirements, resources, capabilities and processes. This visibility must extend across the multiple levels of management and command for NATO, nations and other actors and must provide the information required at each level.

0109. Commanders and staff may also find the principles of foresight, continuity and firm control valid in the planning and execution of logistic support operations. Logistic planning must be an integral part of any operational planning. It is, therefore, necessary for logistic planners to forecast, with a reasonable degree of accuracy, the sustainment for every operation. Logistic support must be continuous for all stages of

an operation. Any interruption in support can cause serious disruption to operations. It is essential to exercise close supervision and control of the resources available and the supply organization.

SECTION III – NATURE OF LAND OPERATIONS

0110. Land Operations. The nature of current and future land operations reflect the diversities and complexities of the environment. The number and variety of participants, combatants, non-combatants, International Organizations (IOs), Non-Governmental Organizations (NGOs), observers (e.g. the media) and other interested parties, factions and agencies, with the potential for error, confusion and friction, will be greater in land operations than in other environments. This complexity requires an approach that emphasizes decentralized command, freedom of action, tempo and initiative, in order to contend with the multitude of activities and rapidly changing situations (AJP-3).

0111. Land forces roles normally entail the holding of terrain, destroying enemy forces, occupying territory and regaining lost territory. Land forces will most likely conduct various types of operations simultaneously (combat, security, stability), utilizing fires and maneuvers to apply overwhelming combat power, achieve decisive results, protect the force, and facilitate future operations. A wide variety of missions may be executed, ranging from security tasks in support of stabilization activities and reconstruction efforts to combat operations. Land forces require substantial logistic supply, which normally requires sealift, airlift and ground transportation.

Logistics enables land force operations by providing it with the tools and resources to support operations across a spectrum of conflict. Well planned and coordinated logistics provide land forces with the ability to conduct operations well within the depths of the joint operations area; facilitating the freedom of action that Land Force commanders need to maneuver against opposing forces; enabling the application combat power to defeat adversaries; and maintaining the initiative.

SECTION IV – CONTENT OF PUBLICATION

0112. Contents. ALP-4.2 consists of 12 Chapters. What has changed in this version is the incorporation of new doctrinal practices resulting from lessons learned during current and resent military operations and training exercises. It harmonizes Land Force logistics doctrine and terminology with that of Land Force operations doctrine in a joint context. It discusses the role of Joint Logistics Support Group (JLSG) as it relates to Land Force logistics. It also describes topics such as contract support to operations, energy efficiency, and mission command. Following is a summary of each chapter.

a. The first four chapters of this publication will focus on the operational processes of planning, preparing, executing and assessing logistic operations. It includes a discussion of the logistics principle and relevance to supporting the operation, and the art and science of command.

b. Chapter 2, Land Force Logistics Support Concept, provides a description of the operational environment and the logistics impact of supporting operations in various environments. It relates the contribution of logistics in the deployment to redeployment process. It discusses the role of logistics in support of the campaign

themes and across the spectrum of conflict. Finally, it describes the logistics support concept and options for providing logistics support within a coalition environment.

c. Chapter 3, C2, begins with harmonizing the operational term with logistic operations. It covers command authorities for logistics and supporting relationships. It provides an overview of Joint force level logistic command structure and logistic staff including the joint logistic support group. Finally it discusses communication and information systems in support of C2.

d. Chapter 4, Logistics Planning and Preparation, covers logistic planning considerations and the logistic planning process. It provides a discussion on risk assessment during the planning process.

e. Chapters 5 -10 cover the functional areas of logistics and related functional areas. Any specific planning or post-operation considerations for these areas are also mentioned.

f. Chapter 11 covers rehabilitation, a special area of interest in the employment stage as well as the follow-on stages.

g. Chapter 12 covers the termination/closure of an operation, again with emphasis on the logistic activities in this stage.

CHAPTER 2

LAND FORCES LOGISTIC SUPPORT CONCEPT

0201 Introduction. Logistics and operations are inseparable. Logistics sustainment[2] enables the operational forces with combat power[3]. It is also critical for enabling Land Forces with operational reach, and endurance. If provided efficiently and effectively logistics will facilitate Land Forces freedom of action. The purpose of this chapter is to place land component logistics in the context of military operations and to describe the applicable.

Section I – OPERATIONAL ENVIRONMENT

0202. Land Force Operational Environment. A wide range of characteristics and elements will define the operational environment upon which Land Forces operate. The characteristics and elements will differ with each military operation or campaign. In general, the elements of an operational environment that Land Forces will encounter fall broadly into four headings, Physical Environment, Threat and Hazards, Local Populations, and Involvement of Other Agencies, Forces and Organizations. Each of these elements poses unique challenges to logistic forces and planners. In most cases logisticians must deal with all of these elements simultaneously.

a. Physical Environment. The physical environment consists of the terrain and climate where land forces operate. The terrain varies widely; arctic, mountainous, littoral, jungle, desert, forest, open savannah, riverine and urban terrains are all realistic environments for Land forces. Logisticians must be prepared to support Land forces across varying terrain and altitudes. This support should be delivered across the full spectrum of weather related conditions and seasons. Combat equipment, for example, may require non-traditional maintenance processes to cope with abnormal operating conditions such as dust or extreme cold weather. Logisticians may have to employ an array of transportation capabilities (land, maritime and air) to resupply forces. In short logistic planners must retain the flexibility to meet the challenges of the physical environment.

b. Threats and Hazards. The threat to Land forces may take any number of forms and may change over time. Threats vary from a well-organized and identifiable military force, to an insurgent element seeking to undermine the existing government and/or to expel any foreign forces through a combination of violence and subversion –acting from within the civilian population. Irregular forces may aid conventional forces, equally the defeat of a conventional military force may lead to a foreign sponsored insurgency. Recent combat operations have shown that adversaries consider a force's logistic capability as a relatively soft target. They will therefore seek out and attempt to disrupt logistic operations, so generating a broader requirement for force protection. Logisticians must remain 'soldiers first'

[2] The process and mechanism by which sustainability is achieved and which consists of supplying a force with consumables and replacing combat losses and noncombat attrition of equipment in order to maintain the force's combat power for the duration required to meet its objectives.
[3] The total means of destructive and/or disruptive force which a military unit/formation can apply against the opponent at a given time.

and must be able to counter threats and conduct force protection at logistic nodes and during distribution operations. Logistic nodes of significant value such as APODs and SPODs are vulnerable to area denial, air or CBRN attack and as such may require special consideration.

(1) A major consideration of logistic planners should be the protection of logistic forces and logistic operations. The disruption of logistic support could cause an operation to stall or terminate. Recent operations have shown the significant adverse impact that improvised explosive devices have had on logistic movements. As a result logistic planners must work closely with J2 and J3 staffs to identify threats and hazards early in the planning cycle and identify ways to neutralize them.

(2) Land forces are also susceptible to biohazards and disease, natural and industrial disasters, and other environmental factors. These hazards pose a significant risk to military forces and possess the potential to undermine the stability of the nation or region of concern. Hazards strain logistic operations in many ways. For example, contaminated supplies and materiel must be decontaminated, actions that may cause critical delays to operations. Equally medical forces will be forced to operate under increased pressure as they provide the necessary force heath protections to supported forces as well as considering their own protection while operating in the hazards.

c. Local Populations. Land Force operations are likely to take place amongst a civilian population and as such Land forces will have daily contact with the local populace. The conduct of operations demands that commanders at all levels consider the impact that operations will have on civilians and their infrastructure. It may mean that Land Forces take necessary measures to avoid civilian casualties in a major combat operation. It may also mean that operations are designed to protect civilian populations and to foster their moral support. The desired and undesired effects of military operations on a civilian populace and operational influences and limitations (constraints and restraints) must be a key consideration during the planning process. It will be vital to understand the local culture or cultures involved, along with the potential impact on operations and outcomes. Logistic organizations will most likely have direct contact with the local populace including local governing bodies. During recent operations, logistic efficiencies have been achieved through the increased use of contractor support. Contractor Support to Operations (CSO) is likely to impact the local economy in a number of ways, including the employment of local nationals and purchase of local goods and services. It may also play a role in gaining support from the local population for the operation at hand. Logistic planners must consider the use of contracting capabilities when planning logistic support to an operation but they should be wary of the negative effects of exhausting available local resources or unbalancing the local economy. Equally logistic planners should ensure that CSO is aligned with ground commanders influence operations.

d. Involvement of Other Agencies, Forces and Organizations. Land force operations may involve forces working in concert with, supporting, or being supported by, other agencies and organizations. These other agencies and organizations may consist of international and local government agencies, NGOs, private organizations and even business interests. These may include police and security forces from the host nation, international organizations (IOs) and private security

companies. Commanders must ensure that other agencies and organizations are integrated wherever possible and are aligned with achieving the desired end state. The coordinated involvement of multiple agencies working in concert with Land Forces will reflect a comprehensive approach to campaigns. In most humanitarian operations, logistic planners will work, and coordinate logistic operations, with governmental and non-governmental entities. Close coordination with these agencies will facilitate delivery of materiel and supplies to the places of greatest humanitarian need.

Logistic Sustainment To Land Forces, Into An Operational Environment.

0203. The varied nature of military operations requires commanders to consider different options for deployment. The options selected depend on desired effects and a myriad of planning considerations, such as the mission, security situation, component specific requirements, political environment, economic implications, and transport infrastructure. The desired effects of an operation are likely to depend heavily on the ability of the Alliance to conduct maneuver warfare. Maneuver warfare requires the availability of mission ready forces and an ability to deliver them at the right time and to the right place. Therefore an appropriate mix of joint force elements must flow into the JOA to achieve the right balance of capability to task.

0204. Since the joint force will only be able to conduct its subsequent operations when a sufficient logistics capacity has been established, the joint force commander (JFC) sets initial priorities for the sustainment of the operations. This implies that the required logistics capacity quite often determines the initial available maneuver capacity.

0205. Pre-Deployment. Pre-deployment activities include defining requirements for LOCs, developing a sustainability statement, preparing a force administratively and logistically, and determining theatre and logistics command structures. The identification, acquisition and integration of urgent operational requirements should be undertaken as early as possible. Logistic preparation allows the assessment of potential deployment areas to contribute to the support of a force, including infrastructure, such as ports of debarkation, road, rail and inland waterways, materiel and resources. It will indicate the potential for using Host Nation Support (HNS) to support the force.

0206. Deployment. Deployment includes mounting, strategic deployment, and reception, staging, onward movement, and integration (RSOM(I)). Logistic planners should be among the first into theatre as they enable capabilities such as movement. Operational planners should also consider surging logistic capability during the initial phase of an operation in order to prepare for the arrival of the main force. Stocks can be out loaded by air, sea or land to sustain the force and provide a reserve optimized for the environment and type of operation. The JFC is responsible for the synchronization of RSOM(I). RSOM(I), a joint function is as a task, most probably given to the JLSG but can also be given to a component commander to plan and execute this activity. This coordinator for this activity requires the expertise of a properly resourced unit. The Land Component Commander (LCC) or Joint Force Commander (as appropriate) remains responsible for ensuring that the reception, training, preparation and integration of the command's units are conducted effectively.

0207. Infrastructure and Facilities. Infrastructure and facilities are created, contracted or provided by the host nation (HN) to sustain a force in theatre. During the deployment process, infrastructure and facilities are essential for marrying up incoming units and formations with their equipment, carrying out modifications to equipment, and deploying the force to its training, acclimatization or operational locations. Infrastructure and facilities can then be used to sustain the force during operations. In instances where a HN may be lacking in infrastructure, military engineering (MILENG) capability may be required to develop or improve capabilities, such as rail, air and sea ports. This could also include improving force protection at these installations. Logistic expertise is required to coordinate port, maritime, movements, supply, local purchase, fuel handling, catering, water, sanitation and engineering as well as construction and other tasks.

0208. Supporting the Operation. In most operations, the Land Force is the dominate force in JFC operational area and are the predominate users of logistics. Logistic sustainment of Land Forces is critical for achieving and maintaining combat power. The LCC logistic staff supporting the operation coordinates and links sources of logistics across the operational to tactical levels and ensures maneuver forces are equipped, supplied and maintained to ensure it has the freedom of action to be decisive in accomplishing assigned missions.

0209. Rehabilitation and Reconstitution. Rehabilitation, including the refurbishment of equipment and the reconstitution of units and formations, may be required during and after combat. This activity remains a national responsibility. It is likely that resources for rehabilitation will be (coordinated) at the operational level. Although appropriate stocks should be available, they might not be in theatre and may need to be moved from either a sustaining base or an intermediate location.

0210. Re-deployment. Re-deployment from operations includes recovery of assets and personnel into a point of embarkation, their preparation for movement[4] and movement back to a home base. An explicit theatre closure operation may be required at the end of a campaign, requiring additional logistic units.

0211 Interoperability. The current and future operational environments will most likely consist of multinational forces operating as part of a coalition. The effectiveness of Allied forces in peace, crisis or in conflict, depends on the ability of the forces provided to operate together coherently, effectively and efficiently. The complex nature of such operations will dictate the need for an appropriate level of interoperability; the composition of the force will determine the interoperability standards that are to apply. Interoperability of formations and units of a joint and multinational unit has three dimensions, technical (e.g., hardware, systems,) procedural (e.g. doctrines, procedures) and human (e.g. language, terminology, and training). Deficiencies in interoperability in the areas of doctrine, organization, training, materiel, leadership, personnel, and facilities are likely to have a negative effect on force cohesion and capability. Due to the cooperative and mutual supporting nature of logistics, interoperability is critical for operational success. Through logistic doctrine and NATO standardization agreements (STANAGs), greater effectiveness and efficiencies can be achieved. Some areas of logistic interoperability are as follows:

[4] This may include ensuring the cleanliness and refurbishment of equipment, and repackaging of unused materiel.

a. Procedural and tactical interoperability facilitate the ability of multinational units, Services and organizations to work together and provide mutual support to one another.

b. Standard terminology, signaling, and language reduce communication barriers and enhance common understanding during operations.

c. Standard metrics ensures transportability of multinational cargo.

d. Materiel and equipment interoperability facilitates consolidating capabilities to achieve efficiencies and the reduction of the logistics footprint.

Logistics Contribution To Operational Reach And Freedom Of Action.

0212. Support to Operational Reach. Operational reach is a necessity in order to conduct deep operations[5]. Operational reach is the distance and duration across which a unit can successfully employ military capabilities. The limit of a unit's operational reach is its culminating point. Logistics enables operational reach by providing Land Forces with the lift capabilities, materiel, supplies, health services, and other support necessary to sustain operations for extended periods of time. Extending operational reach is of paramount concern for the JFC. To achieve the desired end state, forces must possess the necessary operational reach to establish and maintain conditions that define success. Commanders and staffs increase operational reach through deliberate, focused operational design, and the assignment of appropriate logistic support.

0213. Freedom of Action. Operational logistics aim to create and maintain an operational environment to give a force freedom of action. Commanders who are resourced with sufficient equipment, materiel and supplies are confident to make quick decisions and take decisive actions against an adversary. More than just resourcing, logistic planners and staffs must build trust and confidence such that commanders know that logistic support will be appropriate, continuous and unimpeded. Failure to provide sufficient logistic support to the operation could result in the loss of the operational initiative.

Logistic Support to Operational Themes.

0214. Traditionally the Alliance has referred to a full spectrum of conflict[6], ranging from stable peace, via humanitarian assistance to general war. This implied that there are discrete types of conflict with traditional 'war' against near-peers as the professional benchmark. Discrete operational themes actually overlap, merge and change over time as the nature of the conflict changes. Conflicts will often blend the lethality traditionally associated with state-on-state conflict and the protracted nature of irregular warfare. This understanding of conflict is applicable to all land operations, with the principal discriminators being the level of violence and the complexity of actors engaged in the conflict.

[5]Deep operations are those operations conducted at long range and over a protracted timescale, against adversary forces or resources not currently engaged in close operations AJP 3.2.

[6] Spectrum of conflict is defined as the full range of conflict from stable peace to general war using violence as a discriminator on an ascending scale.

0215. Predominant campaign themes are combat, security (operations to enable stabilization, including counter insurgency as probably the most demanding variant), peace support and peacetime military engagement. Figure 2-1 portrays the operational themes across a spectrum of conflict.

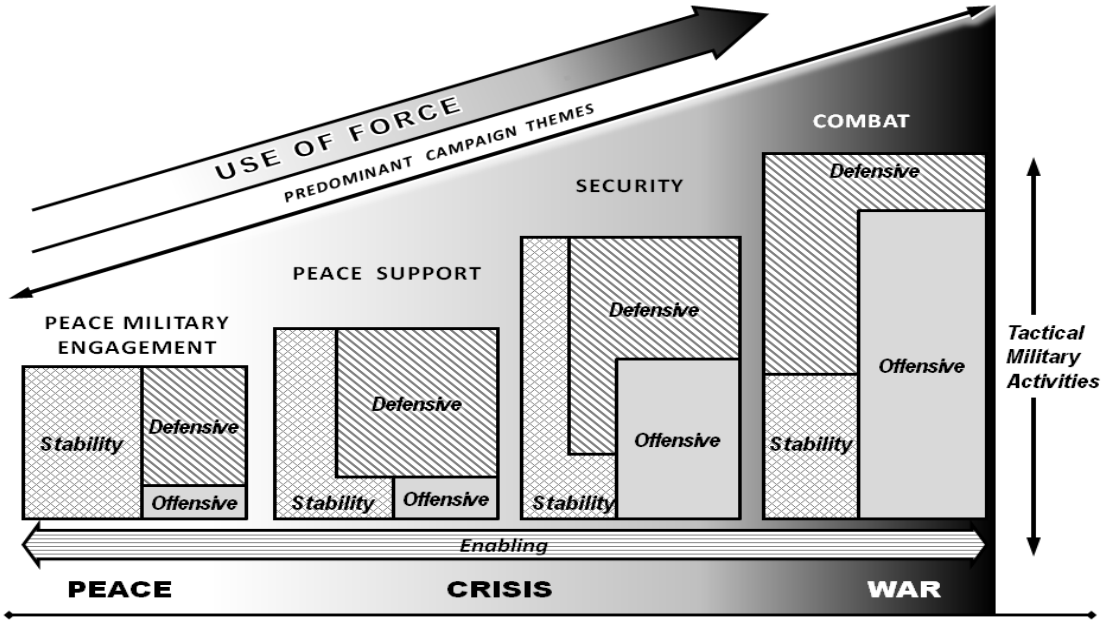


Fig. 2-1. Scale of Conflict

0216. Logistics play an essential role in supporting each of the campaign themes. Regardless of the intensity and scale of the conflict, NATO forces will perform offensive, defensive, and stability tasks. The challenge for logistic forces is to determine the right quantity and quality of support to ensure operational success.

0217. Logistic Support to Peacetime Military Engagement. While logistics during peacetime military engagements is primarily a national responsibility, it is an important opportunity to develop doctrine and interoperability that can be executed on operations across the spectrum of conflict. It is also an opportunity for allied and coalition forces to conduct training exercises, and to hone the policies and procedures that facilitate operations during a crisis response. Logistic support to military engagement also enables forces to establish bi-lateral and multi-lateral agreements for shared logistic responsibilities.

0218. Logistic Support to Peace Support[7]. Logistic Support to peace support operations may range from a national to a multinational response. In peace support missions

[7] Peace Support. An operation that impartially makes use of diplomatic, civil and military means, normally in pursuit of United Nations Charter purposes and principles, to restore or maintain peace. Such operations may

such as a humanitarian assistance and disaster relief operations (HADR) logistic forces may be the supported force. A specific characteristic of such an operation is that the success of the operations requires close coordination with HN, governmental authorities, NGOs, and local populations. During HADR operations, logistic support may be intense in the initial stages as materiel and equipment are pushed to the area to relieve the population of suffering and disease. Logistics provided in humanitarian operations focus on the preservation of life and include shelter, medical, food and infrastructure. During peacekeeping and peace enforcement, logistic support may focus toward humanitarian like materiel to support displaced persons and refugees (DPREs). Because most peacekeeping operations are mostly static, the pace of logistic support may be evenly managed with a basic supply of offensive capability available for force self-protection.

0219. Logistic Support to Security. Logistic support to security operations is most like that provided to a combat operation. While in most cases the operational posture is a defensive one, forces must be capable of conducting offensive operations. Logistics support should be provided to accommodate both a defensive and limited offensive operation. In many security operations, logistic support will also focus on HADR due to non-combatants and civilian refugees moving to safe areas. The intensity of logistic support is likely to be moderate but may shift in intensity as hostilities increase.

0220. Logistic Support to Combat. Logistic support to combat operations is usually conducted at high intensity. As such it is vital that logistic planning staffs are fully integrated in the estimate process from the outset. This will enable the logistic staff to understand the nature and scale of support required but also allow the early identification of a logistically unfeasible OPLAN. Logistic commanders and staffs must be prepared to provide an array of offensive, defensive and stability logistic capabilities. Since combat operations tend to be highly mobile and fluid, logistic support must be mobile as well and capable of keeping pace with the operational tempo, and enabling operational reach and freedom of action.

Section II - LEVELS OF LAND FORCE LOGISTIC SUPPORT

0221 Military operations are conducted at three levels: strategic, operational and tactical. Logistics has a role to play at each of these levels. Strategic and operational level logistics focuses on supporting the joint force level, whereas tactical logistics is concerned more with supporting operations at the component level. Although it is helpful to understand the different levels, it is important to recognize that there is a significant degree of overlap and the reality is that logistic units assigned to, for example, operational level missions will be employed to perform strategic and tactical level tasks when required. In describing the levels of support, the intention is not to create imaginary or real barriers within the JOA but rather to focus on assigning responsibility to given commanders.

0222. Strategic Level. Strategic level logistics supports nations in attaining strategic goals established in national security policies. It also deals with the peacetime preparation and certification/evaluation of assigned forces. At this level the efforts of national political and military leaders, national military organizations, civilian industry and

---

include conflict prevention, peacemaking, peace enforcement, peacekeeping, peace building and/or humanitarian operations.

contractors are combined to provision the force. Strategic level logistics deals with force generation, national acquisition, force projection, strategic mobility and the strategic concentration of logistic assets in a JOA.

0223. Operational Level. Operational level logistics focuses on establishing and maintaining LOC and sustaining a force in a JOA, consistent with the commander's priorities. It also creates the conditions for converting strategic level guidance into success at the tactical level and therefore provides the linkage between strategic and tactical level logistics. Operational level logistics encompasses the support of force RSOM(I) of units and personnel, infrastructure development, distribution and the management of JOA reserves, contracting, provision of supplies and services, and movement control.

0224. Tactical Level. Tactical level logistics sustains the tactical commander's ability to execute the mission by providing logistic support that enables him to act freely and decisively. At this level supply, transportation, maintenance, medical and health service support and personnel, administrative and field services are critical to soldiers to accomplish their specific mission. Successful tactical level logistics provides units with the right support at the right time and in the right place.

Section III - LAND FORCE LOGISTIC FRAMEWORK

0225. There must be a clear understanding that national logistic organizations exist in a multinational framework in support of combined joint operations. Modern operations are conducted in a nonlinear, non-contiguous way. Over the entire spectrum of conflict, current military operations make flexibility and mobility key aspects of successful operations.

0226. The land component support framework is designed to ensure the support of either national or multinational forces, taking their different structures and multinational composition into account. Logistic support will be based on national provisions and may include degrees of multinational support as agreed by those nations. While each nation takes ultimate responsibility for the provision of support to its forces, HNS if available, logistic lead nation, logistic role specialist nation, mutual assistance, and use of Multinational Integrated Logistic Units (MILUs) and/or Multinational Integrated Medical Units (MIMUs), multinational logistics unit (MLU), Multinational Medical Unit (MMU), and the use of CSO (AJP 4.9) and civil agencies may be employed when considered to be more advantageous.

0227. The LCC establishes requirements and sets priorities for support of Land Forces in accordance with the overall direction given by the JFC. The LCC coordinates land component logistic operations with all participating nations, and theatre-level logistic structures (such as the Joint Logistic Support Group (AJP-4.6). For this an MNLC(L) may be established.

LOGISTIC CONCEPT OF OPERATION

0228. The logistic concept of operation for national logistic support to NATO is shown at Figure 2-2. Each element within the overall system has individual characteristics which will affect the commander's plan. The diagram is neither prescriptive nor representative of any specific geographic layout, but shows the basic support options.

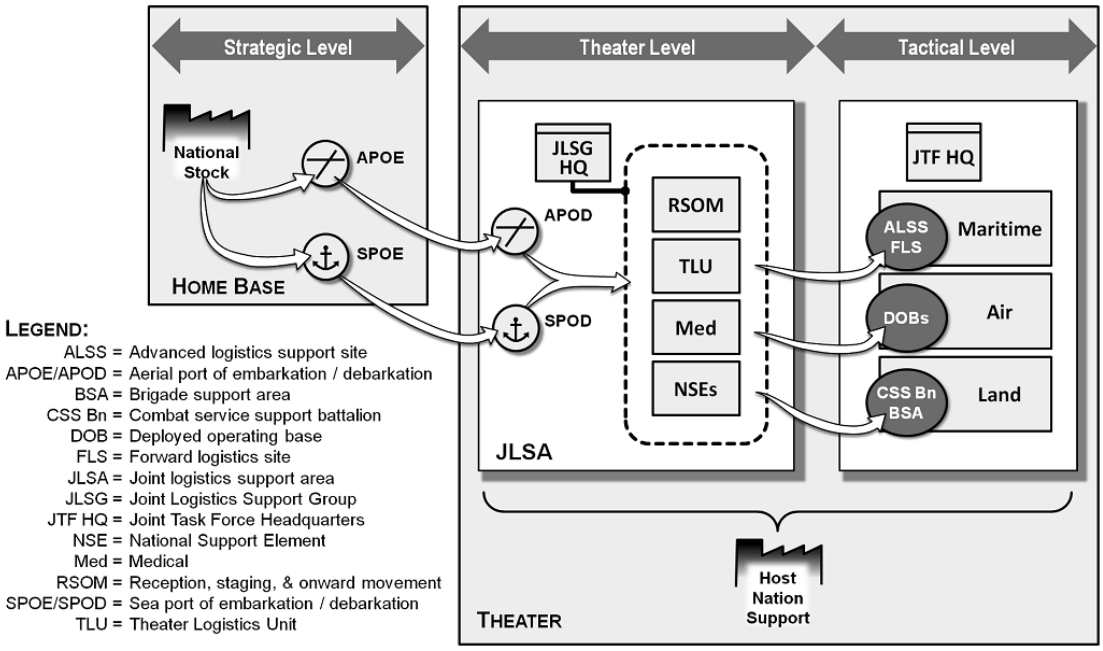


Figure 2-2: Outline Concept of Logistic Operations

0229. Troop Contributing Nations. The basis for the entire logistic support system is formed by static logistic installations, stockpiles of materiel and maintenance and repair workshops of the troop contributing nations (TCNs), possibly supported by civilian contractors and industry. However, given modern resource constraints, all operations are likely to make use of civilian contractors and industry; the extent to which they do so will depend on the prevailing circumstances.

0230. Joint Operations Area. All units and assets (personnel and materiel) enter the JOA by road or through Ports of Debarkation (POD). These may be by sea (SPOD), air (APOD) or rail (RPOD). From the PODs, forces will enter into the RSOM(I) process, which is most probably executed by the Joint Logistic Support Group (JLSG) in close coordination with the national support elements (NSE) of the TCNs. RSOM(I) is the phase of the deployment process that transitions units, personnel, equipment and materiel from arrival at PODs to their final destination. Although RSOM(I) is an operational matter, it requires the provision of a significant degree of logistic support. RSOM(I) planning and execution requires, therefore, considerable integration with logistic support, movement and transport, contractors and HNS planning. Most of the theatre-level logistics is performed in a Joint Logistic Support Area (JLSA). This is not an area of responsibility as such but more a grouping of important logistic sites (i.e. SPOD, APOD, SA, TLB etc). First and Second level (tactical) logistics will take place in land based support areas which are also part of the JLSA.

0231. Lines of Communication (LOC). A LOC is a route[8], either land, water, and/or air, which connects an operating military force with a base of operations and along which supplies and military forces move. The LOC is used by a complex mix of joint, combined, civilian and military assets. It spans the strategic, operational and tactical

[8] The prescribed course to be travelled from a specific point of origin to a specific destination (AAP-06).

levels, thus connecting the strategic home-base with tactical units deployed in the JOA. Robust communications and dedicated information technology (IT) systems, situated at logistic C2 nodes along the LOC, will be needed if the flow of personnel and materiel is to function effectively.

Section IV Logistic Support Options

0232. Logistic Support Options. The logistic support options available to a joint force commander (JFC) range from a totally integrated multinational logistic force to national support. In order to supplement national logistic support, ease the individual national burden and to achieve greater economy of scale there are a range of multinational logistic support options that may be implemented.

0233. Types of Multinational Logistic Support. There are four types of multinational logistics, listed below:

a. Pre-planned mutual support including HNS, CSO, mutual support agreements (MSAs) and cooperation between national support elements (NSEs) that are arranged bi- or multilaterally by NATO and/or nations.

b. One nation, acting as an Logistic Lead Nation (LLN) or Logistic Role Specialized Nation (LRSN), formally provide support or services to all or part of the multinational force. Nations may use their NSEs to carry out the role of LLN or LRSN. The tasking authority will be the JFC but the support or services provided remains under national command.

c. One or more nations formally provide multinational logistic support to serve all or part of the multinational force under the operational control (OPCON) of the JFC. This includes MILUs and MIMUs.

d. One or more nations serve all or part of the multinational force by forming an MLU or MMU. The tasking authority will be the JFC but the support or services provided remains under national command.

Below you will find the different logistic support options described in a little more detail[9]:

(1) Host Nation Support (HNS)[10]. HNS is civil and military assistance rendered in peace, crisis and conflict by a host nation to allied forces and organizations which are located on, operating in or in transit through the host nation's territory. Arrangements concluded between the appropriate authorities of host nations, TCNs and/or NATO form the basis of such assistance. Many host nation agreements have already been negotiated between NATO nations, NATO and JFCs. These agreements can potentially do much to relieve the logistic support burden in mounting and conducting operations. HNS is equally applicable to Article 5 and non-Article 5 CRO scenarios.

(2) Logistic Lead Nation (LLN). One nation assumes overall responsibility for

[9] Further information on Multinational logistic support options can be found in AJP-4.9 Allied Joint Doctrine For Modes Of Multinational Logistic Support

[10] Further information on HNS is contained in AJP-4.5 Allied Joint Doctrine for Host Nation Support.

organizing and coordinating an agreed spectrum of logistic support for all or part of the multinational force, including headquarters within a defined geographical area for a defined period. This LLN can also provide capabilities as logistic role specialist nation (LRSN) at the same time. [11]This responsibility may also include procurement of goods and services. Compensation and/or reimbursement will then be subject to agreements between the parties involved. In most cases a LLN will take responsibility for a full logistic function e.g. transport, Class I, medical support. At the operational level the LLN is normally responsible to the JFC for coordinating the related logistic functions of the other participating nations within the functional and regional area of responsibility assigned to it for those tasks for which it has been designated as LLN.

(3) Logistic Role Specialist Nation (LRSN). A nation may have particular logistic strengths and capabilities which it can offer to the JFC. A LRSN is responsible for providing a specific logistic capability or commodity within a logistic function to all or part of the force, with supported nations compensating the LRSN for the support provided. The LRSN will provide the organization and assets required to deliver that service or commodity. Units carrying out LRSN functions, while formally belonging to their national logistic organization, should be considered as part of the multinational formation and as such should be at least under Tactical Control (TACON) of the JFC who is also the tasking authority. For example, a LRSN will take responsibility for a specific part of a logistic function such as Class I, limited to combat rations or bottled water or Class III, limited to fuel quality control or the provision of F-34.

(4) Multinational Integrated Logistic or Medical Units (MILU/MIMU). A MILU/MIMU is formed when two or more Nations agree, under operational control (OPCON) of a NATO Commander, at joint force or component level, to provide logistic support to a multinational force. MILUs/MIMUs are designed to provide specific logistic support where national forces cannot provide it, or could be better utilized to support the Commander's overall logistic support plan. This support option might be particularly attractive when a single nation is capable of providing the nucleus of the unit and/or the command structure and complementary augmentation and/or units from other nations form the complete unit. Such multinational units can effectively avoid duplications of effort and redundancies within the logistic system of an operation, therefore reducing the logistic footprint and, where possible, capitalize on economies of scale. Compensation and/or reimbursement are subject to agreements between the parties involved.

(5) Multinational Logistic or Medical Unit (MLU/MMU). A MLU/MMU is formed when two or more nations agree, at the operational or tactical level, to provide logistic support to a multinational force. Similar to the MILU/MIMU, MLUs/MMUs should be utilized to reduce the logistic footprint and, where possible, capitalize on economies of scale. A MLU/MMU is an attractive option when a single nation is capable of providing the nucleus of the unit and/or the command structure, around which the whole unit can be formed by augmentations and/or complementary units from other nations. MLUs/MMUs can fulfill the need of a flexible mode of multinational logistic support. The MLU

[11] MC 319 NATO Principles and Policies for Logistics.

commander should have clear authority over sub-units, normally OPCON. MLUs are designed to provide specific logistic support where national forces cannot be provided, or could be better utilized to support the commander's overall logistic support plan. They are an important mechanism or enabler by which some countries may contribute more effectively to the overall operational effort. Most commonly, and for practical reasons, the minimum size of a MLU should be at company level. However, specialist units such as firefighting units and explosive ordnance disposal teams may well be smaller.

The main differences between a Multinational Integrated Logistic Unit (MILU) and a MLU are:

(a) C2. A MLU/MMU normally remains under national C2 as opposed to a MILU/MIMU which is OPCON to the JFC.

(b) Level of Operation. A MLU may be formed at the tactical or operational level as opposed to a MILU which is only formed at component or operational level.

(6) Contractor Support to Operations (CSO) and NATO Support Agency (NSPA). Contracting is a significant tool that may be employed to gain access to additional resources and services, but it should not be used to entirely replace military capabilities. It may also be employed to augment or complement military support capabilities through ad hoc or permanent contracts. The NATO Commander and nations will use commercial contracts to support the NATO forces when it is economic to do so and when it keeps military assets available for higher priority tasks. The NATO Commander and nations will adjust the extent of reliance on contracting based on the situation. The use of the NATO Support Agency (NSPA) for contracting assistance must be considered for NATO operations. Since NATO common and centralized funding is limited to specific categories of goods and services, most contract action will be funded nationally. NATO will, however, coordinate national contracting efforts to ensure enhancement of the contract process, reduction of competition between nations and realization of economies scale. The prudent use of contract coordinating activities and the cooperation of nations are essential. Effective NATO coordination of the contracting effort will enhance, not hinder, the contracting efforts of the nations.

CHAPTER 3

COMMAND AND CONTROL

The purpose of this chapter is to describe the Command and Control (C2) structures for the planning, co-ordination and execution of logistic support for NATO operations. Nations and NATO C2 authorities have a collective responsibility for planning and providing logistic support of NATO's multinational operations. This collective responsibility encourages nations and NATO to cooperatively share the provision and use of logistic capabilities and resources to support the force effectively and efficiently. Standardization, cooperation and multi-nationality in logistics are the basis for flexible and efficient use of logistic support thereby contributing to the operational success.

SECTION I - GENERAL

0301. C2 is the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of a mission[12]. C2 are interrelated. Command is the authority vested in an individual of the armed forces for the direction, coordination, and control of military forces. Control is inherent in Command. Control is that authority exercised by a commander over part of the activities of subordinate organizations, or other organizations not normally under his command, which encompasses the responsibility for implementing orders or directives. All or part of this authority may be transferred or delegated.

0302. C2 should adhere to the principle of unity of command or, exceptionally, at a minimum unity of effort. The C2 should be tailored to the most efficient and effective arrangement for the conduct of the operation as recommended by Supreme Allied Command Europe (SACEUR), endorsed by the Military Committee, and agreed to by the NAC. C2 arrangements should be appropriate, deployable, flexible, responsive, agile, robust, and sustainable to support the complexity of changing missions in austere environments, whilst using minimum resources.

0303. The NATO Commander assumes control of commonly provided resources as directed. The NATO Commander has C2 over logistics through command authority of assigned forces, operational control, and agreed to Transfer of Authority (TOA). TOA occurs when a NATO member nation or NATO Command gives operational command or control of designated forces to a NATO Command.

0304. From a logistics perspective, the JTF HQ will be supported by an appropriate, tailored JLSG HQ. This support can be provided by either the deployed elements of a JFC from the NATO Command Structure (NCS) for up to a year or a suitably configured joint HQ from the NATO Force Structure (NFS). This will depend upon the scale and duration of the mission.

0305. The NATO Commander ensures that the logistic force structure and the appropriate C2 arrangements have been established and are capable of supporting the multinational operation. The NATO Commander coordinates support among

[12] Definition from AAP6.

contributing nations and the host nation and retains responsibility to coordinate the overall logistics effort even when participating nations rely solely on national logistics capabilities.

SECTION II-COMMAND AUTHORITY

0306. Command authority for a multinational force is usually negotiated between the participating nations and can vary from nation to nation. Command authority could range from full command (FULLCOM) to coordinating authority or Direct Liaison Authority (DIRLAUTH)[13].

0307. The NATO Commander is authorized to require reports on, and inspect the quantity and quality of specified logistic assets designated to support the forces under his command. For non-NATO nations, this will include the certification of logistic units prior to the deployment and inspection as required of specified logistic assets.

0308. There is an essential interdependence between responsibility and authority. The responsibility assigned to any NATO Commander is matched with the delegation of authority by nations and NATO to allow adequate discharge of responsibilities. The NATO Commander at the appropriate level must be given sufficient authority over logistic resources to enable him to receive, employ, sustain, and redeploy assigned forces and/or stocks by nations in the most effective manner.

LOGISTIC COMMAND

0309. Logistic support to NATO forces must be as effective and efficient as possible. Therefore, nations must provide NATO Commanders with C2 authority for logistic and the capabilities they require to execute their responsibilities throughout all phases of an operation. C2 authority for logistics is essential for facilitating coordination, prioritization, and de-confliction of logistics.

0310. The NATO Commander is responsible for the development and promulgation of a logistic support plan to the operations plan. This plan identifies the logistic structures and procedures required to support the operation by nations and NATO Headquarters. It also includes, in close cooperation with nations, the implementation of the different methods of logistic support based on the operational requirement.

0311. The NATO Commander ensures that the logistic force structure and the appropriate C2 arrangements have been established and are capable of supporting the multinational operation.

SECTION III – JOINT FORCE LEVEL LOGISTIC COMMAND

0312. To achieve the versatility and agility called for by the operational requirements, deployed forces must operate under the principle of unity of effort. This should be supported to the maximum extent possible by practicing collective responsibility to bring about increased multinational joint logistic cooperation. As the Joint Task Force Commander (COM JTF) assumes more responsibility for the theater-level logistics,

[13] AJP-3 Allied Joint Doctrine for the Conduct of Operations, dated March 2011

this should allow a corresponding reduction in the requirements placed upon each NSE, thus reducing the overall size of the logistic footprint.

0313. Regardless of the level of command and the degree of joint involvement, the cornerstone of logistic support is the logistic staff branch within the headquarters. The Chief of the logistic branch serves as commander's principal staff officer. Regardless of the logistic headquarters that may be established with coordination authority or devolved responsibility for specific functions, the logistic staff officer retains primary responsibility for logistic policy, planning and operations within the commander's area responsibility. To the greatest extent possible, duplication of logistic staff responsibilities must be avoided at the different levels of command.

JOINT FORCE COMMANDER/JOINT TASK FORCE (JFC/JTF).

0314. The HQ of the JTF provides an operational-level HQ element deployed in theatre, enabling the required level of joint endeavor and the ability to deploy for the operational level of command. When deployed, the JTF HQ provides the joint task force commander the flexibility to command the operation in theatre from the most appropriate location, either deployed or from the non-deployed parent HQ location. The deployed HQ is designed to be customized and deployed into theatre in part or entirety, and may reach back to the static parent HQ for support when required.

0315. The JFC/JTF Commander will exercise designated C2 over assigned units. The CJ4 develops the JFC logistics policy, plans and priorities, and provides the JLSG with direction and guidance to execute theatre level logistic sustainment for the complete force. The JLSG will also be responsible for the execution of the RSOM(I) operation for the JFC/JTF forces as well as the Reverse RSOM (R-RSOM) operation. The JLSG will also provide the JFC/JTF Commander with the recognized Logistics Picture.

JOINT FORCE COMMANDER STAFF J-4/COMBINED JOINT TASK FORCE STAFF C-4

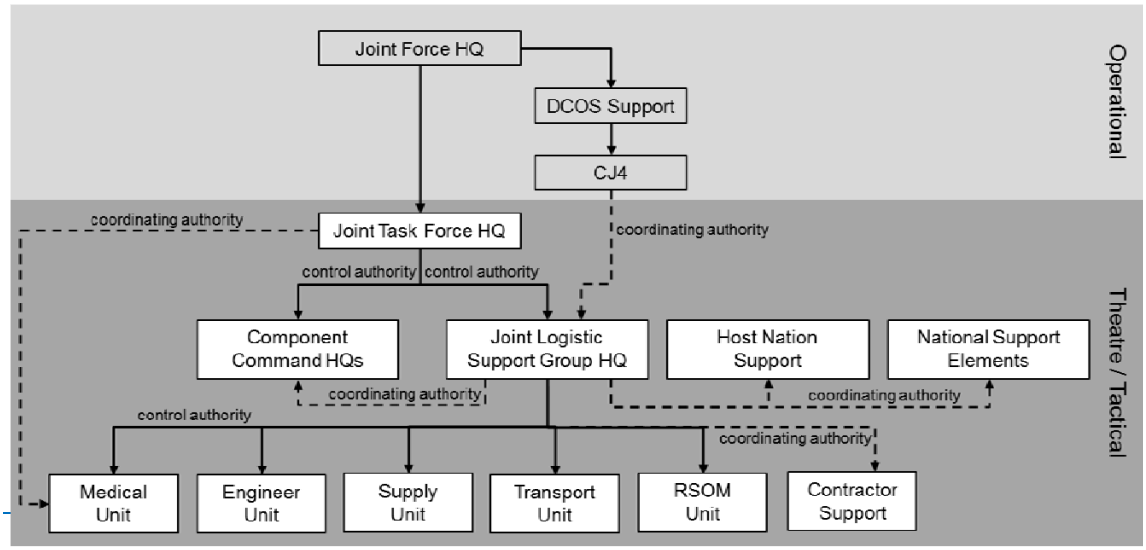
0316. The J4 staff in conjunction with LANDCOM Staff is responsible for assessing the logistics required for achievement of the JFC's objectives and for ensuring that these support requirements are met throughout the operation. Based on this assessment, the J4 staff develops the logistic concept and plans in support of operations and coordinates the overall logistic effort. The size and complexity of operations, component participation and force contribution of the nations as well as the degree to which national and/or multinational logistics are to be integrated into the logistics concept may require specific logistic coordinating activities.

JOINT LOGISTIC SUPPORT GROUP (JLSG)

0317. The JLSG is a deployed, executive, theatre-level logistic organization. The commander JLSG is responsible to the joint force commander for the planning, coordination and execution of RSOM(I), theatre logistic support and R-RSOM using assigned national, HN or commercial resources. As such the JLSG is the key means by which NATO delivers multinational logistic support for operations. The JLSG HQ is designed to support rapidly deployable forces and flexible C2 structures, including the NATO Response Force (NRF). The JLSG HQ is scalable and adaptable and will be task-organized to match the mission.

0318. To coordinate all logistic activities under the designated operational commander's responsibility, commander JLSG should be granted authority over theatre-level logistics. If the JLSG is sited outside the JOA, such arrangements must be made clear in the OPLAN. The level of control the operational commander will be given over national-level logistics will be based on individual nations' approval and designated in the appropriate TOA. Visibility requirements of dedicated stocks and services in support of the joint theatre mission need to be clearly identified in the OPLAN.

0319. The main tasks that the JLSG HQ must be built to accomplish are RSOM(I), the execution of theatre-level logistics and the overall coordination of theatre-wide logistic support to the force. The size and composition of the modules will be tailored to meet the operational demands of the situation at hand.



Legend: *DCOS Support* – Deputy Chief of Staff Support; *CJ4* – Commander J4

Figure 3-1. C2 Coordination Lineage.

NATIONAL LOGISTIC SUPPORT

0320. The National Contingent Commander, through a NSE, in coordination with the JFC, executes national responsibility for logistic support in the JOA. The NSE will coordinate with the JLSG and/or G4 (or its Multinational Logistic Centre Land (MNLC(L), as well as with the national logistic support units (organic units or those attached to the operational formations or units in the multinational force). Figure 3-1 depicts the Command and Co-ordination Concept.

0321. A NSE executes national logistic support, co-ordination of logistic support functions with other participating nations. NSEs are organized and located as dictated by their national authorities, however preferred is to locate the NSE with the JLSG HQs or with the Theater Logistic Base (TLB). Besides the collocation the NSE should place a liaison officer with the JLSG. The NSE coordinates with CJ4 and report to the JLSG to ensure continuity of total logistic effort.

0322. The NSE provides (direct) support to national forces assigned to multinational formations. Additionally, nations with small troop contributions may choose to provide this support by means of multilateral or bilateral agreements. Due to operational and/or geographic considerations and possible economies of scale, it may be desirable to collocate NSE's in support of multinational formations.

SECTION IV – LAND COMPONENT LEVEL

0323. Land Force Component Command Staff G4. The LCC G4 staff responsibilities are wide ranging. As one of the LCC commander's primary staff officers, the G4 is the single point of contact for all logistic matters. He/she plays an important role in assisting the commander formulate, integrate, and disseminate logistics support plans and policy in concert with other staff plans and policies. He/she also is responsible for assessing logistic capabilities and constraints and recommending logistic options and priorities for balancing resources. He/she then provides the required oversight of logistic operations to ensure the commander's logistic priorities are carried out. Other LCC G4 staff responsibilities include:

a. Acting as the single point of contact for the commander for all logistic matters.

b. Formulating and disseminating logistic policy based on policy statements and operational level guidance from superior headquarters.

c. Preparing logistic plans in support of operations.

d. Allocating logistic priorities in line with the commander's intent.

e. Providing assessments of logistics capabilities and constraints, evaluating their impact on current and planned operations and providing feedback to the superior HQ.

f. Producing options on and coordinating the balancing of resources in order to overcome logistic deficiencies in specific areas in accordance with the Combined Joint Force Land Component Commander's authorities.

g. Preparing and forwarding logistics reports[14] to the higher authority as required and providing reporting guidance for formations.

h. Acting as logistic coordinating authority between the commander and formations.

i. Coordination with JLSG COM.

j. Liaising with the Joint Theatre Movement Staff (JTMS) to develop movement and transportation plans and prioritizing movement requirements as applicable to CJTF deployment[15].

k. Providing co-ordination with non-assigned medical authorities.

[14] As NSEs remain under national control, France will report on a case-by-case basis.

[15] Deployment into and out of JOA is planned by the sending nations, based on the Commanders Required Delivery date, desired order of arrival, final destination(s), POD/POE.

l. Developing medical and health service support plans for the treatment and in theatre evacuation of patients, medical logistics (including blood supplies), and preventive medicine.

m. Coordinating with other staff branches that impact significantly on logistic support operations, including, finance, contracting, CIMIC, explosive ordnance disposal, engineer and rear area security.

SECTION V- FORMATION LEVEL

0324. The NATO commander's authority is regarded as sufficient in order to influence logistic operations through his staff. There could be an option to establish a specific multinational logistic C2 element at formation level, although this does not rule out the option of a 'main' and 'rear' HQ concept. The JLSG, as Logistic enabler of all theatre level logistic support, will be a logistic C2 element that is also at the disposal of the formation commander to influence logistic operations on both the operational and tactical level. However, the formation HQ will:

a. Coordinate or execute all aspects of the logistic and medical support missions within its AOR;

b. Coordinate national and multinational logistic support provided by the formation, the land component and JOA;

c. Execute redistribution authority in accordance with the provision of MC 319 and as specified in Transfer of Authority (TOA) documents and arrangements;

d. Co-ordinate the logistic reporting in order to inform higher HQs in respect of the logistic status.

0325. Formation Commanders are granted the authority to redistribute logistic resources under their command. Such a provision is intended only to overcome unanticipated deficiencies and to allow forces to remain logistically balanced in the pursuit of assigned missions and is not designed to routinely compensate for deficiencies in other nations' forces. Any logistic redistribution will not be to the detriment of the providing nation and is subject to concurrence of the nation's contributing to the forces concerned.

SECTION VI - COMMAND, CONTROL, COMMUNICATIONS AND INFORMATION SYSTEMS

0326. Regardless of the level of command, the ultimate aim of logistic Command, Control, Communication and Information (C3I) systems is to provide the commander with visibility of his logistic assets. Robust communications and dedicated information technology (IT) systems respectively will be needed if the flow of personnel and materiel in the LOC is to function most effectively. As nations move to the battlefield distribution management for support, total asset visibility[16] and in-transit visibility become even more important aspects of the LOC.

[16] France will provide relevant information on a case-by-case basis.

0327. NATO's primary automated logistic systems are packaged within Logistics Functional Area Services (LOGFAS) under the Automated C2 Information System (ACCIS). LOGFAS is an operational system comprising the Logistics Database (LOGBASE), the Allied Deployment and Movement System (ADAMS), the Allied Command Resource Optimization Software System (ACROSS), and the Logistics Reporting System (LOGREP). The responsibility for ensuring the timely flow of logistic information is shared by Nations, the NATO HQ, and SHAPE. The Bi-SC Reporting Directive contains the overall reporting system guidance and prescribes how Information Exchange Requirements (IER) will be submitted, designed, approved, and managed.

0328. Some nations will have their own unique C3I system to manage logistic support of its committed national forces. However, to provide the greatest possible support to committed forces, each nation should interface and exchange information with the higher, lower, and adjacent forces. The information to be exchanged between national logistics units is dependent upon the type of equipment held by each unit, its interoperability, and their respective missions. The NATO commander will ensure that the Reportable Item Codes (RIC) are listed in the plan, so that national units know which material needs to be addressed in the reports.

0329. The information needed to support the C3I system should be determined on a top-down basis in line with the Commander's Critical Information Requirements (CCIR). Lower level commanders may also have information needs that must be accommodated. The logistic staff at all levels will be required to interpret raw data and stock holdings and represent the information to the commander in a meaningful form. Logistic reports should be capability based in the context of current and future operations and should use the LOGREP tool.

0330. The requirement for SACEUR to call for logistics reports is clearly outlined in MC 53-1. For operational purposes the Bi-SC Reporting Directive 80-3, Volume V (Logistics Reports) is the logistic master reference to the harmonized Bi-SC Operational Information Exchange Concept throughout SHAPE. It provides the framework for operational reporting at all levels of subordinate SHAPE headquarters and assigned national forces. Thus, the Directive provides guidance on the policies, responsibilities and procedures for the preparation and transmission of logistics reports in peace, crisis, war and military operations other than war.

0331. Asset tracking. In NATO, Asset Tracking supports C2 at different levels with the provisioning of near real-time asset visibility and accurate information on the identity, location, movement and status of units, personnel and materiel. Asset tracking capability is based upon interoperable national and NATO asset tracking systems using international standards and best commercial practices. STANAG 2292, AJP-4.11 describes NATO's Principles and Policies for Asset Tracking.

INTENTIONALLY BLANK

CHAPTER 4

LOGISTICS PLANNING AND PREPARATION

The purpose of this chapter is to describe the actions involved in the planning and preparation of Land Forces logistics support to military operations. It is clear that logistics planning must be conducted in synch and in close collaboration with the operational force planners, whereas the logistics planners should be incorporated in the planning process from the start in order to achieve the optimum use of resources and capabilities, the timely delivery of effective and efficient logistics support and to exploit the potential benefits of multi-nationality. Planning must be continuous and adjustments must be made as the operation unfolds.

SECTION I – PLANNING

0401. Logistic planning for land operations involves critical decisions concerning the interface of combat, combat support, and combat service support at all unit levels. Land logistics planning must be comprehensive, harmonized, flexible and iterative. It should engage all relevant military and civil, national and international actors, HNS, non-NATO nation's contributions and other organisations as well as multinational and contractor support solutions. Logistics planning must be versatile, dedicated to the aim of the mission and fully integrated within all phases of the planning process. This approach should deliver improved situational awareness, enhanced collaboration, optimal employment of resources and capabilities and will identify the mobility, sustainability, and infrastructure requirements to support land operations. At the operational and tactical levels, land commanders and staff may find the principles of foresight, simplicity, unity of purpose, sustainment, flexibility and multinationality valid in the planning of logistics support operations. The primary focus of land logistics planning is to identify requirements and potential support solutions that the land commander can select and implement prior to deployment and are executable during the operation. In that respect the Land Component planning group will use the same set-up of the planning phases, in a way that is compatible and allows for easy interface and collaborative planning. The following paragraphs will add more detail on the overall planning process, phases in the planning process, doctrinal documentation, preparation and rehearsal for the land commander.

0402. NATO Operational Planning Process (OPP). Logistics planning must be fully integrated in the OPP. To succeed, the logistic part of the Operations plan and the logistic annexes must be integrated with and supporting the tactical and operational plan. It is therefore most important that the logistics staffs are brought into the planning at the outset as the realities of the CSS situation may have a profound effect on the plan to be adopted. It is vital that throughout the planning process and the issuing of all the attendant authorizations, the logistics estimate is developed in parallel and nations are included and involved throughout the process from the strategic down to the operational and tactical level. The logistics concept of operations in the final OPLAN cannot be written or coordinated without national involvement. The Comprehensive Operational Planning Directive (COPD) consists of six phases. Looking at these phases with a logistics focus, they are summarised below:

a. Phase 1 - Situation Awareness. The purpose of Phase 1 - Situation Awareness - is developing and maintaining a level of understanding to support operational assessments and decision. This phase contributes to the identification of indications and warnings and supports operational planning, execution and assessments. The Land component needs to be involved as early as possible in the planning process. The main logistics output from this stage is awareness about the area of interest, essential understanding about potential risks and threats and an initial logistics estimate of the crisis area.

b. Phase 2 - Operational Appreciation of SACEUR's Strategic Assessment and Assessment of Military Response Options. The JOPG logistics planner is responsible for the Logistics analysis and operational evaluation of the MROs and providing the operational commander with an assessment of the logistics viability to establish conditions required to accomplish strategic objectives and the desired end state. The land representative in the JOPG plays an important role in ascertaining that land logistics is thoroughly analysed and evaluated in this phase.

c. Phase 3 - Operational Orientation. The purpose of Phase 3 – Operational Orientation - is to determine the operational problem that must be solved, the specific operational conditions that must be created, the key operational factors that will influence the achievement of those conditions, and any limitations on the commander's freedom of action for the development of the overall operational design. All these factors should be looked at from a land logistics perspective as well. It concludes with the commander issuing planning guidance to the planning group for the development of courses of action and issuing the planning directive to subordinate commanders to initiate planning. After receiving the guidance the logistic planner will conduct a detailed logistics analysis of the mission and operational factors that will influence mission accomplishment.

d. Phase 4A - Operational Concept of Operations Development. The purpose of Phase 4A is to determine how best to carry out operations that will accomplish the mission effectively and efficiently in accordance with the commander's intent. During this phase the land logistics planner will refine the logistics architecture in support of the development of the CONOPS to include the development of the sustainment paragraph.

e. Phase 4B - Operations Plan Development. The purpose of Phase 4B is to: develop the arrangements and further specify the required activities to implement the concept of operations; to specify the conduct of operations and to provide a basis for planning by subordinate/supporting units and subsequent adaptation, as required. Collaborative planning with subordinate and supporting units, as well as with cooperating relevant national and international actors, ensures that the activities of all Land Forces are synchronised and coordinated to create the effects required to achieve the operational objectives and contribute to the accomplishment of military strategic objectives and the desired end-state. Logistics planners support the operational planners in the development of the plan based on the Commander's selected COA by preparing the sections of the plan relevant to their functional knowledge (Annexes and appropriate appendices). The identification and resolution of shortfalls, and the development and synchronization of supporting plans are part of this process. The land logistics planner will ensure that required resources, capabilities and supporting activities are coordinated and arranged to facilitate success for the land commander and subordinate units.

f. Phase 5 - Execution, Campaign Assessment/Operations Plan Review. Phase 5 is the execution of the plan. Execution requires the C2 of military forces and interaction with other non-military actors to conduct integrated, coordinated or synchronised actions that create desired effects. The operational level will focus on its effects and their part in achieving the desired strategic effects. The tactical level will generally concentrate on the actions necessary to accomplish its mission, which will contribute to the realisation of operational and strategic effects. Logistics planners must support the periodic review of developed plans and update/revise them and supporting documents as required. Logistics staff maintains responsibility for monitoring logistic actions during the execution phase.

g. Phase 6 – Transition. The purpose of Phase 6 is to review, develop and coordinate a tailored OPLAN for transition, including the handover of responsibility to the UN, other international organisations (e.g. EU) or an indigenous actor in the crisis area, so that NATO forces can withdraw in a controlled manner so as to avoid this action being a destabilising influence in the region. Through the creation of effects, the NATO end-state will be achieved and forces will need to be withdrawn. Planning for the disengagement of NATO forces must be initiated already in the preparation of the planning to minimize the negative effects. The land logistics planner will assist in planning the transfer of authority and redeployment of NATO forces.

0403. Planning Documents. NATO has on the various levels different doctrinal documents that will be followed for strategic, operational and tactical planning. For the logistics planning, as well as for the overall planning in a “Land Component” planning group, the following documents should be the basis:

a. AJP-5 Allied Joint Doctrine for Operational Planning, purpose is to further develop doctrine for NATO’s operations planning of Allied operations. The publication describes how planning activities and processes are integrated and coordinated to support decision-making and the production of plans, orders and directives. AJP-5 presents an overarching construct of the planning principles and processes, which will be implemented through a series of planning tools, mainly the ACO Comprehensive Operations Planning Directive (COPD) and FPGs.

b. ACO’s COPD outlines the procedures and responsibilities governing preparation, approval, promulgation, distribution, implementation, and review of operations planning documents necessary to execute the tasks allocated.

c. Functional Planning Guides - Logistics, M&T and Military Engineering. These FPGs assist each functional area planner in drafting his particular annex to an operations plan (respectively Annex R (logistics), S (movement and transportation) and EE (military engineering)). The FPGs contain appropriate further references for additional guidance.

d. MC 133 NATO’s Operations Planning provides overarching political/ military guidance for the initiation, development, approval, execution, review, revision and cancellation of any type of Alliance operations plans. This document provides guidance to be taken into account for the development of planning documents, including NATO doctrine.

0404. Principles. As described in the introduction of this chapter the following factors/principles are valid in the planning of logistics support operations. These principles provide a common frame of reference to commanders and their staffs which should be observed in the logistic support planning:

a. Foresight. Logistics support planners at all levels must assess the probable course of future operations and forecast the likely requirement for personnel, medical support, materiel and equipment. The aim must be to ensure that the tempo of operations is not constrained as a result of inappropriate levels of logistics support (too much could be as great a handicap as too little). Meeting this aim may well involve the imposition of logistics priorities. Logistics planners must be involved in the operational planning process from the outset and must at all times understand the intentions of the commander.

b. Simplicity. Although the logistics support of multinational and probably joint forces is a detailed and complex undertaking, the plan to provide the support must remain simple; it must not only be easy to understand but easy to put into effect. Complicated plans not only constrain initiative at subordinate levels but also increase the risk of confusion. The use of clearly understood standard operating procedures and NATO STANAGs covering routine and frequently recurring logistics functions will minimise planning effort and simplify operations.

c. Unity of Purpose. Multinational (MN) land operations depend on cooperation and coordination to realize maximum effort. Military Land Forces achieve this principally through unity of command, which provides the necessary cohesion for planning and execution of operations. In a complex operational environment unity of command is rarely possible when the Joint Task Force (Land) or Land Component Commander and his staff deal with non-military agencies. In these circumstances, unity of purpose and effort is more appropriate because goodwill, a common purpose, clearly defined and accepted divisions of responsibility, and an understanding of others' capabilities and limitations become essential elements in maximizing collective effort. Logistics is an integral part of this unity of purpose where all the organisations' logistic entities will use the same infrastructure in the mission area.

d. Sustainment. Planning for sustainment needs to consider relevant operational and tactical factors. Ensuring a sound administrative baseline should be part of planning from the outset. Logistics will often be one of the most important factors in the development and selection of courses of action (COAs).

e. Flexibility. Plans should be sufficiently flexible to allow for the unexpected and to allow commanders freedom of action to respond to changing circumstances. This requires an understanding of the superior commanders' intentions, flexibility, rapid decision-making, organization and good communications. Flexibility also demands physical mobility to allow forces to concentrate quickly at decisive times and places. A flexible logistic structure is of the utmost importance to the land commander to ensure his freedom of action.

f. Multinationality. NATO Land Forces will almost always find themselves operating in a coalition in concert with forces from outside the Alliance. These MN forces require commanders to adopt an international perspective and be able to

understand differing national perspectives and goals that are united in a common purpose. Plans must ensure that MN force levels, and the degree to which they are employed, are balanced against operational effectiveness and desired outcomes. Logistics planning nowadays is multinational and cooperation, coordination and exchange of information and services are of major importance to support the Land Forces and should be taken into consideration from the start.

0405. Support Plan (SUPPLAN) Depending on circumstances, such as the complexity of a particular operations plan and/or the requirement to provide support to concurrent multiple operations, it may be necessary to develop a single or series of support plans (SUPPLANs) to the main plan, in order to address all aspects of operations at an appropriate level of detail. The agency or commander providing the support develops the SUPPLAN, which must be endorsed by the supported commander and approved in concert with the supported plan by the initiating authority. SUPPLANs are based on, and should be consistent with, the parent plan and its relevant annexes. In this way, they will be consistent with the political guidance and authority applicable to the parent plan, such that their approval and authorization for execution, where applicable, becomes automatically part of the approval and authorization process for the execution of the parent plan. Typically, it may be appropriate to develop SUPPLANs that support execution of the parent plan. Examples could include, but are not limited to, deployment, communications and information systems, intelligence, civil-military cooperation, military-to-military cooperation, stabilization and support to reconstruction plans or logistic SUPPLANs.

0406. Logistic Estimate. The logistic estimate is an integral part of the planning process. A logistic estimate is a functional assessment of the logistic capabilities of the contributing nations. The estimate gives the commander the opportunity to modify the operational plan based on the supportability of the courses of action. Each contributing nation is required to deploy forces with a robust logistic capability such that they are self-sustaining or have arranged for required support from other means (HNS or bilateral agreements). It is vital then that the logistic planner closely reviews national support plans to ensure they are feasible and that they are self-supporting. This review is facilitated by the logistic planning conferences.

This estimate or assessment becomes even more important as non-NATO nations begin to join NATO forces in supporting operations. Many of these nations may have different standards of support than NATO nations which could lead to serious logistic shortfalls if allowed to deploy without corrective action. Multinational commands may even consider a certification process for non-NATO nations that includes an evaluation of logistic capabilities before their forces are accepted. Items to be considered when conducting a logistic estimate include: mission, concept of operations, national requirements, and compatibility of systems.

0407. Sustainability Statement. The more accurately demand can be quantified, the more economically and efficient the logistic system can be designed. An estimate is by definition inexact. Anticipated demand derived from a logistic estimate should therefore be predicted by iterative analysis to produce a progressively more accurate estimate from which a sustainability statement can be developed. Accurate analysis during the estimate and planning stages improves the assumptions underlying the sustainability statement. Sustainability statements are issued at strategic and operational levels in consultation with tactical commanders. For enduring operations, the logistic statement should be reviewed periodically to ensure that it remains

relevant to the operational circumstances.

0408. Logistic Planning Conferences. As the logistics plan is developed, holding Logistics Planning Conferences is a method by which planning can be coordinated and unity of effort achieved. Much of the planning can be facilitated through a series of planning conferences. The type of planning dictates the timing and frequency of conferences (and the types of specialist conference e.g. HNS, Medical, etc.). The Joint Operational Guidelines Allied Joint Logistics, provides a sequence of logistics conferences that address the requirements of all logistics support. It can be modified to each mission's requirements. A summary of these conferences with their purpose and expected result is given below; all conferences are SC level with Operational Commands and nation participation:

a. Initial Logistics Planning Conference (ILPC). Purpose: to inform nations of the mission and concept of operations, analyse factors influencing logistics planning, adjust principles of operation, refine the logistics concept, and review the logistics structure and C2. Result: to enable SC to develop the logistics annex to OPLAN and provide information so that national logistics planning can begin.

b. Main Logistics Planning Conference (MLPC). Purpose: to explain and discuss the operations plan, identify logistics requirements, common logistics functions and procedures, HNS, legal and funding issues, and commence the logistics force planning process. Result: Operational Commands can finalize OPLAN and develop detailed force requirements; SC/ Operational Commands can initiate HNS process and nations can develop and detail logistics plans.

c. Operations and Logistics Review Conference (OLRC). (Optional). This conference is held only if changes in the military situation have occurred that would affect logistics planning or if identified shortfalls could prevent mission accomplishment. Result: an executable operational plan.

d. Final Logistics Planning Conference (FLPC). Purpose: to finalize logistics planning, optimize overall logistics support, confirm C2 structure, and resolve remaining logistics issues. Result: a balanced and harmonized system of SC, Operational Commands, and national logistics plans.

e. Movement & Transport (M&T) Planning Conferences and Medical Planning Conferences. Details on M&T planning and Medical Planning are contained in AJP-4.4 and AJP-4.10.

0409 Assessing Logistics Plans. The logistic staff is responsible for assessing the logistics required for achievement of the Land commander's objectives, and for ensuring that the support requirements are met throughout the operation. Based on this assessment, the logistics staff develops the logistic concept and plans in support of operations and coordinates the overall logistic effort. The size and complexity of operations, component participation and force contribution of the nations as well as the degree to which national and/or multinational logistics are to be integrated into the logistics concept may require specific logistic coordinating activities.

0410. Risk. Since friction and risk are inherent in land combat, calculated risks might have to be taken. Moreover, history shows that there is seldom a large success without some risk taking, however, overall risk can be reduced and should be managed.

Although its consequences can sometimes be predicted and accommodated, it can never be entirely avoided. Two aspects of logistic risk should generally be considered:

a. The level of support to achieve the aim, maintain freedom of action and be able to react to the unforeseen should be balanced against risk. Logistic planning should assess where risk may be taken so as to achieve agility and enhance freedom of action. This is done by expressing logistics support to operational reach in terms of options available to the commander, with resulting constraints or freedom of action. Risk avoidance or overconfidence should be avoided. Risks taken in the short term may have unforeseen and undesired long-term effects, and changes to support can have cumulative impact on risk.

b. Reduction in the volume of logistics stocks increases the vulnerability of logistics operations to friction and enemy action. Sustainment assets have an easily identifiable signature and they operate along obvious LOCs from obvious sustainment areas. Vulnerabilities should be reduced or forces should be protected against detection and attack by enhancing their integral defence capability, integrating them into a scheme of manoeuvre or by allocating combat forces to their defence.

0411. Planning for concluding the Operation. Planning for the final phase of the operation must be considered during the initial planning phase. The logistics effort in concluding an operation will centre upon two main groups of activities: redeployment and post operation activities. These activities would include, among other actions, the closing of bases, transition of real estate to local authorities, and disposal of equipment. The concluding of an operation is further described in chapter 12.

Section II - Preparation

0412. Preparation for supporting Land Force operations is as important as the planning process. Preparation is putting key elements of the plan in place to ensure successful execution of the mission. Below are some considerations that may facilitate preparing and executing an operation.

a. Coordinating and orchestrating multinational logistics can be complex and meticulous. The Land Force commander may have under his C2 allied and non-allied forces all with different logistics requirements and capabilities.

b. Limitations or restrictions of the physical environment such as poor highway networks may require focused coordination.

c. While the Land Force commander’s logistics staff may be capable of managing the coordination of such complex tasks, there may be instances when additional staff is required to focus on specific logistic missions or areas of critical nature importance requiring special attention.

0413. A critical question the LCC G4 must ask is, whether the size, scope and complexity of the land operation exceed his staff’s capability to effectively manage. If facts prove to be the case, the LCC G4 must determine the appropriate structure and the level of multinational staffing necessary to meet operational objectives. He may consider the options of establishing multinational logistics coordination centre, a coordination

board or coordination cell.

0414. Logistic preparation of the Theatre. Logistics Preparation of the Theatre (LPT) is a key tool available to the commander and his planners in building a flexible operational support plan. It consists of actions taken by logisticians at all echelons to optimize means - force structure, resources, and strategic lift - of logistically supporting the commander's plan. These actions include identifying and preparing forward operating bases; selecting and improving the LOC; projecting and preparing forward logistics bases; and forecasting and building operational stock assets forward and in reserve. They focus on identifying the resources currently available in the theatre for use by friendly forces and ensuring access to them.

0415. Once a contingency country or geographic region is known, logistics planners must begin to build a logistics information database. When completed, the information on the database can be used to develop a comprehensive plan for LPT. The relative priority of this effort will depend on the overall concept of operations, along with other command priorities. Because it is a complex and time-consuming function, logisticians cannot afford to wait until deployment begins to start the LPT. Anticipation by logistics planners at all command levels can preclude inserting forces into a completely bare base of operations.

0416. Any actions that can reduce the cost of moving supplies, equipment, and people into an objective or contingency area are candidates for inclusion in the LPT plan. Planning must provide for the timely arrival of logistics assets, which is balanced according to the mission. Strategic lift assets are extremely limited. A good LPT plan, along with the time required for proper execution, will allow better use of scarce strategic lift capabilities.

0417. LPT Elements of Information. The focus of the logistics elements of information development process is on supply and field services; however, a detailed LPT plan should cover all logistics areas. Information should be collected and coordinated with MILENG branch on:

a. Geography. Climate and terrain in the area of operation to determine types equipment needed and when. For example the use of water information to determine the need for such things as early deployment of water production, filtration and distribution units.

b. Supply. Items that are readily available in the area of operation and can be used in support of forces. Subsistence items (Class I: fresh food and (bottled) water), bulk petroleum, and barrier materials are the most common.

c. Facilities and Services. Availability and limitations of warehousing, cold storage facilities, production and manufacturing plants, reservoirs, administrative facilities, sanitation capabilities, and hotels.

d. Transportation. Road and rail nets, inland waterways, airfields, truck availability, bridges, ports, cargo handlers, petroleum pipelines, and materials handling equipment (MHE) as well as traffic flow, choke points, and control problems.

e. Maintenance. Maintenance facilities that could support NATO equipment. For example, does the country have adequate machine works for possible repair

parts, or does the country have dealers for the supply of spare parts for military equipment?

f. Medical aspects. Information on all health-threatening aspects and necessary preventive medicine program related to the JOA; availability of medical facilities especially acceptable Role 3 capacity.

g. General skills. Skills of the general population of the country. Are interpreters available? Will a general labour pool be available? What skills are available that can be used in logistics support operations? For instance, will drivers, clerks, MHE operators, food service personnel, guards, mechanics, and longshoremen be available?

h. Political situation. Willingness or resistance of trade unions and/or civil workers to support armed forces or military operations.

0418. The logistics planner must not underestimate the time and resources required to accomplish many of these actions. The LPT is a living document that will be in a continual state of review, refinement, and use. It should be used as the basis for negotiations, and the commander should use it routinely when performing the planning functions, especially in forces deployment planning and HNS negotiations.

Section III – Rehearsals

0419. Rehearsal. A rehearsal is the act or process of practicing an action to prepare for the actual performance. Rehearsing key combat actions allows participants to become familiar with the operation and to translate the relatively dry recitation of the tactical plan into visual impression. This visual impression helps them orient themselves to their environment and other units when executing the operation. Moreover, the repetition of combat tasks during the rehearsal leaves a lasting mental picture of the sequence of key actions within the operation.

0420. Where possible, the understanding of a plan should be validated by rehearsal. Mission rehearsal can take one of three forms, back brief, war gaming/rehearsal of concept (ROC) Drill or physical rehearsal. A back brief is designed to confirm subordinates' understanding of the plan. It usually represents the last chance to modify a plan before execution. Back-briefs should not be used as vehicles for commanders to impose the way they wish subordinates to conduct their assigned missions. That merely undermines freedom of action and the development of trust. Conversely, a ROC-drill, during war gaming is aimed at synchronizing the details of a given plan and should not be used to amend a plan unless major problems are identified. Physical rehearsals may contain an element of training and may have a beneficial effect on the cohesion of the force.

INTENTIONALLY BLANK

CHAPTER 5

SUPPLY

The purpose of this chapter is to provide an overview of supply support within NATO Land Forces during the execution of military missions.

Section I - GENERAL

0501. Supply is defined as the procurement, reception, storage, transportation, distribution, maintenance[17], reclamation and disposal of supplies, including determination of type and quantity in each instance. Supply covers all materiel and items used in the equipment, support and sustainment of military forces.

0502. Nations have the ultimate responsibility for ensuring the provision of sufficient supplies to adequately sustain their forces in NATO operations. Supplies provided by nations can be augmented by HNS or by contracting and, where appropriate, by bi- or multinational contributions as agreed between nations. However, under the premise (see MC 319/3) that nations and NATO commanders share a collective responsibility for the logistic support of NATO operations, the NATO commander will assume operational control of MILUs and commonly provided supplies and services.

0503. Multinationality is an option if it is more cost effective and enhances operational effectiveness and reduces the logistic footprint. It should not be pursued for its own sake. The option of multinational support will be determined during the logistic assessment and planning process and will depend greatly on the time constraints, the degree of standardization and any bilateral or multilateral agreements already in place within the force.

Section II - CLASSES OF SUPPLY

0504. According to STANAG 2961, Classes of Supply of NATO Land Forces, NATO classes of supply are established in the five-class system[18] of identification as follows:

Classes of Supply of NATO Land Forces	Description
I	Those items which are consumed by personnel or animals at the approximately uniform rate, irrespective of local changes in combat or terrain conditions. Examples: rations and forages

[17] See AAP-6 : maintenance is the action to keep a facility in such condition that it may be continuously utilized and actions taken to retain equipment in or to restore it to a specified condition (See annex 7).
[18] Some nations use different supply classification systems (see STANAG 2961).

II	Supplies for which allowances are established by tables of organization and equipment. Examples: clothing, medical, weapons, mechanics' tools, spare parts, vehicles, etc.
III	Fuels and lubricants for all purposes, except for operating aircrafts or for use in weapons such as flame throwers. Examples: petroleum products such as gasoline, kerosene, diesel oil, fuel oil, lubricating oil and greases and solid fuels such as coal, coke and wood. For Air Force (Class III A): Aviation fuels and lubricants.
IV	Supplies for which initial issue allowances are not prescribed by approved issue tables. Normally such supplies include fortification and construction materials, as well as additional quantities of items identical to those authorized for initial issue (Class II), such as additional vehicles.
V	Ammunition, explosives and chemical agents of all types.

Table 5-1: NATO Classes of Supply.

Section III - READINESS AND SUSTAINABILITY

0505. MC 55/4 addresses both planning and the operational planning aspects of the logistic readiness as well as the policy of sustainability. The underlying philosophy pursued throughout is that it seeks to optimize the flexibility of nations in how they meet logistic readiness and sustainability requirements within the specified readiness preparation time. Logistic readiness and sustainability encompasses units, organizations, resources as well as civilian support and HNS capabilities. Using the definition of NATO classes of supply, the stockpile requirements for forces' readiness are detailed in MC 55/4.

0506. Bi-SC Stockpile Planning Guidance (Bi-SC SPG) provides national authorities with stockpiling guidance and with the tools and planning data required for calculating the long-term stockpile requirements of consumables[19]. This guidance is to be used as the basis for military stockpile planning and reporting (home country resources are not to be reported in missions), and as a yardstick for assessing the sustainability of national forces. Where the document gives no guidance, national planning factors apply.

0507. Nations should ensure that during the readiness build-up of each category, the stockpiles' requirements for the forces are met by:

a. Maintaining adequate stocks,

b. Assured access to industrial capabilities with adequate surge capacity,

c. Bi- or multilateral agreements,

d. Contingency contracts,

e. Other means, including contracting support of operations (CSO).

[19] As it is part of the Defence planning process, France will not accept that recommendation.

Section IV - SUPPLY PLANNING

0508. Requirements in supply should be calculated in two phases:

a. Initial supply requirements, which are the quantities of supplies needed in the JOA to build the stocks up to the level agreed by nations and to cover the consumption until the first resupplies can be delivered,

b. Resupply requirements, which are necessary to keep initial supplies at the desired stock level and to replenish supplies consumed, expended, lost, contaminated or destroyed.

0509. Planning for supply operations must allow for losses, certain fluctuations in demand and for delays in delivery. Therefore, combat forces must be self-sufficient and be able to operate for short periods from on-hand stocks.

0510. Medical materials, supplies, and pharmaceuticals should meet the peacetime standard of medical support. Sustainability equipment and stocks, particularly blood and blood products, should be maintained at the highest possible standards. Medical stockpile requirements are to be determined by using projected casualty rates.

Section V - HOST NATION SUPPORT AND LOCAL RESOURCES

0511. Much of the details regarding HNS and local resources are contained in MC 334 (NATO Principles and Policies for Host Nation Support (HNS), AJP-4 and AJP-4.5 (Allied Joint Host Nation Support Doctrine and Procedures). These capabilities are particularly important in the field of common supply items and are applicable to a wide range of operational scenarios. The availability of appropriate resources either in or outside the JOA and the perceived reliability of commercial organizations will be very important in this matter.

0512. In most cases, it is cost effective whether NATO eligible expenditures and supplies common to the nations are procured in a centralized way by the JTF HQ (CJ4/JLSG, CJ8 and/or the JLSG Theatre Head of contracts). If available, the technical expertise of the CSO can be used, but it could be easier and more cost effective to contract locally. In that case it is important to have a single point of contact. It must be designated by the JLSG for coordinating HNS and centralized contracts. The mission of this single POC is to ensure that contributing nations do not compete for scarce resources.

Section VI - MULTINATIONAL SUPPLY PROVISION

0513. The options for multinational support are covered in the Chapter 2 and supply items could be provided using any or all of these options. Beside the main goal of reaching the operational effectiveness, the second goal is to achieve economies. The option of multinational support will normally be determined during the planning phase, and will be influenced by the degree of interoperability within the force.

0514. In the field of supply, multinational support arrangements can usually be considered

for the provision of food, water, fuel, some ammunition types and medical supplies. But great care will be needed in respect to the multinational provision of blood products and drugs in general because of the present differences in national standard regulations and therefore to the perceived health risks. Additionally, the multinational supply of food, especially combat rations, may be affected by ethnic or cultural factors.

Section VII - STOCK LEVEL MANAGEMENT

0515. The stock level criteria in terms of Day of Supply (DOS) will be determined based on the Sustainability Statement and published in the logistic annex to the Operation Order (OPORD) (see Bi-SC Force Standards for Land Forces). Stocks to sustain operations will include organic stocks of units plus additional stocks, maintained at support levels, necessary to cover the order and shipping time for supplies. The actual positioning of supplies will be dependent on the operational situation and the ability of the strategic and tactical transport to move supplies forward into JOA. Other factors that will influence stock levels and locations include the political situation, the risk to which the stocks will be exposed, and the cost effectiveness of holding stocks forward versus re-supplying stocks from home bases.

0516. At the operational level, maintaining stocks on wheels offers flexibility and may assist the commander in maintaining tempo. However, holding all stocks on wheels may be unfeasible for the resources committed to the operation. A balanced mix of supplies held on wheels and ground loading or dumping of stocks is the most likely option.

Section VIII - SUPPLY SYSTEM, PROCEDURES AND REPORTING

0517. Efficient Supply Chain to Theater. Although the flow of supplies needed to support units and personnel entering the JOA remains a national responsibility, it must be synchronized between troops contributing nations by JLSG HQ. Therefore coordination and prioritization of supplies rest with the NATO commander. Accordingly, the NATO commander will be responsible to optimize the supply chain to create an effective regeneration loop in the JOA.

0518. Request for Critical Items. Critical items and mission essential equipment, which are vital to operations or are in short supply, must be subjected to special supervision and positive controls at all levels to ensure that the appropriate priority is applied. JTFHQ must retain clear visibility on key assets and the ability to track them. In the event of any operational emergency, immediate assistance from a nation must be requested to the NATO commander who has the authority to reallocate resources (except those specifically withheld by nations before TOA), in accordance with established procedures. Such requests can be sent through logistic messages[20] currently in use. As nations make substantial use of intermodal ISO 20 ft-containers, it is now imperative that these containers and their contents to be correctly prioritized and be made visible to commanders in their JOA. NATO considers consignment tracking to be the minimum military requirement of the logistic support.[21]

[20] See : APP-11(C) NATO message catalogue
[21] See AJP 4.11 – Allied Joint Doctrine for NATO Asset Visibility

0519. Supply assistance procedures. Supply transactions between allied nations or national forces may take the form of pre-planned logistic assistance, emergency and non-emergency logistic assistance either in peacetime or during crises and conflicts. They cover HNS, multinational support, reallocation and redistribution. The relevant supply procedures to request, reply and implement as well as the compensation for delivered or redistributed supplies are to be carried out in accordance with STANAG 2034[22].

0520. Logistics reports. The Bi-SC Reporting Directive (Bi-SCD) 80-3 Volume V Logistic Reports mandates that sending nations report the equipment and materiel stockpiles held in support of forces assigned to NATO using the Logistic Reporting procedure. Any deficiencies of operational critical materiel must also be declared. Additionally, the procedure contains the reports needed to request or implement mutual logistic assistance. NATO commanders at each level of command are authorized to supplement the BI-SC Reporting Directive to facilitate and co-ordinate the supply operations. To maintain clear visibility of their logistics situation, each nation should send daily logistic reports to the JFC and JLSG in accordance with the prescribed Battle Rhythm. In Multinational theaters where nations do swap, exchange or extend their operational areas, the JFC and JLSG must also have a clear picture of nations' (logistic) bases in Theater and be regularly informed on their logistical status through the relevant reporting.

Section IX - SUPPLY STANDARDIZATION AND INTEROPERABILITY

0521. Where possible, it is expected that nations will co-operate, either using bi-lateral arrangements or through other co-operative approaches, to optimize the provision and use of limited resources. In this context, the expert CSO and NATO's principal agency for in-service logistics, NATO Support Agency (NSPA) has established a major program to improve peacetime in-service logistics, which has a direct impact on operational logistics. This program is known as the NATO Logistics Stock Exchange and is aimed at providing in-service logistic support and achieving sufficiency on a low cost basis.

0522. Using common consumables such as fuel, ammunition and rations can improve the status of standardization between nations. Many of key items and materiel are covered by NATO standardization STANAG and interchangeability catalogues. In accordance with the Single Fuel Concept (SFC) adopted by the Alliance[23], a single fuel, namely F-34, should be used in operations for land-based military aircraft, vehicles and equipment.

0523. STANAG procedures should be incorporated into national doctrine so that as a minimum, national forces know how to request and transfer consumable items. However the existence on the battlefield of standard or interoperable materiel and consumables is of limited value if forces are unable to affect a required transfer as a result of inadequate co-ordination. Interoperable national supply systems will facilitate the NATO commander's ability to control or redistribute specified supply assets when agreed by nations. Standardization Exercises (SDX) provide an opportunity to improve technical interoperability and STANAG procedures. Non-NATO nations will,

[22] STANAG 2034: NATO Standard Procedures for Mutual Logistic Assistance
[23] See AJP 4.7 – Allied Joint Doctrine for Petroleum

unless otherwise specified, be expected to comply with releasable NATO publications during operations conducted with NATO.

0524. NATO Ammunition Demand and Reporting Code (NARC). Ammunition present in more than one country is assigned a NARC (a five-digit system). The AOP-6 (STANAG 2928 Catalogue of ammunitions held by nations that satisfy interchangeability criteria of form, fit and function only) gives the interchangeable NATO Stock Number (NSN) for each NARC, and indicates interoperability with the barrels/guns. The NARC is used to express a deficiency for ammunition possessed by at least two nations. It is also used to report on the stockpiles of this ammunition. However, many nations have critical ammunition for which they are the only user. Therefore reports on critical ammunition must use the Reportable Item Code (RIC). The NARC is used to manage the interchangeability of ammunition, and the RIC to manage critical ammunition.

0525. **The Reverse Supply Chain.** The Reverse Supply Chain (RSC) is the process by which surplus, repairable, damaged or waste materiel is returned back along the supply chain for reallocation, reclamation, repair or disposal. The process begins when an item is identified as needing to be returned and ends when that item arrives at the point where retention; reallocation, repair or disposal takes place. This point could be either in the operational theatre or as far back as the originating nation. The early opening of the RSC contributes to a lean supply chain by reducing inventories of surplus or unnecessary stocks and ensuring that only what is needed in theatre is held in theater.

CHAPTER 6

MOVEMENT AND TRANSPORTATION

The purpose of this chapter is to outline doctrine for planning, co-ordination and execution of Movement and Transportation for NATO land operations.

Section I - INTRODUCTION

0601. The mission of Movement and Transportation (M&T)[24] is to plan, direct, and control all modes of transportation with the aim of getting the right people, supplies and equipment moved to the right place at the right time in the right quantities, in the right condition and by the most cost-effective means to the satisfaction of the operational commander.

0602. M&T is a system of related but different functions that operate to form a cohesive movements' chain across the strategic, operational, and tactical levels of war. This chapter focuses on the operational and tactical levels in support of the Joint Force Land Component Commander (JFLCC) and the Land Force in operations, rather than the strategic or movements between JOAs, which is the responsibility of SNs and echelons above the Joint Force Land Component Command.

Section II - TERMINOLOGY

0603. Movement. Movement is the activity involved in the change of location of forces, equipment, personnel and stocks as part of a military operation. Movement requires the supporting capabilities of mobility, transportation, infrastructure, movement control, and support functions.

0604. Transportation. Transportation is the means of conveyance to move personnel, equipment and stocks and includes the requisite materiel handling equipment (MHE).

Section III - CONCEPT

0605. General policy. General policy is provided in MC 319/3, NATO Principles and Policies for Logistics. MC 336, NATO Principles and Policies for Movement and Transportation (M&T) describes the NATO M&T concept for support for Article 5 operations and non-Article 5 CRO, identifies the factors affecting future M&T support, defines M&T principles, policies, and terms, as well as M&T tasks and responsibilities. AJP-4.4, Allied Joint Movement and Transportation Doctrine is developed to assist NATO and national M&T staff officers to operate in combined/joint M&T environment.

0606. **MC 319**. MC 319 states the following policy on M&T:

a. Movement systems and transportation resources must be able to respond to

[24] For France Movement and Transport (M&T) only includes organisations and equipment.

force and logistic deployments, sequentially or concurrently, to accommodate de-escalation to adjust the movement flow, and even to reverse it.

b. Sufficient transportation capability, with associated standardized movement control, co-ordination and prioritization systems, must be provided from military and civil sources.

c. Nations should ensure ready and economical access to appropriate civil and military transportation resources and infrastructure, in order to meet reaction times in peace, crisis or conflict.

d. The use of military and civilian transport resources made available for the deployment, resupply and redeployment of forces must be coordinated at the appropriate level, and must be responsive to the NATO commanders' overall priorities.

0607. MC 336 / AJP-4.4, M&T principles are:

a. Collective Responsibility. NATO and nations have a collective responsibility for the M&T support to NATO operations. This responsibility extends from initial M&T planning through the Strategic Deployment (SD), Reception, Staging, Onward Movement (RSOM), sustainment and redeployment stages of operations.

b. Cooperation. Cooperation between NATO and national authorities, both military and civil, is essential. Such cooperation can be of a bi- or multilateral nature. This includes, as required, non-NATO nations, the EU, the UN and other organizations. Cooperation between NATO and these entities will be consistent with agreed and applicable NATO logistics policies, decisions and procedures.

c. Coordination. It is essential that all M&T activities are fully coordinated and synchronized at the appropriate levels.

d. Effectiveness. M&T planning and execution must be primarily tailored to satisfy NATO operational requirements.

e. Efficiency. Use of military and civil resources, facilities, existing infrastructure and MOT must be optimized, for example consideration of economies of scale.

f. Flexibility. M&T support must be proactive, adaptable and responsive to achieve the objective and must be capable of reacting in a timely manner to changes in the operational situation and/or requirement.

g. Simplicity. M&T plans and procedures must be kept as simple as possible.

h. Standardization. Systems, data, software, procedures and equipment must be standardized to facilitate interoperability and M&T support.

i. Visibility and Transparency. The exchange of M&T information between all participants is essential for the efficient planning, coordination and execution of M&T tasks.

0608. **MC 336/AJP-4.4**. M&T policies are:

a. The use of LOGFAS M&T software can be closely associated with many of the NATO M&T principles, such as *Collective Responsibility*, *Cooperation*, *Coordination* and *Effectiveness*. More specifically, it supports directly the principles of *Standardization* (to facilitate interoperability and M&T support) and *Visibility and Transparency* (the exchange of M&T information between all participants being essential for the efficient planning, coordination and execution of M&T tasks).

(1) NATO nations and, within the scope of NATO security policies and regulations, non-NATO nations are strongly encouraged to use ADAMS as the NATO planning tool to facilitate multinational deployment planning and transfer of information (Nations may use ADAMS or some other system to do their internal, national-level deployment planning). Strategic Commands (SCs) or Alliance nations will support non-NATO nations, as appropriate, and

(2) To be viable, the communications and Automated Data Processing (ADP) systems must provide Commanders with timely information concerning status of force deployment, lines of communications and availability of transportation resources. As ADAMS is NATO's tool for multinational M&T planning, nations are *strongly encouraged* to continue to support the use of ADAMS and communicate M&T data via this system.

b. Consequently, considering the recent development of EVE and CORSOM, NATO nations, NATO Command Structure HQ, as well as non-NATO multinational movement coordination centers and, where appropriate, non-NATO nations are strongly encouraged to use the LOGFAS tools to facilitate multinational deployment planning, execution monitoring and transfer of movement information. Nations may use other systems, but are encouraged to use NATO LOGFAS applications to do their international-level deployment planning.

c. The standardization of M&T data formats and their timely exchange is key to the success of complex movement operations, especially to facilitate the coordination between the many deploying forces, when limited transportation resources such as strategic lift assets and infrastructure (e.g., Air/Sea Ports of Debarkation (A/SPOD), Lines of Communication (LOC), etc.) are limited, must be shared or are restricted in their use. When tools other than LOGFAS are used for national purposes, nations are strongly encouraged to ensure that their system and data is either compatible or easily transferable into the LOGFAS tools, to avoid undue duplication of efforts and delays in data transfer and/or provision.

Section IV - LEVELS OF MOBILITY

0609. Strategic Mobility. Strategic mobility is the capability to move forces and their associated logistics support resources quickly and effectively over long distances. This is typically between a nation and a JOA, but can be between JOAs or between regions (inter-regional).

0610. Operational Mobility. Operational Mobility is the capability to move forces and their associated logistic support quickly and effectively within a region (intra-regional). It

also embraces the capability to concentrate regional forces against the major enemy thrust and to counter-concentrate operational reserves.

0611. Tactical Mobility. Tactical Mobility is the quality or capability to concentrate regional in-place forces up to division level against the major local enemy thrust and to counter-concentrate tactical reserves.

Section V - MODES OF TRANSPORTATION

0612. Modes of Transport. There are five main modes of transport (MOT), sea, air, road, rail and inland waterways. Because of their limited applicability, the use of pipelines and pack animals are not considered in this document.

0613. Selection. The transportation mode used depends on the existing geography and infrastructure available. Selecting the mode of transport for a particular mission, regardless of the intensity of the crisis, requires the consideration of certain criteria. The criteria are: priority of the requirement, required delivery date, type of cargo, special restrictions, economy and efficiency, available resources, and security. The type of military involvement may also influence mode selection. A multinational approach and redundancy of modes enhance the flexibility of the transportation system, making it more responsive to changing situations.

0614. Intermodality. Intermodal capability is the ability of modes to transfer shipments from one to another with minimum handling requirements. It involves more than the mode of transport; it also includes the container, packaging, or other preparations. The positioning of the appropriate MHE to handle the cargo is very important in intermodal operations. Also crucial is the preparation of cargo to guarantee acceptability by the succeeding mode.

0615. Air transport. Air transport is a flexible and essential element of the transportation system and is an important component to the operational level mobility, allowing Land Force to participate in the deep battle and extend their missions beyond the land line of communications. Likewise sustainment of this force must be done by air until link-up with ground forces is achieved. It is also a routine method of moving key personnel, equipment and supplies within the JOA. Rotary-wing air transport provides a more rapid and flexible system of transportation and assists tactical level movements within the AO. The flexibility of military air transport allows it to be employed strategically, operationally, and tactically. This flexibility means it is unlikely to be available on short notice and must be planned for as a valuable but rationed resource.

The use of air transport is limited by availability, aircraft capacity, the availability of airfields, weather conditions and handling aids. The weight and the dimensions of materiel to be moved may also be factors. STANAG 3854 describes the policies and procedures governing the air transportation of dangerous goods.

0616. Sea transport. Sea transport is the essential element of the transportation system to move the majority of equipment and supplies. It provides the capacity to move commodities in large volumes in the most economical manner over long distances. Sea transport is relatively slow and limited by the adequacy of port facilities and beaches.

0617. Road transport. Road transport, because of its relatively low costs and its high versatility, is the key element in the integrated transport system and is the primary mode of transport for tactical mobility and distribution within the Land Force. It provides a connecting link between receiving units, major air- and seaports, supply centers and rail and inland waterway terminals and is the primary means of support to combat forces. The main characteristic of road transportation is flexibility. Generally there are few destinations in either developed or undeveloped countries that cannot be reached through the existing road network, or through the ability of road vehicles to negotiate all but the most unfavorable terrain. Road transport will often, at the outset of operations in undeveloped countries, be the only one suitable for the movement of materiel and personnel, although further consideration must be applied if operating in monsoon affected countries. Developments in technology have improved the capacity and turnaround times of road vehicles. In military use, the dismountable palletized loading system (PLS load platform), has revolutionized the road resupply system from depots to formations and units in the forward areas. The capacity achieved, although much improved, still suffers in comparison to rail for long haul operations. AMovP-1 describes “Regulations and Procedures for Road Movements and Movement Control”.

0618. Rail transport. When rail transport is available it can be the primary inland mode for sustained flow of large quantities of equipment and supplies over long distances at relatively high speeds. It is very useful to the Land Force as a mode of operational mobility, and for providing operational level M&T support. AMovP-4 describes “Technical Aspects of the Transport of Military Materials by Railroad”

0619. Inland waterways transport. Inland waterways transport is another inland mode for sustained flow of large quantities of equipment and supplies over long distances but requires lifting facilities at POEs and PODs. It is an economical mode of transport. Inland waterways transport is limited as a result of fixed routes, limited terminal capacity, and is relatively slow. It is particularly suited for heavy and bulky equipment, stores, fuel, raw materials, and bulk nonperishable food when transport time is not critical. Feeder and/or follow-on transport support by other modes of transport will, in most cases, be required.

Section VI - RESPONSIBILITIES, ORGANIZATION & RELATIONSHIPS

0620. Forces, in general, should have sufficient transport capacity at their disposal to carry out their logistic mission, level I and II support, once deployed. However, support from higher military echelons may be required for deployment, sustainment and redeployment. Movement of forces could require the use of both military and civil transport resources.

0621. Nations will control all aspects of their own LOC including inter alia reception, staging, onward movement and integration and transport resources unless they have made other arrangements with NATO. In doing so, Nations will take into account the agreed operational priorities set out by the appropriate NATO Commander. The NATO command structure manages rather than controls movement.

0622. NATO M&T Structure

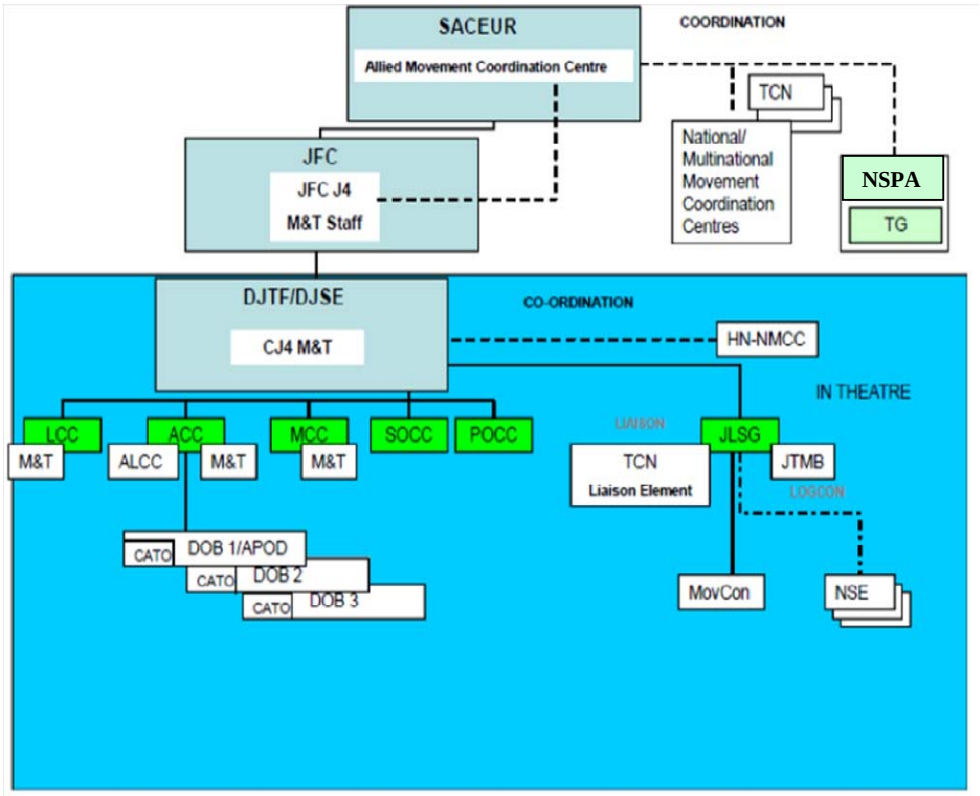


Figure 6-1: Joint Task Force.

0623. Strategic Commands (SCs) M&T Staff.

a. Allied Command Transformation (ACT). The M&T Branch at HQ Strategic Allied Command Transformation (HQ SACT) co-ordinates and manages M&T transformation activities and initiates Research and Technologies efforts to explore/develop future M&T capabilities.

b. Allied Command Operations (ACO). The ACO Supreme Headquarter Allied Powers Europe (SHAPE) M&T Staff is responsible for matters concerning the development and implementation of strategic M&T plans and provides the nucleus staff for the Allied Movement Co-ordination Centre (AMCC). The AMCC is to manage strategic movement, which encompasses the overall deployments, transportation for sustainment and redeployments, as defined in the Allied Disposition List (ADL), which also includes the designated NATO Commanders requirements, objectives and priorities. In this respect the AMCC, in cooperation with Nations, constructs the MNDDP, and addresses strategic lift shortfalls. It performs this task in peacetime, exercises and operations. Liaison officers from Sending Nations (SNs) and Host Nations (HNs) and the Transport Planning Boards and Committees (PB&C) experts could also augment the AMCC.

0624. Joint Force Command (JFC) CJ4 M&T Staff. The staff is to develop and to implement movement and transportation plans and directives, and to prioritize movement requirements as they apply to the JFC tasks. The M&T Staff is the focus for all aspects of operational movement within the Region in co-ordination with the HNs. The M&T staff is part of the JFC HQ CJ4 staff.

0625 Headquarter Land M&T Staff. The HQ Land M&T staff develops movement and transportation plans and directives, and prioritises movement requirements in the Joint Operations Areas (JOA) as applicable to joint force employment. The M&T staff is part of the HQ Land CJ4 staff.

0626 HQ Joint Task Force (HQ JTF)/Joint Theatre Movement Staff (JTMS). The JTMS develops M&T plans, and prioritizes movement requirements in theatre. The JTMS can be positioned in the CJ3 or CJ4.

0627 JLSG Movement and Transport Branch. The movement and transport (M&T) branch's role is paramount in contributing to RSOM during the deployment and redeployment phases and in managing intra-theatre lift in support of the sustainment operation. Particular care must be taken to ensure that logistic lines of communication and logistic nodes do not become so congested that they threaten the execution of the logistic support plan. This will require the M&T branch to synchronize and prioritize NSE movement of assets, in accordance with the priorities of the COM JTF and Troop-contributing Nations (TCNs).

0628 Land Component Command (LCC) M&T Staff

a. Mission. The LCC M&T staff provides M&T co-ordination within the LCC Area of Operation (AOO).

b. Organisation. The LCC M&T staff will be under J4. It should be located where it can best co-ordinate movements within its AOO. The LCC M&T staff should be trained and equipped to deploy M&T liaison teams in support of M&T operations in their AOO.

c. Tasks and Responsibilities:

The LCC M&T staff

(1) Conducts planning in the LCC AOO.

(2) Deconflicts all surface movements within its AOO, in conjunction with the HN/LN, SNs and appropriate higher/lower HQs.

(3) Assists in rectifying national transport shortfalls by brokering between national contingents in its AOO.

(4) As required, monitors and reports all movement and transportation activities to higher HQs.

(5) Manages transport resources owned by, or assigned to JFC for shared use when authorized.

(6) Advises and assists national contingents in M&T assets/facilities acquisition and contracting matters.

(7) Reports road damages / degradation to Engr Branch.

0629 Sending Nation (SN). The national M&T structure plans, executes and controls the movement of national forces, of national components of multi-national forces and of forces of other nations as defined in the Allied Disposition List (ADL). The organisation varies between nations. Their efforts are coordinated through their Ministry of Defence with the AMCC. Within the theatre, the Nations can use their National Support Element (NSE) to co-ordinate their requirements with the National Movement Co-ordination Centre (NMCC) of the HN and the Joint Force Commander (JFC).

0630 National Support Element (NSE). The NSE supports and co-ordinates the RSOM(I), transportation for sustainment and redeployment of forces with the HN and the appropriate NATO Commander. The organisation varies from Nation to Nation, and operation to operation. The size of the unit may vary from a section sized detachment to a battalion or larger.

0631 Host Nation, National Movement Co-ordination Centre (NMCC). The HN has the ultimate authority to approve, co-ordinate and control all movements, including RSOM(I) related activities, on its sovereign territory. Operations on HN territory will be conducted in accordance with the NATO Commander's priorities and the HNS agreements, with the exception of a defined force employment area. In this area, based upon agreements, approval, co-ordination and control of movements will be delegated to the JFC. The M&T organisation differs between nations but a NMCC with appropriate executive movement control organisation should be established to co-ordinate movements with SNs and JFC.

0632 Logistic Lead Nation (LLN)

The LLN:

a. Will take the lead in planning and controlling deployment, transportation for sustainment and redeployment, as well as obtaining transportation resources for multi-national headquarters groups and units.

b. Will conduct either partially or totally the tasks and responsibilities of a HN in the case where no HN authority exists, or by agreement between SN and HN.

c. Take the lead in performing specific M&T tasks as identified by NATO in cooperation with the nations.

0633 Logistics Role Specialist Nation (LRSN). The LRSN can assume overall responsibility for providing or procuring a specific M&T capability and/or service for all or part of the multinational force within a defined geographical area for a defined period. Compensation and/or reimbursement will then be subject to agreement between the parties involved.

0634 Contractor Support to Operations (CSO). CSO can be used to augment military transportation capability. CSO can be either conducted through either planned or ad hoc arrangements. Planned support involves a deliberate approach to determine

which support requirements can be met through contracting. Ad hoc support can be a response to unforeseen requirements that arise during operations. CSO can be used to augment strategic transport, operations at air/sea ports of debarkation and strategic distribution capabilities. For more information on CSO, see AJP 4.9, Allied Joint Doctrine for Multinational Logistics Support.

Section VII - MOVEMENT PLANNING FOR OPERATIONS AND EXERCISES

0635. M&T planning is a distinct, but integral part of logistic planning and must be consistent with force and operational planning.

0636 The development of movement plans in support of NATO operations will be an iterative process. Force planning should identify all forces - Statement of Requirements (SOR) - needed to fulfill operational requirements which have been established in the concept of operations.

0637. After all forces have been nominated by the Nations, an Allied Disposition List (ADL) is then prepared from the SOR by adding the deployment parameters of the designated Commanders Desired Order of Arrival (DOA), Commander's Required Date (CRD), Ports of Debarkation (POD) and Final Destination (FD). Based on the ADL, movement planners prepare and develop national Detailed Deployment Plans (DDPs). Nations send their DDP's to the planning authorities for evaluation, integration, deconfliction, co-ordination. National DDP's are then combined by SHAPE, AMCC into a Multi-National DDP (MNDDP) and deconflicted as required by the AMCC, in conjunction with the designated NATO Commander(s), the SNs and HN(s) as appropriate.

0638. The movement planning conference assesses the feasibility of the MNDDP, including RSOM(I). The end product of deployment/movement planning will be a MNDDP, coordinated and deconflicted by AMCC to meet the NATO Commanders' operational requirements.

0639. Allied Deployment and Movement System (ADAMS). ADAMS, part of the Logistics Functional Area Services (LOGFAS), is used to allow allied and national military staffs to carry out deployment planning and to exchange all of the related data. ADAMS assists M&T planners in developing deployment plans and testing their feasibility by enabling the rapid preparation, deconfliction and dissemination of plans between nations and NATO commands. During deployment execution, ADAMS is used to monitor the progress of deployments and to disseminate deployment information.

The M&T LOGFAS applications are:

a. Allied Deployment and Movement System (ADAMS). ADAMS provides the tools to plan deployments at the strategic and operational level. For NATO operations and exercises, national movement plans will be communicated and coordinated between nations and NATO using ADAMS. SHAPE/AMCC conducts movement planning with ADAMS, in coordination with the appropriate operational level HQ and the HN, and develops MNDDPs to deconflict national deployment plans.

b. Effective Visible Execution (EVE). EVE is the M&T execution tool for managing the

multinational strategic and theatre movements. This includes all movements, (re)deployments, movements for sustainment and rotation of forces. In addition to its primary mobility management functions, it provides visibility for ongoing and planned transport missions to all participating nations and NATO.

c. Coalition Reception Staging and Onward Movement (CORSOM). In addition to ADAMS, the CORSOM software tool has been developed to improve the planning and execution of RSOM during joint and combined operations.

Section VIII - RECEPTION, STAGING & ONWARD MOVEMENT AND INTEGRATION (RSOM(I))

0640. RSOM(I) is the phase of the deployment process that transitions units, personnel, equipment and materiel from arrival at Ports of Debarkation (PODs) to their final destination. Although RSOM(I) is an operational matter, it requires the provision of a significant degree of logistic support. RSOM(I) planning and execution requires therefore considerable integration with logistic support, M&T, and HNS planning. The NATO Commander will consider the availability of Host Nation Support (HNS), which can provide infrastructure and services to facilitate RSOM(I). Where a HN does not exist or cannot provide the required RSOM(I) support, the NATO Commander, in order to ensure that requirements are met, should seek logistic support units for support through the force planning and generation processes, or request one or several nations to assume responsibility as Logistic Lead Nation on behalf of deploying NATO forces.

The JLSG commander is designated for the coordination and execution of RSOM(I). In the absence of a deployed JLSG, a component commander may be designated.

Section IX – INTERNATIONAL STANDARDS ORGANIZATION CONTAINERS

0641. The use of ISO Containers has become an essential element in meeting the transportation and storage requirements of the Land Force. The use of sea containers for the movement of general cargo or stores is a well-established and proven method. Future operations will be as dependent, if not more so, on this method of movement and the need for a comprehensive policy on the use of containers has become increasingly important. STANAG 2828, Military Pallets, Packages and Containers provide additional information on ISO containers.

0642. Although sea container boxes are supplied commercially, in a number of shapes and sizes, the most commonly used is the 20-ft sea container (TEU) constructed to ISO standards. Sea containers are available in different configurations, such as open or closed top, refrigerated, ventilated or non-ventilated, etc. The design of sea containers is tailored to meet the needs of the cargo being carried. Details such as lifting points and securing arrangements are configured to international standards, thereby allowing the handling of sea containers worldwide in an intermodal way. In order to maintain the key elements of mobility, flexibility and inter-operability in the support of deployed operations, standard sea containers constructed of steel are to be utilised, wherever possible.

0643. There may be occasions that will require the use of 40-ft sea containers to transport items such as helicopter blades, etc. It is also recognized that difficulties could be encountered with the movement in JOA of sea containers if the container height

exceeds the preferred standard of 8 ft 6 in[25]. Personnel involved with such movements must consider this factor in their movement planning or, when appropriate, purchase sea containers that are higher (e.g. high cube containers).

0644. Palletized Loading Systems. The use of palletized loading systems (PLS) is vital to Land Force M&T systems, as they are self-loading and unloading, eliminating the requirement for additional material handling systems. Palletized loads are particularly useful in establishing supply points in the forward combat zone. The points can be rapidly established by dropping the loads on the pallets, the stores can be removed quickly, and the empty pallets picked up when the point is closed. The PLS systems can carry the pallets, or conventional sea containers.

0645. Visibility and Tracking. International standards for registering and marking sea containers have been established, and asset visibility and tracking systems are in wide use in many nations. It is vital to the Land Force that nations maintain control over the containers and the goods within, or the support system will become wasteful, inflexible and immobile. See AJP 4.11, Allied Joint Doctrine for NATO Asset Visibility for additional information on visibility and tracking.

[25] There is a lack of standardisation in regard to height, ranging between 4 feet 3 inches (1.30 m) and 9 feet 6 inches (2.90 m), with the most common height being 8 feet 6 inches (2.59 m)

INTENTIONALLY BLANK

CHAPTER 7

MAINTENANCE

The purpose of this chapter is to set guidelines to ensure efficient and effective maintenance procedures in support of NATO military operations.

Section I – GENERAL

0701. Definition. AAP-6 defines maintenance as all actions taken to retain equipment in or to restore it to a specified condition until the end of its use, including inspection, testing, servicing, modification(s) classification as to serviceability, repair, recovery, rebuilding and reclamation and cannibalization.

0702. Maintenance Policy. National maintenance policy is established during the equipment development phase and will inevitably balance operational needs against peacetime resources. The maintenance policy will be influenced by many factors, such as the perceived threat, equipment complexity, time and space, preventative maintenance activities, availability of reserve equipment and industrial support.

0703. Responsibilities. Nations are responsible for the provision of maintenance assets and resources to support their forces allocated to NATO during peace, crisis and war. However, nations and NATO authorities have collective responsibility for maintenance support of NATO's multinational forces and should make full use of bilateral or multilateral agreements in peacetime to ensure the best use of national repair facilities in peace and war. Nations should strive to provide mutual maintenance support. The overall objective of standardization, including maintenance standardization is interoperability. Within the maintenance area this can be achieved via compatibility of main equipment and tools, interchangeability of spare parts and commonality of procedures. Where two or more nations possess the same items of equipment, a coordinated maintenance effort should be encouraged. The challenge of worldwide operations in a hostile climate has become/is for maintenance a main issue.

0704. The degree of mutual support on the battlefield will depend to some extent on the commonality of equipment. Certainly this will limit mutual repair support and spare parts supply. However, there is much that can be achieved in the fields of recovery and evacuation, cannibalization, reclamation, salvage and in Expedient Repair (ER) and Battle Damage Repair (BDR).

0705. The NATO Commander has authority over the assigned logistic resources to enable him to employ and sustain his forces. He has no direct access to the national resources within the National Support Elements (NSEs). The supervision of maintenance is the responsibility of the Commander's principal logistic adviser at all levels. Specialist maintenance staff may assist the principal logistic adviser.

0706. Battlefield Maintenance. Maintenance on the battlefield depends on a number of factors, some of which are inexorably linked. For example, maintenance units perform best when they are given appropriate real estate and a degree of stability. Frequent relocation may aid survivability but reduces maintenance effectiveness and a balance

must be struck. Much will depend on the perceived threat. Distance from maintenance units to supported units will also have a marked effect; planners must take this into account.

0707. Principles. Mobility, protection (including Chemical, Biological, Radiological and Nuclear (CBRN) Collective Protection) and C2 of maintenance units employed on the battlefield must be on the same level as the units and formations they support.

Section II- REPAIR

0708. Repair is a technical operation to restore operational functions to an item of equipment or repairable damaged part by adjustment, manufacture or the replacement of defective components.

0709. The guiding principle is that unserviceable equipment should be repaired as far forward as operationally possible and technically feasible. Quick repair or replacement of unserviceable equipment as close to the location of equipment breakdown or damage as possible should be the main focus of maintenance planning. Repair capabilities should therefore be mobile and be employed close to the units they support. If the situation requires, higher level repair capacities will have to support formations in forward areas by deploying mobile and modular maintenance units. Effective repair depends on a systematic, though flexible application of the following:

a. Inspection of unserviceable materiel for damage assessment,

b. Repair priorities which will depend on the operational situation,

c. Decisions on the location of repair which will, amongst other considerations, depend on the time available for repair and the availability of specialist repair equipment,

d. Provision of required spare parts,

e. Organisation and flow of repair operations including management of the repair loop.

0710. The Repair Levels defined in the table below describe the final level of repair required to restore a system to full working order and not necessarily the maintenance conducted at unit level:

Level 1	The system can be restored by the user, with the tools, consumables and procedures prescribed at sub unit level. These will tend to be simple tasks, including the replacement of knobs, bulbs, road wheels and batteries or rebooting computers.
Level 2	The system can be restored by maintenance personnel, using the tools, spares, consumables and procedures prescribed at unit level. These will be more involved but straightforward tasks, which require a degree of diagnosis and technical competence. Repairs might include the replacement of spares or sub-assemblies, tuning, alignment and welding.
Level 3	The system can be restored by maintenance personnel using tools, spares, assemblies and procedures prescribed for use in mobile workshops. These will be more involved and time-consuming activities, which may require special tools, facilities and highly trained maintainers. Examples might include the replacement of major assemblies, the repair of sub-assemblies, optical alignment and limited manufacture of mechanical components.
Level 4	The system can be restored by maintenance personnel using special tools and test equipment in static workshops operated by the maintainer or Supplier. Such repairs would tend to be complex and may take a considerable period of time. They might encompass complete rebuilds, the replacement of component parts, calibration and manufacture under controlled conditions.
Beyond Economic Repair (BER)	Systems or sub systems, which are not repaired at any level because it is uneconomic to do so. These would normally be replaced by new items and the failed assembly scrapped or used for salvage.
None	This applies to systems or sub systems which can be restored to full working order without maintenance action. This would tend to cover incidents where No Fault is Found (NFF), corrective action is inappropriate or the system corrects itself. This would be typical of intermittent electrical or software faults which can be corrected by rebooting the system.

0711. Full or Standard Repair. In peacetime, maintenance focuses on the prevention and economical repair of technical faults in equipment. Repair procedures must reflect the statutory requirements of each nation including the Host Nation as regards safety, accident prevention and legal requirements for use of the equipment. Such 'full' or 'standard' repairs will generally comply with approved standards set by those responsible for designing and/or supporting the equipment.

0712. Expedient Repair (ER). Expedient repair is an important engineering process on operations. It may also be used, when authorised, during peacetime. It is vital that any repairs that do not achieve the accepted engineering standard or quality are rigorously recorded. Engineering judgement is needed to determine how long a repair might last in use and to assess the risk associated in case of failure. Expedient repairs must be allowed by an appropriate technical engineering authority and accepted for use by the operational commander who agrees to any limitations/constraints on use. Expedient Repairs can be categorized into three main types, as defined in STANAG 2418, Policy for Expedient Repair, Including Battle Damage Repair:

a. Type 1. An improvised, non-conventional repair that is of sufficient engineering quality and robustness to be considered as permanent, so allowing the continued use of the equipment, and does not require subsequent replacement. This repair must meet any legal and safety requirements.

b. Type 2. An improvised, non-conventional repair that is considered only temporary in nature, allowing the equipment to complete the immediate mission or task, before being replaced by a conventional repair. This repair should meet agreed legal and safety requirements.

c. Type 3. An improvised, non-conventional repair that rapidly returns the equipment for use. This repair is unlikely to be permanent or may not meet legal and safety requirements but is essential to maintain military capability in periods of conflict or war. This type of expedient repair is considered to be Battle Damage Repair.

0713. Battle Damage Repair (BDR). Battle Damage Repair is essential repair, which may be improvised and/or temporary, carried out rapidly in a combat environment in order to return damaged or disabled equipment to contribute further to operations or national policies as directed by National Command Elements. Nations should train at all necessary levels in the techniques of ER and BDR in peacetime. Once the mission has been accomplished in most cases ER or BDR must be followed by regular maintenance to restore full materiel operability or return the equipment to its original specifications. ER or BDR actions will be documented as required. The NATO principles for ER and BDR is contained in STANAG 2418 – Policy for Expedient Repair, Including Battle Damage Repair.

Section III - RECOVERY AND EVACUATION

0714. STANAG 2399, Recovery and Equipment Evacuation Operations, is a reference manual which is useful in planning and executing battlefield maintenance and recovery operations.

0715. Recovery is the extrication of an abandoned, disabled or immobilized vehicle and, if necessary, its removal to a place where it can be repaired or evacuated.

0716. Equipment Casualty Evacuation is the collection and removal of inoperable/ disabled equipment within the logistic system.

0717. Recovery of bogged, but otherwise serviceable equipment, is of prime importance to the current mission. However, recovery and evacuation is also the mechanism by which the repair loop is serviced. Recovery assets remove unserviceable equipment away from the immediate threat of enemy weapons, prevent serviceable or economically repairable materiel from falling into enemy hands and then enable the repair of damaged equipment to start without delay. This mechanism is in line with the principle of forward repair.

0718. This is an area in which nations must move towards interoperability so that any nation's recovery assets can be used in recovery and evacuation operations. Personnel should have knowledge of the capabilities of their own and Allied recovery resources.

0719. Operationally essential equipment, which cannot be repaired on site after recovery, will be evacuated to the appropriate maintenance facility. Equipment that cannot be evacuated, or is unsuitable for reclamation activity, may be destroyed to deny its use to the enemy[26].

Section IV – RECLAMATION, SALVAGE AND CANNIBALISATION

0720. Reclamation is the action of removing and possibly repairing and reconditioning, assemblies, sub-assemblies or components from an equipment in order to place them into the spares supply system.

0721. Salvage is the removal of assemblies, sub-assemblies or components from an unrepairable item of equipment for reuse. Commonality within the fleet increases the probability of identifying components for reclamation and salvage.

0722. Cannibalisation is the removal of serviceable assemblies, sub-assemblies or components from a repairable or serviceable item of equipment in order to install them on another to support priority missions when critical spares are unavailable.

0723. The quantity of debris on the battlefield is a potential source of materiel to the enemy and should be denied by removal or destruction. Additionally, reclamation is an important process for the recycling of spare parts. The process should be a collective responsibility and is very closely tied to the maintenance function.

0724. Re-use. NATO forces materiel has the greatest potential for re-use. Units finding such materiel must report the find or turn the equipment in to collection points where it will be inspected and decisions made regarding its future use.

Section V - SPARE PARTS MANAGEMENT

0725. The availability of spare parts has a decisive influence on the time in which unserviceable materiel can be restored to a serviceable condition.

0726. The range and level of supply of spare parts, as determined by national policies, have to be established in accordance with operational requirements, the expected frequency of failure, the time required for repair, the availability and the procurement lead-time for such spare parts.

0727. An essential prerequisite for spare parts management and mutual support is the ability to exchange information relevant to the materiel. The management of items of supply/spare parts will be enhanced by the implementation of visibility and asset tracking. The NATO Stock Number (NSN) plays an important role in this process, and provides a unique identity for each item of supply.

0728. Critical Spares. Critical spares are items which would cause the loss of a mission-essential operational capability if they are not available. These items must be subjected to special supervision and management control at all levels. For urgent maintenance functions, these items will be moved to the location of repair, using all available means of transport, including airlift.

[26] Subject to appropriate commander's authorisation

0729. Measures for obtaining spare parts from materiel by cannibalisation, salvage and reclamation must be incorporated in formation Standing Operating Procedures. Expedient repairs, which may be temporary, will be unconventional or improvised and designed to return equipment to a specified condition. Expedient Repair techniques may be used when deployed or in-barracks and will be bounded by legal constraints. Procedures with any decision being made by the commander in accordance with the national directives.

0730. Operational Maintenance Support. Requests for operational maintenance support, if required, are to be submitted in accordance with STANAG 2034 and STANAG 2399.

CHAPTER 8

MEDICAL SUPPORT

The purpose of this chapter is to outline the NATO medical doctrine into the Land Forces Support Doctrine for NATO-led operations (Article 5 as well as non-Article 5 CRO).

Section I - GENERAL

0801. The ultimate purpose of medical support is to support the troops in performing their tasks by preserving and restoring their health and fighting strength. Health is a key force multiplier of fighting power. Only a healthy force can function at maximum effort and sustain it. Health in principle is not merely the absence of injury or disease. In its widest sense it includes physical and mental well-being. Thus, in an operational context, health is the ability to carry out duties unimpeded by physical or psychological problems.
Appropriate medical support makes a major contribution to both force protection (FP) and morale by the prevention of disease, rapid evacuation and treatment of the sick, wounded and injured and the return to duty of as many individuals as possible.

0802. Fundamental Principles of Medical Support[27]: Medical support should provide the best possible standard of care to the force it supports. However, the environment in which medical support to NATO operations has to be provided differs significantly from those within the national home base. Thus, whilst medical support will strive to fulfil the laws, rules and requirements set out in national systems or by international organizations, operational circumstances may necessitate the implementation of changes in order to achieve the most appropriate level of care for a deployed force. The Committee of the Chiefs of Military Medical Services in NATO (COMEDS) has established a set of fundamental principles to deal with this challenge inherent in such situations.

0803. Medical Ethics and Legal Constraints: The conduct of medical activities will comply with the rules and spirit laid down by the TCNs' national and international medical legal framework, specifically with the Law of Armed Conflict (LoAC) and Humanitarian Conventions. The Geneva Convention of 12 August 1949, and, for some nations, the 1977 Additional Protocols to the Geneva Conventions, provides the framework within which the NATO forces medical services must operate. Medical documents and data should be ruled with respect of medical privacy law and safely recorded.

0804. Best medical practice: Medical support to NATO forces must meet standards acceptable to all participating nations and will be based on best medical practice. In crisis or conflict, the aim is to provide a quality standard of medical care approximating, in its results, to the Troop Contributing's national medical standards.

0805. Timelines of Treatment: Time is a fundamental factor in the effectiveness of medical care. The time taken until the receipt of appropriate medical intervention will affect the

[27] MC 326 NATO Principles and Policies of Operational Medical Support
[27] AJP 4.10 Medical Support Doctrine

general outcome of medical care, including the risk of death, the speed of recovery and the level of residual disability. The main NATO medical planning guideline is the Life and Limb Saving Timeline, also known as the 10-1-2 Timeline. It sets 3 time-related objectives for provision of life- and limb-saving care for those requiring it. It consists of:

a. Enhanced first aid. Immediate life saving measures applied by personnel trained in tactical combat casualty care. Bleeding and airway control for the most severely injured casualties is to be achieved within 10 minutes of wounding.

b. Damage control resuscitation. Measures6 commenced by emergency medical personnel within 1 hour of wounding.

c. Damage control surgery. Depending on the specific and individual requirement the aim is to be able to provide damage control surgery (DCS) within 1 hour, but no later than 2 hours of wounding.

0806. The 10-1-2 timeline emphasizes the crucial importance of initial response at point of injury. The provision of bleeding and airway control for the most seriously injured must take place within 10 minutes of injury. To achieve this, sufficient NATO force personnel need to be trained and competent to deliver enhanced first aid, principally to stop bleeding and secure the airway. Medical service personnel skilled in pre-hospital care need to be placed in support of troops at risk and able to sustain casualties until the arrival of medical evacuation. A continuum of care must be maintained throughout the treatment-evacuation chain, providing appropriate clinical support to the casualty at all times. Evacuation should be to the most appropriate facility for the treatment of a casualty's condition, noting that the most appropriate facility may not necessarily be the closest.

Section II – COMPONENTS OF DEPLOYED HEALTH CARE

0807. Medical capabilities: Medical support to NATO operations is provided by a variety of response capabilities. These response capabilities comprise all necessary medical resources and assets to conduct medical treatment, evacuation, re-supply, and other functions essential to the maintenance of the health of the force at certain, defined levels. Capability describes what kind of medical treatment a specific Medical Treatment Facility (MTF) can provide, increasing from first response capability (Role 0) to definitive hospital response capability (Role 4).

0808. Role 1. The Role 1 MTF provides primary health care, specialised first aid, triage, resuscitation and stabilisation. Generally Role 1 medical support is ultimately a national responsibility and it must be readily and easily available to all force personnel. Included within the basic Role 1 capabilities are: basic occupational and preventative medical advice to the chain of command, routine sick call and the management of minor sick and injured personnel for immediate return to duty, as well as casualty collection from the point of wounding and preparation of casualties for evacuation to the higher level. Very limited holding capacity and primary dental care can be considered as possible enhancements at Role 1. National contingents must designate a medically trained individual to be the Senior Medical Officer responsible for this Role of care to the Force Medical Director for the implementation of force medical policy.

0809. Role 2. A Role 2 MTF provides initial surgery response capability which is characterized by its ability to perform surgical interventions in addition to perform reception and triage of casualties; resuscitation and treatment of shock to a higher level than Role 1 facilities. It may include a limited holding facility for the short term holding of casualties until they can be returned to duty or evacuated and may be enhanced to provide basic secondary care including primary surgery, intensive care and nursed beds. Any Role 2 MTF may have additional capabilities such as: preventive medicine and public health capability, dental alveolar surgery, operational stress management, psychiatry or psychology, telemedicine capability, internal patient tracking and regulation capability and a blood bank.

0810. Role 3. Role 3 MTFs are designed to provide secondary health care at theatre level. This focuses on deployed hospitalization and the elements required to support it. It includes surgery at a higher level, intensive care, nurse-managed beds and diagnostic support. Depending on mission characteristics it includes a mission-tailored variety of clinical specialties, focusing on the provision of emergency medical care. This does not exclude nations to include other specialities as well. The provision of specialized medical care will limit the need for repatriation of patients to definitive care and, if necessary, ensure adequate survivability during evacuation to the Role 4 MTFs, where such care is provided. Clinical capabilities and holding capacity of Role 3 MTFs need to be sufficient to allow diagnosis, treatment and holding of those patients who can receive adequate treatment and be returned to duty within the JOA in accordance with the theatre holding policy. Dental capabilities within this setting equal secondary dental care and or-maxillofacial surgery.

0811. Role 4. A definitive hospital response capability (Role 4 MTF) offers the full spectrum of definitive medical care that cannot be deployed to theatre or will be too time consuming to be conducted in theatre. Role 4 MTFs normally provide definitive care specialist surgical and medical procedures, reconstructive surgery and rehabilitation. This care is usually highly specialised, time consuming and normally provided in the casualty's country of origin or the home country of another Alliance member. In many member nations military hospitals provide definitive care.

0812. Medical Evacuation (MEDEVAC). MEDEVAC is the movement of patients under medical supervision either from Point of Injury (POI) to MTF or between MTFs. The operational environment, the length and quality of evacuation routes and the availability of suitable evacuation assets in particular may affect evacuation. Medical Evacuation (MEDEVAC) in NATO doctrine falls into three categories: forward, tactical (intra-theatre) and strategic (inter-theatre) medical evacuation. An evacuation system cannot function properly without a Patient Evacuation Co-ordination Cell (PECC), with functional communication links to the key nodes of the system.

Section III – MEDICAL PLANNING AND MEDICAL C2

0813. The early consideration of medical aspects at each stage of planning is crucial to ensure a comprehensive analysis of the mission and production of a plan that can be supported medically. Consideration of wider healthcare issues can also directly contribute to achievement of the mission when Stabilization, Reconstruction and Development operations are undertaken.

0814. Medical personnel must be fully integrated into the staff and operations planning

processes. They are therefore embedded in the HQ staff cells but must comply with the technical directions given by the MEDAD.

0815. MEDAD. The Medical Advisor (MEDAD) is responsible for providing adequate medical advice to commanders, ensuring that the commander and the commander's staff are properly aware of the health and medical implications of their actions as well as any force health issues connected to the operation. Direct access of Medical Advisors to their commander and other key command staff elements is a prerequisite for ensuring effective medical support.

0816. To affect all medical support tasks the following functions can be designated. These functions can be grouped in the Medical Branch:
   a. Medical Director
   b. Medical Plans
   c. Medical Operations
   d. Patient Evacuation Coordination Cell (PECC)
   e. Force health protection
   f. Health advice for host nation health sector development and Security Sector Reform (SSR)
   g. Medical logistics
   h. Veterinary services
   i. Administrative assistance and information management

0817. MEDDIR. The Medical Director (MEDDIR) is the head of the medical organization and thus responsible for timely medical planning and co-ordination. Usually the Medical Advisor to the TF commander will be appointed as the Medical Director of that particular TF. On behalf of the TF commander, the MEDDIR will define the necessary medical support system, determining the appropriate medical requirements to be met by the attached forces for this particular operation.

0818. PECC. The PECC provides the medical evacuation and regulating functions for all patients, moving beyond formation boundaries, in conjunction with theatre logistic and movement control agencies. It is responsible for patient tracking and the maintenance of the MTF capability database. It must be operational 24/7. In the event of a Mass Casualty (MASCAL) situation the PECC will implement the MEDDIR's decisions and act as the interface between the MEDDIR and the units involved in the MASCAL.[28]

Section IV – MEDICAL LOGISTICS

0819. Medical supply is the process of procurement, storage, movement, distribution, maintenance and disposition of medical materiel and pharmaceuticals, including blood, blood components and medical gases, in order to provide effective medical support and the application of this process in planning and implementation.

0820. The medical logistics system needs to ensure the sustainability of the medical support system under all operational conditions. National responsibility over planning and executing an effective medical logistics system remains the guiding principle for operational support; however the NATO Commander may exercise their authority to ensure best possible coordination of national assets and activities in this area.

[28] A MASCAL situation is one in which an excessive disparity exists between the casualty load and the medical capacities locally available for its management. (AJP 4.10)

Economy of scale may result from coordinated supply of common items within a multinational force.

0821. The scale and scope of a medical supply system will be mission dependent. It must enable national contingents to be self-sufficient from deployment and throughout the duration of the mission, as specified by planning staffs. It must be straightforward and reliable, capable of delivering medical supplies rapidly, and theatre-wide. An audit system must be established, which is cost-effective, simple, and does not constrain demand or supply.

0822. The unique characteristics of medical materiel set it apart from other commodities, for the following reasons in particular:

a. Protected Status. Medical supplies are protected under the terms of the Geneva Conventions, when properly marked and separately stored and distributed from combat supplies.

b. Regulatory Aspects. The accounting, administration and use of medical supplies, and in particular controlled drugs, are governed by national and international regulations. The consumption and controlled disposal of medical materiel must be recorded for legal, environmental and asset control reasons.

c. Handling Requirements. Tight controls and specialised management are required for medical supplies due to the technical and perishable nature of the materiel, especially, its often-limited shelf life and its sensitivity to storage, transport and environmental conditions.

d. Importance. Seemingly insignificant items can have genuine life and death importance. There is a complex inter-dependence between treatment capability and the availability of medical materiel; the medical logistics system must contain the knowledge and responsiveness to meet short notice clinical demands.

0823. The planning and execution of medical logistics is a shared medical and logistics responsibility. Medical personnel are responsible for the identification of the requirement, the specification and quantity of medical materiel and pharmaceuticals and will advise on prioritisation of delivery. Logistic personnel are responsible for coordinating the management of medical materiel and pharmaceuticals within the overall logistic plan. Medical and logistic personnel will have shared responsibility for tracking of medical materiel and pharmaceuticals from sourcing through to final disposition.

0824. NATO Allied Command Transformation is responsible for stockpile planning guidance in conjunction with nations. Medical stockpile planning, regarding the establishment and maintenance of minimum medical material and pharmaceutical levels, as well as surge production capabilities, is aimed to ensure resources and stocks of adequate medical supplies and equipment to support forces are assigned and earmarked to NATO. Guidance for medical stocks can be found in the biennial Bi-SC Stockpile Planning Guidance.

0825. Blood and Blood Products. The supply of blood and blood products is considered a critical function within medical logistics. Their provision at all levels at which surgery is

offered is mandatory. The requirement will be for an in-theatre system with the minimum capability of:

a. Receiving blood and blood components of a standard acceptable to all participating national contingents as established in STANAG 2939 Minimum Requirements for Blood, Blood donors and Associated Equipment.

b. Moving, storing and distributing blood and blood components, and disposal of clinical items used in blood administration.

c. Maintaining continuity of records from donor to recipient and vice versa.

d. Collecting, processing and testing blood on an emergency basis.

0826. Whilst national contingents are responsible for the supply of blood to their own patients, this is not always practical and feasible. Multinational support arrangements could be set up in the Joint Operations Area (JOA) for blood and blood products provision, provided that national and internationally agreed standards are met.

0827. Medical Waste. A plan to fully address the handling and disposal of regulated medical and radiological waste must be incorporated in the medical logistic support plan across the theatre. This plan should consider all aspects of operations to prevent pollution, protection of the environment, compliance with regulatory guidance/policy to protect the deployed force and to be in compliance with host nation laws.

CHAPTER 9

PERSONNEL, ADMINISTRATIVE AND FIELD SERVICES

The purpose of this chapter is to describe the personnel, administrative and field services functions in support of NATO military operations.

Section I - GENERAL

0901. In the NATO as well as non-NATO nations' armies; personnel, administrative and field services functions can be the responsibility of various staff branches. While the vast majority of these functions are a national responsibility, opportunities for interoperability should be pursued and multinational cooperation, when feasible, should be effected.

Section II - PERSONNEL SERVICES

0902. While personnel support is a national responsibility, its execution must be ensured so that the NATO commander's ability to accomplish his mission is not impaired. TCNs should ensure that the right composition of personnel and equipment are available to perform the assigned tasks. Personnel services are a G1 responsibility. Where agreed with TCNs prior to and during the OPP, the JLSG can coordinate common user services on a reimbursable basis.

0903. Strength management. TCNs should ensure that personnel information such as strength, readiness and accounting data are provided to the NATO commander to allow for the planning of current and future operations. Currently multinational personnel reporting systems or procedures do not exist in NATO. Personnel information addressing strength management is usually done on an ad hoc basis. Standardization of personnel activities could be addressed in standard reporting formats. The content of these standard reports would include personnel strength, readiness and accounting data per NATO standard. These activities include the reception of personnel, the assignment and tracking of replacements, return to duty rest and recuperation, and redeployment operations.

0904. Strength management data must be collected as quickly and centralized as quickly to enhance the decision making process, thus enabling commanders to determine their capabilities from a personnel viewpoint. Commanders can then identify units which are at acceptable strength levels overall, but which are not operationally effective because of shortages of key personnel. Strength management data is also used as the basis for the issue of rations, supplies and in other CSS planning tools.

0905. Personnel strength should be as per the NATO PERSREP. This information assists commanders in their assessment of the combat capability of their units. Strength reports are also critical to replacement, casualty, postal, personnel service support and reconstitution operations.

0906. Casualty Reporting. Another key personnel activity of importance to the NATO

commander is casualty reporting. Casualty reporting is a national responsibility and all commanders will record, report, verify and process casualty information.

0907. Since casualty reporting has far-reaching effects on morale, the military's image and logistics functions, it requires 100 percent accuracy. Logistics, medical and other agencies must co-ordinate closely concerning disposition of remains, personal effects and military equipment and must also maintain the current status of all casualties.

Section III - ADMINISTRATIVE SERVICES

0908. Administrative services are services that enhance the combat capability of the force through soldier sustainment activities. Administrative services are addressed differently by the NATO nations' armies. They are known as administrative services in some armies, personnel support services in others, but usually are the responsibility of the G-1 or G-4 staffs. Administrative operations can include postal services, morale, welfare and recreation operations, religious support, public affairs, legal and budget and finance services.

0909. Postal services. Postal services will be operated on the battlefield to deliver official and personal mail in accordance with STANAG 2109, Postal Organisation and Courier Service for the NATO Forces. The delivery network should connect the HQ and postal units with daily service. Official mail should serve as a backup for routine data transmission within the JOA. In view of the importance of personal mail to morale, every effort should be made to ensure its delivery. The logistics system can provide mail to committed units through the sustainment network. Member nations should attempt to redirect personal mail for hospitalised members of other nations based on the best available information.

0910. Morale, welfare and recreation activities. Morale, welfare and recreation activities promote combat readiness and reinforce unit cohesion by promoting and building morale and cohesion, enhancing quality of life and providing recreational, social and other support services for military forces. Each nation must plan and execute these activities for its own forces. However, the objectives of morale support dictate that goods and services be made available to all forces within the area as the situation permits. Maximum mutual support among nations should prove the most economical and efficient method. NATO elements should be prepared to share facilities and to obtain common supplies from allied units. Each nation should provide its unique items to elements cross-attached to other nations.

0911. Religious support. Command Religious Support Plan support combat operations by promoting spiritual welfare, morale, personal stability, self-confidence and humanity. Religious support is provided at all echelons of combined operations. It is normally provided by ministry teams consisting of a professionally trained chaplain plus support personnel. Each Commander develops a Religious Support Plan (RSP) to ensure comprehensive religious coverage. These plans should ensure freedom of worship and ensure nurturing the living, comforting casualties and honoring the dead. Where multinational cooperation is feasible, it should be utilised.

0912. Public Affairs. The commander should establish a single spokesman in that all public affairs activities, satisfies the media's quest for news and answers queries without distracting the commander or his staff. NATO commanders and staff should, however,

be available for news conferences or interviews when operational requirements permit. The public affairs unit supports members of the command by advising and assisting in media relations and expediting the flow of complete, accurate, timely information appropriate to the mission and security. The responsible NATO Commander establishes the policy regarding the release of information. He should establish a single spokesman for his command and all public affairs activities should be coordinated through the highest command HQ.[29]

0913. Legal advice. Legal advisers should be present to advise the NATO commander on matters of national and international law. Sensitivity to the laws and traditions of host nations and other NATO nations is imperative; this should be achieved by liaison between the respective legal advisers. Combined warfare necessitates the application not only of the international law of armed conflict, but also of national laws and practices in a manner compatible with the laws and practices of those countries occupying the geographic area. Formal agreements among nations will be necessary to clarify legal lines of authority.[30]

0914. Soldiers which are subordinate to a Joint Force Commander are also duty bound to national enacted Rules of Engagement (ROE) for the operation. This has to be taken into account in commanding. NATO operates with specified ROE, conducting warfare in compliance with international laws and within the conditions specified by the commander. Many factors influence ROE, including NATO Command Policy, the mission and the operational environment. ROE always recognize the soldier's right of self-defence. ROE should be clearly stated and tailored to the situation.

0915. Budget and Finance. The budget and finance staff provides financial management advice, including on scrutiny of expenditure, for an operation. The oversight and award of local contracts, and the provision of policy advice on the legality and probity of expenditure, should be delivered in a realistic way, to avoid undermining operational effectiveness by imposing unnecessary process.

Section IV - FIELD SERVICES

0916. Field services affect the health, sanitation, welfare and morale of soldiers. Field services can include mortuary affairs, food preparation, clothing replacement, shower, laundry, clothing and textile repair, and water support and soldier life support systems (e.g. the U.S. Force Provider system). Some nations also have the capability for airdrop services, recycling and property disposal operations. NATO commanders have the authority to redistribute specified field services in accordance with MC 319/3 and with the concurrence of nations contributing to the forces under their command. However, they must ensure that their operational capabilities are not degraded by a lack of field services support. Just as NATO authorities and member nations have a collective responsibility for supply support, they have the same responsibility for field service support. Furthermore, co-operative arrangements between nations should be pre-arranged as much as possible, based on the nations' capabilities.

0916. Mortuary affairs. Mortuary affairs include graves registration. Care for the dead is a national responsibility and each nation should have its own instructions. In general,

[29] Public Affairs for some countries do not belong to logistics.
[30] Legal Affairs for some countries do not belong to logistics.

graves registration services, to include all phases of remains processing from search and recovery to final disposition/emergency burial on the battlefield or return to the next of kin, will be carried out in accordance with STANAG 2070 - Emergency War Burial Procedures. Responsibility for graves registration functions begins in the unit in which the individual dies. Units should recover their own dead and evacuate them to the nearest graves registration collecting point. Tactical emergencies may necessitate emergency procedures.

0917. Food preparation. Food preparation can range from field rations to heat-and-serve rations. Activities include the provision of ice, bakery support and disposal of garbage.

0918. Water support. Water support includes the provision of water, water testing, tactical water distribution, operation of water facilities (e.g. wells, etc.), and bulk storage and distribution terminals.

0919. Other services. Laundry, shower, clothing replacement and textile repair should support a goal of providing at least minimum laundry and shower support at the tactical level. Furthermore, waste disposal and environmental protection become increasingly important, especially during non-Article 5 CRO.

CHAPTER 10

MILITARY ENGINEERING SUPPORT TO LOGISTICS

The purpose of this chapter is to outline the NATO doctrine on infrastructure development and management, environmental protection and real estate management.

Section I - GENERAL

1001. Introduction. The aim of MILENG support to logistics is to monitor, maintain, restore, and if necessary provide infrastructure. Infrastructure requirements for NATO forces include the acquisition, restoration, repair, construction, maintenance and disposal of those infrastructure facilities required to mount, deploy, accommodate, sustain, and re-deploy military forces, including the construction, restoration and maintenance of Lines Of Communications (LOC), real estate management and facilitation of environmental protection[31].

1002. Strategic Level. At the strategic level the infrastructure functions are mostly concerned with the long-term provision of the common infrastructure. This is the infrastructure essential to the training of NATO forces or to the implementation of NATO operational plans which, owing to its degree of common use or interest and its compliance with criteria laid down by the North Atlantic Council, is commonly financed by NATO members. One of the main tasks is to incorporate defense features in the design and construction of civil assets and installations, thus enabling them to meet the military requirement when this exceeds that needed for commercial use.

1003. Operational Level. At the operational level the infrastructure function is mostly concerned with the provision, operation and maintenance of the infrastructure needed for the upcoming and/or ongoing operation and has to be coordinated at Joint Force Commander level to ensure efficient use of critical resources. At the Operational Level, Infrastructure, Environmental Protection and Real Estate Management are Military Engineering (MILENG) responsibilities within the JLSG (AJP-3.12).

1004. Land Component. Although NATO Infrastructure is a Joint responsibility, MILENG C2 requires decentralized execution, thus responsibilities are delegated to the lowest appropriate levels of MILENG command, which, in most cases, are LCC engineering assets. At LCC level, the Chief Engineer will be responsible for the construction and maintenance of infrastructure, environmental protection and supporting Military Engineering and Infrastructure Branch (MEIB)/JLSG in managing Real Estate.

Section II - PLANNING AND PREPARATION

1005. NATO Security Investment Program (NSIP) Projects. The NSIP provides pre-planned infrastructure and deployable assets in support of NATO's collective defense and deterrence posture and NATO-led CROs. After the identification of infrastructure requirements, engineers provide the technical expertise to develop them and

[31] For more information see: AJP-3.12 Allied Joint Doctrine for Military Engineering.

communicate them to the Host Nation, if there is one. They then monitor the planning, design and construction of the required infrastructure, done mainly by contractors. Management of NSIP is conducted in accordance with Bi-SC Directive 85-1.

1006. Planning. In support of operations, NATO infrastructure staffs analyze missions with operational planners, subject to higher level guidance, to determine the Alliance's ability to conduct mandated operations. This analysis includes examination of existing national military and civil (both Allied and possible host nation) and NATO-owned infrastructure for use in supporting multinational operations. For operational infrastructure, submission and approval of common funding of mission critical multinational infrastructure is required. Planners must ensure that appropriate requirements for energy efficiency are met during the infrastructure planning phase.

1007. Resources. A large portion of the infrastructure required to conduct Article 5 operations is available from existing or slightly expanded Allied nation assets, due to planning at the strategic level. NATO's strategic concept, embracing non-Article 5 CRO outside the traditional alliance territory, requires logisticians, MILENG-, CIMIC-, G/J8-, etc expertise to depend more upon in country resources and/or contractor support and mobile, flexible, reusable infrastructure to support forces. In many remote areas where Alliance forces could be involved in operations, HNS and/or contractor resources will be minimal. In CROs, shortfall of local resources for logistic support of the military operations can also occur because of the needs of other organization (such as NGOs, International Organizations (IOs)) need for or use of the same resources. Therefore, it is essential that the planning also take the need for co-ordination with this organization into account. In these cases, the NATO commander must prioritize the utilization of limited support.

1008. Energy Efficiency. Planners should be energy conscious and all efforts should be done to guarantee that infrastructures are provided, when possible, with smart energy sources, proper insulation and consumption monitoring devices. Energy efficiency reduces the operation`s footprint and limits budget constraints.

1009. Required infrastructure. Depending on the operation, the required infrastructure may consist of seaports, airports, railways and stations, storage facilities, supply routes, communication facilities, housing and utilities. In order to prevent the contributing nations from competing for limited facilities, co-ordination at the highest level is required. Co-ordination between Engineers and Logistics is crucial in assigning or scheduling the use of limited facilities and resources.

1010. The detailed requirements of NATO-funded infrastructure required in each Crisis Response Operation Joint Operation Area will depend on the size, structure, tasks and functions of the NATO-led multinational military force and NATO-led multinational HQs established to command the operation[32].

a. Civil works: Civil works in support of CROs will be designed for temporary use with a given life span in accordance with duration of the operation. At the least, each CRO AO will require civil engineering infrastructure to support operations with:

(1) C2 Facilities: Premises, training and support requirements directly sup-

[32] According to AJP-4). Logistics Infrastructure does not usually include any CIS assets.

porting the multinational military force and NATO-led multinational HQs concerned.

(2) Deployment/Redeployment Facilities: Critical strategic civil and military engineering works are required to execute the theatre-controlled RSOM(I) of NATO-led multinational military forces.

(3) Freedom of Movement: Flexible capability to ensure NATO-led multinational military forces are able to freely maneuver throughout the area of operation along designated strategic lines of communications.

(4) Sustainment Functions: Vertical construction works, fabrications, facilities and engineering services required to sustain the operation at the theatre level, within the context of the agreed eligibility criteria, in accordance with SHAPE Infrastructure Guidance for CRO.

1011. Reconnaissance. The early identification of the infrastructure requirements and the early preparation of the infrastructure will have a major influence on subsequent operations. Time spent in thorough preparation will enhance operational flexibility and optimize the force structure. Thorough reconnaissance, involving all functional specialists, well in advance of deployment, is essential and will identify major shortfalls and influence the preparation of the operation.

1012. Reconnaissance must take into account the available infrastructure and the available local resources for the construction, maintenance and operation of facilities. Priority is given to facilities to install POD, Staging Areas, Assembly Areas and their connecting routes. Additionally, the reconnaissance should include all other required infrastructure as stated by the commander or his staff.

1013. Preparation. Depending on the results of the reconnaissance, measures must be taken to prepare the JOA. This includes getting the necessary funding, negotiation of bi- or multilateral agreements and adapting the structure and equipment of the engineering contingent.

1014. The structure of the engineering contingent, in addition to combat engineering and geoinfo specialists, requires careful consideration of the balance required between engineering specialties, in particular design capability, vertical and horizontal construction capability and maintenance requirements. Consideration of Joint Force level engineering requirements above any organic SC engineering capability must also be included. At any stage of an operation the NATO commander may shift the main effort of MILENG support entirely to logistics and may allocate assets normally seen supporting manoeuvre to infrastructure development and sustainment (AJP-4.6 Joint Logistics Support Group, and AJP-3.12 Allied Joint Doctrine for Military Engineering).

1015. More tangible actions are aimed at the construction and/or adaptation of the necessary facilities, possibly with the help of local resources, and the deployment of materials-handling capacity and construction capacity needed for the debarkation of the forces' equipment.

Section III - DEPLOYMENT, SUSTAINMENT AND REDEPLOYMENT

1016. Infrastructure requirements during the phases of deployment, sustainment and redeployment are similar, but the emphasis will be different:

a. During the initial stages of the deployment phase the emphasis will be on the monitoring of the planning, design and construction of the required facilities for strategic and operational mobility, such as seaports, airports, railways and stations, of critical logistic infrastructure such as POL installations, and of communication facilities, afterwards emphasis will shift to its operation and maintenance.

b. During the sustainment phase the emphasis is on the effective operation of required facilities (as bullet a. above) through maintenance of operational infrastructure and, as required, assisting and contributing to Real Estate Management.
During post-conflict operations, but prior to redeployment, additional tasks may include infrastructure repair, battle area clearance and infrastructure to support displaced persons and refugees. Whenever possible or authorized, local contractors or HNS is to be employed in such tasks.

c. During the redeployment phase facilities are converted for retrograde, including the conclusion of construction projects, the refurbishment and turnover of property and real state to the HN and construction of redeployment facilities.

Section IV – MILITARY ENGINEERING AND INFRASTRUCTURE BRANCH (MEIB)

1017. MILENG supports all operations (combat and not combat), in all phases and incorporates specialist areas of expertise such as environmental protection and management of infrastructure, including civil engineering contracts with local and international companies. MC 560/1 - MC Policy for Military Engineering).

1018. MEIB. One of eight functional cells of the JLSG is the MEIB. Its primary mission is to plan and co-ordinate the full range of MILENG support to logistics, in accordance with COM JLSG's requirements, and normally within the JLSA. The senior engineer and his staff will be the focal point for the planning and execution of such support, including MILENG functions such as: the maintenance of supply routes within the JLSA; engineer support to environmental protection; contracting and managing NATO security investment programme activities; and logistic infrastructure.

1019. MEIB Tasks. MEIB specific responsibilities include:

a. Managing the development and coordination of MILENG support to logistic plans,

b. Developing and implementing policy, plans, guidance and procedures related to all aspects of MILENG,

c. Providing advice on environmental protection and supporting the planning and synchronisation of logistic aspects of the OPLAN with MILENG expertise,

d. Developing environmental baseline studies for camps and major installations as a basis for environmental protection planning,

e. Leading the identification of the requirement for the development and maintenance of JLSA infrastructure (including real state) and related environmental protection issues,

f. Providing all aspects of other MILENG support within its own capabilities, according to the task decomposition. This may include explosive ordnance disposal and counter-improvised explosive device tasks,

g. Coordinating the assessment and analysis of infrastructure requirements and capability availability between CCs and the Joint Force Engineer (JFENGR), who will be the primary responsible engineer adviser to the COM JTF,

h. Within respective line of expertise and in accordance with delegated authorities, conducting C2 of JLSG subordinate MILENG units.

1020. MEIB will be able to deploy advisory teams in order to facilitate its mission to SN contingent commanders on any matters relating to Infrastructure, real estate management and environmental issues. It will support the pre and post occupation surveys, advise NATO commanders on the state of the sites and remedial action, and keep the records (central archives) and trouble shoot when claims are submitted.

Section V – INFRASTRUCTURE

1021. The construction or repair of facilities for the support and control of operational forces is part of MILENG support to logistics[33]. However, being critical to achieving the logistics mission, close co-ordination between the logistic and engineering staffs is required in order to facilitate and maintain open LOC and to the construction of support facilities. SHAPEs' change.

1022. The following are areas of focus regarding NATO's co-ordination of Infrastructure in support of operations:

a. Responsibility. Engineering functions are generally a national responsibility, coordinated by the NATO commander. However, because of the complexity and therefore the evident need for co-ordination, Joint Force level MILENG will, in addition to logistics, be included in the responsibility of the NATO commander where appropriate.

b. Factors affecting Infrastructure. NATO's focus on infrastructure development and management, much like contracting, will be greatly influenced by the type of operation being conducted. Non-Article 5 CROs are likely to require increased NATO direction and co-ordination because of the less robust host nation engineering capability. NATO involvement on infrastructure management will also be enhanced when the mission or operational areas dictate significant

[33] Which used to be called as "Infrastructure Engineering for Logistics" in MC 0536 which has been superseded by MC 319/3

infrastructure investment. NATO will normally limit the infrastructure investments to those areas required by the mission and defined by the support requirements. This may include the repair of roads, runways, support facilities, bridges or other LOC as well as SPODs, APODs, logistic installations and HQ facilities to austere Minimum Military Requirement (MMR) standards. Additionally, operations may generate infrastructure requirements for support of forces operating out of the JOA.

c. Funding. It is likely that projects such as those described above will, at least in part, be NATO funded. There will be close co-ordination between the JFENGR and the appropriate SC Resource Board or Crisis Management Requirements Board (CMRB) at the strategic level – respectively at the Requirements Review Board (RRB) at the respective subordinate level of command - and their Infrastructure offices. It is through the CMRB that co-ordination occurs and requests are processed to the NATO Investment Committee (IC).

Section VI – ENVIRONMENTAL PROTECTION

1023. General. Environmental protection (EP) is the prevention or mitigation of adverse environmental impacts.

1024. Responsibility. The MILENG staff provides EP policy, direction, guidance and advice. NATO EP policy states that NATO forces should be committed to taking all reasonably achievable measures to protect the environment. While NATO and nations have a collective responsibility to this commitment, each nation bears ultimate responsibility for the actions of its forces.

1025. Planning. Early integration of EP factors and considerations into logistics planning will minimize any potential negative environmental impacts (e.g. costly remediation, detrimental health effects on soldiers) and maximize its positive impacts (e.g. reduced energy consumption and the commensurate logistics effort to sustain fuel requirements).

Section VII - REAL ESTATE MANAGEMENT

1026. General. The management and co-ordination of real estate and related property issues are of prime importance in multinational logistic operations. In an Article 5 operation much of this responsibility will be assumed by the host nation. The NATO commander's role may be relatively minor, focusing on the allocation of space and facilitating any required inspections and claims in co-ordination with the host nation. In a non-Article 5 CRO, however, the real estate function is likely to be much more complex and present a larger challenge to the NATO commander. In these cases, the NATO commander must be prepared to co-ordinate the real estate functions that will develop as the operation is conducted.

1027. Functions. There are three predominant basic functions in the area of real estate management:

a. The allocation of real estate in the JOA is an operational issue that is coordinated by the J3. However, once the sites have been allocated,

management falls to the occupying nation, an LN (for sites such as commonly funded concentration areas) acting on behalf of NATO, or a NATO HQ itself. In practice therefore, the management of NATO sites becomes a JFENGR matter.

b. Establishment and monitoring of environmental and maintenance standards for real estate and facilities to be occupied.

c. Processing and execution of claims for damage to any property or facility.

1028. Responsibilities. There are certain responsibilities that apply in the management of real estate, regardless of the type of operation:

a. National Responsibility. Nations remain responsible for the taking over and handing over of property and real estate occupied by troops contributed by their nations. Further, the costs of occupation and the settlement of claims arising due to that occupation are a national responsibility.

b. NATO Responsibility. NATO will take the responsibilities of a nation, as described above, in respect of property or real estate of international or multinational manned military headquarters and sites. In general, this means that if a facility or site is provided through NATO common funding, NATO will have a responsibility in respect of claims or costs which arise.

1029. Property Condition Standards. All occupied sites will be turned back to the HN in a condition comparable to that at the time of occupation. Particular attention must be given to environmental standards of property. Any deterioration in environmental conditions should be documented and addressed before property is returned to the HN.

1030. Procedures. In order to protect the nations and NATO common funds from excessive and spurious claims, the following will apply:

a. Archiving. A central archive will be established in order to hold copies of surveys, documents and claims in relation to the operation. This should be in JOA and located either with J4 or the JLSG.

b. Pre Occupation Survey (POS). (Also referred to as In-Survey) Each nation, or the NATO commander for sites at which NATO acts as the responsible authority, will conduct a POS at the time of occupying a site. One copy of this survey is to be retained in the central archive and one copy remains with the site commander. This establishes the base standard, which claims will be, judged against when the site is vacated.

c. Post Occupation Survey. (Also referred to as Out-Survey) Each nation, or the appropriate NATO commander, will conduct a Post Occupation Site Survey on departure, including occasions when the site is handed over to another TCN. Again, one copy is to be retained in the central archive.

d. Representation. It is important that the owner, or his legally appointed representative, is present during the conduct of both surveys. It also serves the best interests of the nations that the same person is invited to both

surveys.

e. Claims. Whenever possible, claims should be settled before departure.

f. Retention of Documents. After an operation, the central archive of site surveys will be an important protection for the Alliance and nations. It should therefore be retained in the SC or RC, which mounted and/or commanded the operation.

1031. Organisation. MEIB of the JLSG is responsible for managing property and real estate within designated logistic sites. Real Estate management is important during all phases of an operation; however it is particularly important during the redeployment phase in order to reduce reputational, financial and legal impact. The specific organisation of the MEIB of the JLSG for this purpose will be tailored to match the size and complexity of the real estate mission.

CHAPTER 11

REHABILITATION

The purpose of this chapter is to describe the rehabilitation process in support to NATO operations.

Section I - GENERAL

Rehabilitation, including the refurbishment of equipment and the reconstitution of units and formations may be required during and after combat. Resources for rehabilitation will be likely coordinated at the operational level. This activity remains a national responsibility unless noted otherwise in an agreement.

1101. Rehabilitation follows attrition, whether mental or physical, but will occur as a result of a conscious decision by the commander. The aim of rehabilitation is to improve or restore combat power, rebuild cohesion and minimize disruption and dislocation by the enemy. The process is largely logistic in nature, but can involve a period of training. There could also be a graduated approach to the activity conducted with; limited resources or within a limited timeframe or to achieve a declared condition within the unit's current location or relatively nearby. Whatever the reason for rehabilitation, there are a number of significant characteristics of which the commander should be aware:

a. The removal of a unit or formation from operations is a command decision. The decision is judgmental and will be influenced by an assessment of risk, the acceptability of loss, the urgency of re-employment and the availability of reserves.

b. To be conducted effectively, rehabilitation must be treated as a separate sequence in the operations planning process (OPP) in order to sustain the required tempo of operations and achieve the desired end state.

c. There is an essential morale dimension. Speedy rehabilitation can reduce trauma, restore confidence and tempo, and help regain the initiative.

d. A target level for rehabilitation of combat power must be set, resources allocated and a time for completion given.

Section II - THE REHABILITATION PROCESS

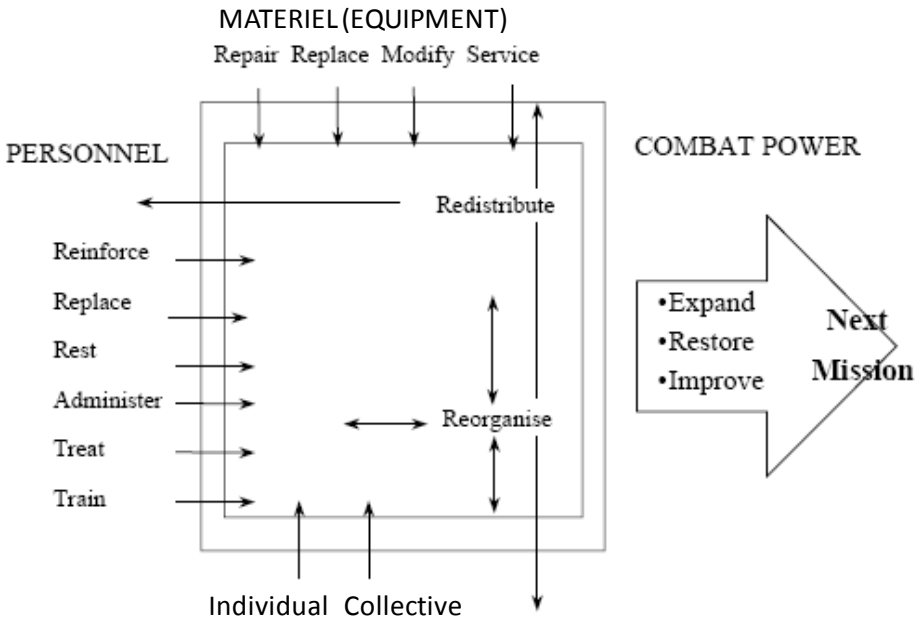
1102. The process of rehabilitation involves coordinated and concurrent activity in four areas: (1) Command and Command Support, (2) manpower, (3) materiel and (4) training. A model of the system is shown schematically at Figure 11-1. The majority of the process involves assistance and injection of external resources, although reorganization is largely an internal process, conducted within the unit or formation. Rehabilitation needs to be well prepared and trained for if combat effectiveness is to be restored quickly. As an enabler for combat rehabilitation needs to be planned and executed as any other operation, the commander should consider the following issues:

a. Command and Command Support. Command of the operation and the grouping of support elements.

b. Manpower. The physiological and morale implications of: casualty care, including psychological illnesses and evacuation; resting, sleeping and eating; burial; reinforcement; administration, honors and awards.

c. Materiel. The replenishment of unit stocks and replacement of lost materiel. Repair, recovery, servicing and preparation for movement.

d. Training. A period of individual and collective training may be required to enhance cohesion.



34

K)

Figure 11-1: The Rehabilitation process

[34] "Equipment is all non-expendable items needed to outfit/equip and individual or organization". Equipment is part of the term Materiel which also includes materials in general. See Concise Oxford Dictionary.

CHAPTER 12

THE TERMINATION/CLOSURE OF MILITARY OPERATION

The purpose of this chapter is to provide guidance on the logistic implications of concluding a military operation, theatre of operations.

Section I – GENERAL

1201. Introduction The termination/closure stage of an operation can involve many parallel activities that require detailed deliberate planning by commanders and their staff to ensure success. In particular, support activities will often become the main effort. This chapter will describe the manner in which the support-related tasks associated with theatre closing, redeployment, drawdown/operation transition, and operation termination should be conducted.

1202. Key terminology that will be introduced within this chapter include the following:

a. Drawdown. The graduated, orderly reduction of forces, services, arrangements, and materiel in a theatre of operations.

b. Operation termination. The conclusion of the military, administrative, and other activities related to an operation.

c. Operation transition. The implementation of a significant change in the role or composition of a deployed force in response to a corresponding change in the nature or scope of the operation.

d. Redeployment. The relocation of forces to a new area of operations. This can involve returning the forces to their main operating bases or deployment to a new location to carry out a different operation.

e. Theatre deactivation. The diplomatic, operational planning, and support activities required to conclude an operation. It includes liaison with multinational staff, diplomatic engagement, concluding host-nation agreements, and theatre closing.

f. Termination/Closure. In the context of theatre deactivation, the dismantling of the theatre support structure. The theatre support structure consists of all materiel, infrastructure, services, and arrangements.

1203. Responsibilities. Termination/closure is not a linear process and nor is it simply a logistic' problem or process. Moreover, it is naïve to assume termination/closure will occur as a stand-alone task or as a singular national task or responsibility. Instead, termination/closure will almost certainly be a blend of national and NATO activities. It will almost certainly impact upon, and is potentially dependent upon, other nations' and NATO requirements and support.

1204. National Commands will provide strategic direction and/or advice on support-related matters, including:

a. Provide resources to support termination/closure stage activities;

b. Provide guidance on the priority of movement and final destination for their returning personnel and materiel;

c. Plan, coordinate, and control the movement between the PODs in each respective nation and the main operating bases for their respective force elements; and

d. Plan, coordinate, and control the reconstitution of their respective forces once they have returned to their main operating bases.

e. The disposal, write-off, repair and overhaul, or replacement of materiel;

f. Close-out of service contracts;

g. Close-out of theatre financial services;

h. CIS matters such as retention, disposal, or redistribution of hardware and/or software, and other information management issues;

i. The retention and archiving of records;

j. The disposal or transfer of real property;

k. Environmental remediation policy and procedures;

l. Public affairs policy and approach; and

m. Personnel matters (HSS, personnel management and personnel services, MP, and historical records).

n. Issue Operational-level orders for termination stage activities;

o. Command and operate the Strategic lines of communication;

p. Plan theatre closing, with input from the JLSG);

q. Plan and control the strategic redeployment of the deployed force; and

r. Close-out the national Strategic lines of communication upon completion of redeployment.

s. Executing theatre closing; and

t. Planning and controlling movement within the theatre of operations.

1205 Process. The support-related processes involved in the termination and reconstitution stages of an operation are depicted at Figure 8-1. The termination stage will normally begin with the issuance of a national directive ordering the end of the operation. It will overlap with the reconstitution stage, which will begin during redeployment, and will normally end at some point in time after redeployment has been concluded. Not every operation will necessarily follow this specific model. For example, there may be no requirement for drawdown.

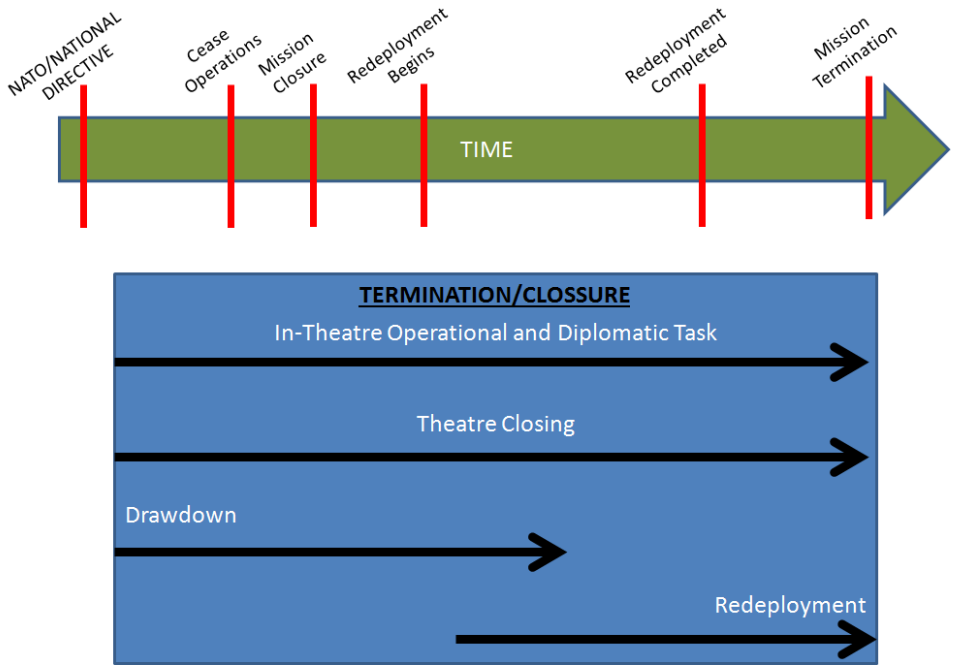


Figure 8-1: Support-Related Processes within the Termination and Reconstitution Stages Mission

Section II - Termination/Closure

1206. The termination/closure of operations and subsequent theatre closure are linked to the achievement of national/NATO objectives. Closing activities will typically begin early during the termination stage of an operation. It will normally be considered complete once the theatre support structure has been dismantled and the Land Force elements and materiel have been redeployed to their respective nations.

1207. Planning for the transition from sustained operations to the termination of operations, the complete handover to civil authority and theatre closure must commence during plan development and be ongoing during all phases of the campaign. In addition closing activities must be integrated into the overarching theatre deactivation and redeployment plans. The LANDCOM staff, with input from that of the JLSG and NSE, will lead these planning activities. The support staff should consider the following key factors when planning theatre closing:

a. Scale and scope. How many personnel are being returned? How much materiel must be prepared?

b. Time and space. What is the cease operations date, and what other critical timings must be accounted for? When can retrograde movement of personnel and materiel to home nation commence? What are the distances between the locations of the task force components and the POEs?

c. Availability and quantity of theatre support resources. What support services, including logistic, engineering, CIS, medical, personnel, and health, must be prepared, reduced, or introduced into the theatre to conduct in-theatre tasks

associated with theatre closing? When, and for how long, will they be required?

d. Theatre infrastructure and facilities. What theatre-level infrastructure must be prepared, removed, or handed over in preparation for closing the theatre? If infrastructure is to be transferred to the host nation or coalition partners, what negotiations must be made regarding training or material support to ensure that such infrastructure remains functional? When, and for how long, will they be required?

e. Impact on ongoing military operations. Theatre closing must be balanced with the possible impacts that such support activities may have on the conduct of ongoing military operations.

f. Lines of communications. What type of theatre lines of communications and Strategic lines of communication will be required? When, and for how long, will they be required?

g. Environmental issues. What environmental issues must be considered? Will there be a requirement to deploy engineering teams to conduct environmental close-out studies?

h. National support. What resources (i.e. Movement Control Units, Operational Support Hub/Intermediate Support Terminals, Third Line Decompression locations, etc.) are required? Where and when will they be needed? What support will be required from Other Government Departments (such as Nation Agriculture/Food Protection Departments for the inspection of vehicles and containers being redeployed to home nations from an overseas theatre if required by national laws)?

i. A Support and coordination with Component commands. What support will be required from the Sea Component, Land Component, and Air Component? What support details must be coordinated with the environmental commands?

j. Priorities. What priorities for the return of personnel and materiel have been identified by the involved National commands?

k. Reception of personnel and materiel in home nation. Are the involved National commands ready to receive the personnel and materiel being returned? What other national organizations (such as Customs, National Police) must be brought into the planning process?

l. Security. What are the security implications regarding materiel that is being redeployed? For example, CIS security issues include the handling of cryptographic materiel, controlled equipment list items, and communications security materiel.

m. Financial factors. What are the costs associated with theatre closing? What tasks must be done to close-out financial accounts? What organizations are involved with such tasks?

n. Legal. Theater closure planning will involve the termination of contracts, agreements and arrangements. Additionally there will be coalition and national indemnity issues such as land claims, labor relations issues and detainee transfers that cannot be overlooked. Forensic (criminal or medical), coronial and chain of custody aspects will also require legal input. Further information on legal

aspects is outside the scope of this Doctrine.

1208. Planning. In planning termination/closure, the LANDCOM staff must consider the requirement for additional coordination within the theatre of operations via the JLSG. Strategic line of communications will either partially or wholly share by national and NATO interests and therefore a central coordinating authority should be responsible for providing, synchronizing and managing the competing requirements. It is also likely such line of communications will be met through the use of both military and commercial transportation assets. Agile and resilient line of communications are vital to a sustaining movement of assets, (including personnel) back to the strategic base and any significant interruptions or constraints to such lines will quickly escalate to strategic and political levels for intervention. Therefore a strong feedback loop and system of coordinated liaison amongst commands and nodes is necessary to permit physical and time-related adjustments.

1209. Final mile. This is the term assigned to arguably the most complex stage of termination/closure and it will be between two to three months before the theatre is officially declared as closed. Each nations' intentions for the theatre post-closure must be understood so all activities are conducted in the most effective manner. National intentions may vary during this period and may be related to future roles of other government departments (OGDs) and/or any enduring military presence. The synchronization and coordination of not only national but also coalition, HN and contractor activities will require detailed planning, liaison and consistent refinement during its execution. An example of such planning may include ensuring HSS capabilities remain at a level sufficient to meet the coalition and national requirements of this more austere period.

1210. Materiel and Infrastructure Distribution Directive (MIDD). Each nation has national policies and legislation determining internal processes such as the financial approval level required to 'sign-off' the gifting, sale or destruction of equipment and infrastructure. However, the management of these processes within a HN needs to be established by the LANDCOM staff so there is a complementary process and agreed policy how gifting, selling and transfer to the HN occurs. Where an agreed policy cannot be achieved, then at the very least, coalition nations should aim for an understanding of other nations' policies of these areas. Benefits of this include ensuring assets are not 'dumped' upon a HN, the HN has the capacity to manage the assets, liability for through-life support is established and organizations receiving the assets are appropriate and approved.

1211. Materiel disposal, destruction and repatriation. Multi-modal movements will play a pivotal role in the closure of any mission. The return flow of materiel should be in accordance with national priorities for reconstitution or subsequent operations and incorporate customs requirements in their processes. Any planning must take into account LANDCOM operations and impacts of national decisions. Equally important are the necessary Memorandum of Understanding/Agreement (MOU/MOA) and Status of Forces Agreement (SOFA) which must be established and maintained. Diplomatic and over-flight clearances must be coordinated and considered and international agreements will still drive what assets can go via what means.

1212. Disposal policy. All surplus materiel should be disposed of in a manner that meets both national and HN policies. Methods include transfer to OGD, sale, gratuitous transfer or issue, transfer to allies, donations and destruction.

1213. Command, control, communications and organizational structure. Total force identification for termination/closure activities is the responsibility of the commander. However, lessons learned from past operations conducted by NATO partners have identified key command, control and coordinating HQs and select logistics organizations required for an efficient and effective process. When planning for termination/closure, consideration needs to be given to reviewing the structure of the NATO or theater HQ. Of note, it is anticipated there may need to be an increase in size and/or capability of this HQ before it undergoes its own drawn-down as part of termination/closure.

1214. NATO HQs, with appropriate logistic staff, are responsible for a wide array of deployment, sustainment and movement functions. Part of the HQ's focus should be on the termination/closure operations (force generation, force sustainment and redeployment) for nations, organizations and agencies. Functions should include:

a. terrain allocation and management;

b. coordination and deconfliction of shared mission assets and contracts;

c. disposal of shared infrastructure;

d. route control for all lines of communications (LOC) (sea, air and/or ground) within the joint operations area (JOA);

e. coordination with host government for customs coordination processes; and

f. determination of lead nation for specified functions.

1215. National HQ and national support elements (NSE). In almost all cases when working as part of a larger coalition, each nation will have their own NSE. Whilst the size, composition and capability of the NSE will be largely dependent upon the number of national personnel, responsibilities of the NSE during theater closure should include:

a. priorities for movement of national materiel and personnel;

b. priorities of effort and resourcing;

c. contribution of national movement assets and contracts to support movement;

d. policy and direction for the disposal of materiel and infrastructure; and

e. bi-lateral and multilateral agreements will determine additional responsibilities.

1216. Liaison officers (LNOs). The utility of LNOs throughout any mission is well understood by all commanders, and the importance of LNOs is arguably even higher during termination/closure. Liaison requirements will exist with other troop contributing nations (TCN), international organizations, NGOs, as well as HN for such functions as:

a. HN for the purpose of customs (import / export);

b. battle space owners (if applicable); and

c. transiting points (intermediate staging bases or terminals) or critical routes.

1217. C2 examples. There is no ‘one size fits all’ for C2 and organizational structures during termination/closure. The size and composition of the national or coalition force, mission requirements, withdrawal timeframes and strategic guidance will all influence C2 models. The following examples from the UK and CA experiences in Afghanistan provide some perspectives on C2 during theater closure.

Battle Space Owner refers to the units/formations assigned to specific geographic areas with an operational environment. UK. The UK has three one-star commanders in Central Helmand, Afghanistan. These are: the supported commander, Commander Task Force Helmand; the supporting commander, Commander Joint Force Support and the supporting commander, Commander Joint Force Communications Information Systems. It is likely that at some stage towards the end of the campaign there will be a merge of these headquarters however it would be based on decisive criteria being met as opposed to being held to a timeline. Factors that will assist in determining the criteria will be: C2, tempo, span of command, information exchange requirements, base closure, balance of functions and risk analysis. CA. During Canada’s closeout of its combat mission in Kandahar, there was one communications computer information systems (CIS) need to be reconfigured and sustained to meet the needs of ongoing operations, including meeting the enhanced requirements specifically to support information exchange requirements specific to theater closure operations. During theater closure, CIS will downgrade from a well-founded structure to a less resilient expeditionary structure. This requires careful prioritization, synchronization and management and is relevant regardless of whether the CIS is provided through military capability or is contracted.

1218. Organization. The conditions of the operational theatre will determine the force structure to carry out the closure. If sufficient coalition forces remain whilst other nations conduct closure activities then it may be possible to establish a termination/closure focused force without needing to attend to other duties such as force protection. However, if the coalition as a whole is conducting closure activities simultaneously then it is likely each nation will reinforce its existing force structure with specialist trades and capabilities. If capacity and/or personnel deployment numbers permit then these personnel can feature as a permanent uplift to the force. However, if there are constraints on these resources then these personnel will surge in and out of the theater to meet specific drawdown requirements. It is possible to have greater overlap turning the transition phase between combat, withdrawal and redeployment but clear guidelines and policies will need to be articulated.

a. ensure all specialist functions are represented;

b. ensure joint representation; and

c. ensure appropriate linkages are developed between national extraction planning and the coalition planning cell.

1219. Memorials, Mementos and Articles of War. Special attention needs to be given to the accounting and/or retrieval of memorials and memorabilia and this includes tracking and movement considerations. Some articles will likely be subject to both HN and own national regulations, such as weapons of war export/import. Issues surrounding

the identification and/or repatriation of monuments will have significant national attention which may impact on closure operations. Establishment of a memorial policy at the commencement of operations will ease the management of memorial administration on theater closure.

1220. Ammunition Repatriation. In a NATO environment there will always be challenges to adhere to national standards, particularly with ammunition repatriation. This can also be complicated by the practice of sponsoring other nations (offering storage space) which may have an impact on closure operations. Critical in a multinational ammunition compound is the designation of a lead nation which by design and default will carry obligations. Ensuring common standards or, at best, a minimum acceptable standard is imperative and this generally means that the highest of standards will need to be followed. Adopting a higher standard may for some have a direct operational impact which must also be considered.

1221. Classes of Supply. There are specific management issues for all classes of supply during termination/closure, which need to be identified, captured and factored into extraction planning. There are accounting, storage, packaging, legislative and contracting requirements associated with each class of supply that may affect the time, cost, priority and effort required to undertake theater termination/closure

1222. Container Management. A methodology for maintaining visibility of containers within theater is essential. This will support accountability for containers in transit and alleviate unaccounted property at nodes containers must transit through. Radio frequency identification (RFID) is useful for tracking container location, but where RFID is not available alternate means such as daily situational reports (SITREPs) should be used for tracking containers. Containers with high value or specially managed contents should be carefully recording tool to support proof of good order. Other container management considerations include:

a. contracting availability to meet surge need, including prioritizing to meet coalition flow plan;

b. managing container repair and refurbishment (contractor or military?);

c. terminal handling capacity and responsibility of terminal operations (coalition or national?);

d. disposal of unserviceable containers;

e. extracting containers off units for intended use (containers have routinely been used for defensive enhancements); and

f. consignment tracking, load preparation and manifesting, customs and quarantine arrangements for bulk container movements at staging areas/point of dispatch.

1223. Management of Theatre Provided Equipment. In many operational theatres there will be theatre provided equipment or shared operational resources. Great care must be exercised to sequence withdrawal efforts to ensure ongoing operations are not impacted as equipment is withdrawn. This may involve the necessity to transfer lead nation status, rotate major equipment or find additional mechanisms for service delivery, including new contracts and initiating contractor support for niche requirements.

1224. Bio-security regulations and planning considerations are different for each nation which will have their own respective policies for the transport and storage of materiel from a foreign country. As such national representatives must be familiar with those policies which impact on importation and movement of goods. Advance awareness and preparation will reduce delays in the redeployment of materiel to the final end users. Second- and third-order effects will impact upon planning and execution when undertaking theater closure and coalition staff should work closely with national representatives and vice versa. Furthermore, they should be familiar with coalition and other nations' doctrine and regulations.

1225. Lines of communication management and coordination is arguably the most important logistic component during theater closure. National requirements, priorities, restrictions and capabilities will all impact upon NATO efforts to effectively and efficiently manage the Lines of communications. The number and availability of Lines of communication s may also remain difficult to plan due not only to transport availability but also because of seasonal environmental limitations such as flooding, snow and fog.

1226. Infrastructure Assessment. Depending upon the Lines of communication, ports and airfields selected to support redeployment, infrastructure information such as detailed port and airfield facilities and throughput information should be readily available. This information must be updated to reflect any changes based on acts of war, terrorism or vandalism occurring during operations.

1227. Customs Requirements. As part of the materiel control and movement planning, consideration must be given to customs, diplomatic regulations, agriculture and quarantine requirements that will impact the movement of materiel and personnel along the strategic Lines of communication between a theatre and the home nation. Engagement with the appropriate agencies must occur early, be clearly articulated and understood by every entity that will handle materiel as it transits the Lines of communication.

1228. Materiel Handling Equipment (MHE). The requirement for MHE cannot be underestimated when conducting closure activities. Large tonnage sea container handlers must be available in sufficient quantities in order to keep pace with production.

1229. Dunnage. Timber is frequently used as (inexpensive material used to protect and secure cargo during transportation), however Bio-security policies tend to prevent host nation provided timber being used. If no acceptable replacement for timber can be found then either pre-treated timber has to be moved from the nation's home base to the theater of operations or host nation timber is treated in the theater of operations. Two examples of this can be dealt with are as follows:

The UK's experience from Afghanistan was to bake host nation timber in a kiln so that it could be used for dunnage. This required a kiln to be moved into Camp BASTION and form part of its redeployment support chain infrastructure.

Canada's solution was to purchase Canadian Food Inspection Agency (CFIA) lumber in Canada and deploy it to theater. This can be a costly venture for both procurement and transport and savings can outweigh the cost in production time in the deployed area.

Section III Contract Management, Support Agreements and Finances

1230. Deployed contracting is an essential enabler for real-life support, sustainment and closure in a complex operating environment, yet there is limited NATO doctrine to provide the necessary guidance for contracting in operations. Contracts that may be established on operations include vehicle and MHE rental, provision of staging bases, waste management, power and utilities, food services and many others. Bilateral and multilateral cost-sharing and support agreements also need to be carefully managed and closed.

1231. Contract management. It is critical that planning staff understand the effects thinning out and drawing down will have on existing contracts. The supporting contracting organization will be required to terminate and closeout existing contracts and orders, and ratifications and claims must be processed to completion. Contracting for life support services and retrograde support may continue until the last element departs, but standards of support should be reduced as much as possible prior to final contract closeout. In some operations, the supporting contracting organization may be required to assist in the transition of contracted support (the contracts themselves are not transferable) to other government organizations, a multinational partner or to the HN. This transition of contract support may include limited continuation of existing contracts in support of high priority national operations. Because of the nature of contract support transition and closeout during termination operations, contingency contracting officers will often be some of the last military personnel to leave the area of operations.

1232. Wherever possible, all contracts should be reassessed in detail prior to mission closure to identify if any requirements can be fulfilled by other means. This review should occur well in advance of closure. All contracts should be terminated prior to the departure of the contracting authority and contract management transferred prior to scheduled departure. The contractor should also be given an approximate timeframe for resolution of any issues or concerns, and for delayed payments.

1233. OGAs, for whom militaries may have responsibility for security and life support, may not necessarily conduct their own closure activities in accordance with the military timeline of the campaign plan so allowances need to be made for this during extraction planning. The synchronization of contracted support drawdown across all parties, including OGAs, NGOs and the HN, must be closely monitored and frequently revisited during theater closure.

1234. Support agreements and finance. During the conduct of operations, forces will always be responsible to their home nation for financial matters. Additionally, a host of bilateral and multilateral cost-sharing agreements will likely support combined joint operations. These agreements are aimed at reducing the complexity of financial transactions and streamlining the provision of services amongst the involved nations. Multinational cost-sharing agreements will need to be reconciled and terminated. This will require a multidisciplinary approach as the types of activities and venues will likely be wide ranging.

1235. Every agreement or arrangement carries with it certain obligations which must be remembered during a closure activity. This therefore requires clear record keeping be maintained on all such agreements and requires a degree of familiarity by the closure

team to ensure that agreements and arrangements are severed in the correct and agreed upon fashion. Areas to pay attention to include but are not limited to:

a. manner and time frame required to serve notification to cancel an agreement;

b. responsibility for shared assets;

c. accounts payable and accounts receivable;

d. responsibilities for sponsorship arrangements

e. transfer of assets; and

f. obligations of lead nation responsibility.

1236. NATO partners also need to understand that bilateral arrangements with the HN may take priority over coalition arrangements and undertakings, and even the timings for closure of bank activities, including accounts, needs to be considered in the sequencing of transition /closure activities.

1237. Nations will always be responsible for the securing of cash to support their respective operations and during theater closure the draw on cash from local banking resources may be stressed. This will be particularly significant during the final phases when cash transactions will be the only means to pay for services.

Section IV - Support Engineering, Infrastructure and Environmental Considerations

1238. It is both a HN and national responsibility to determine the standards for property disposition, environmental remediation and real estate transactions in order for that nation's forces to vacate the base. It should be stressed there is no one template for the use and disposal of land and associated infrastructure.

1239. Base Disposition. Once a base is opened, there are three types of disposition, the standards and processes for which should preferably be agreed by the coalition authority or at the very least the national authority of the TCN. It is more likely the funding for the different types of disposition will be monitored rather than coordinated at coalition level. Conduct. The two key components of base disposition are as follows:

a. Survey. For ease of remediation and handover it is recommended facilities and installations are divided into land packages so each one can be surveyed and environmental assessments conducted. During such surveys it may be identified further and possibly specialist remediation work is required.

b. Information capture. Gather as much evidence as possible regarding the condition of any infrastructure being handed back to former owners. This prevents any accusations of damage, and negates any successful future claims on the coalition force. Such documentation forms a key element in the development of ‘proof of good order’.

1240. Base Closure. This is the complete removal of all base function, removal or destruction of all military provided structures and equipment, remediation of all

environmental hazards and a return of the real estate to the owner. Caution should be exercised over local contractors who claim to conduct remediation activities; a full investigation should be conducted into their processes and disposal instructions for contaminated material.

1241. Base Transfer. This involves turning over all or portions of the personal and real property of the base to an official HN entity for their occupation and use. This process must be negotiated, approved and documented by the appropriate executive agents of the countries involved. Partial transfer. This is a form of transfer in which only portions of a base are transferred to an agreed authority while other portions are closed or remain active.

1242. Base Handover Management. The time and resources required to conduct facility and infrastructure handover activities must not be underestimated and the tasks must be synchronized with the overall theater closure timeline. The management of these tasks will usually warrant detailed project or program planning tools and the key decision points, activities and outputs included in the wider campaign plan.

Section V - Health Service Support (HSS) and Life Support

1243. Medical capability must be maintained throughout theater closure operations, including strategic medical evacuation capabilities, in order to meet patient needs. It is imperative to have an accurate COP of the medical evacuation (MEDEVAC) coverage requirement based not only on numbers of population to be supported but also in terms of types of patients to be evacuated. Planners must ensure the staff proponents for HSS have accurate information relative to base closure. This ensures a thorough understanding of the operational MEDEVAC requirement across different government organizations so the mission of evacuating patients is fully supported with the right capability at the right place and in an expedited manner. Consideration should be given to the allocation of medical LNOs to support this transition, with particular emphasis on patient movement and tracking.

1244. Provision of health care by a lead nation must be secured by a MOU or other agreement to ensure capture of all agreed HSS. This should include HSS provided to military personnel as well as national civilian personnel and contracted staff. It is crucial specialist management capabilities, including sexual assault investigation, reintegration following personnel recovery operations, psychological support services and critical incident stress management, are maintained throughout theater closure.

1245. Patient records. Due to the multinational nature of many deployed health facilities it is essential there is a coalition standard or process determined that allows for the transfer of patient information and documentation from the providing facility to the parent nation.

Section VI - Information Management and Exploitation

1246. Most operations will produce an inordinate amount of data which takes various forms (electronic, paper, etc) and occupies different storage media. In order to reduce doubt or confusion as to what returns home and how it will be transported, the operational HQ must provide the theater closure force with a data repatriation mandate.

1247. A mission closure force will find it beneficial to create a section or sections specifically

dedicated to the collection, cataloguing and eventual repatriation of all data. This specialist capability (or an element thereof) should remain in theater until completion of the theater closure task.

1248. Archiving requirements and validation. Nations should ensure the team is trained in national archiving requirements and provided with clear direction on necessary processes required to achieve the archival task. This needs to include detailed manifests and cargo visibility processes to assist ready access to relevant or open files and data.

1249. Data and document management and archiving is an arduous process which should be incorporated during mission planning in order to allow additional consideration for repatriation requirements. For example, nearly 60 tons of paper documentation in 4,800 boxes was repatriated to CA when its mission in Kandahar closed. Retrieval of data from coalition systems is also a complex process which requires coalition policy and support and may benefit from the allocation of LNOs. The same difficulties are experienced for the retrieval of patient records from coalition HSS systems.

Section VII - Training

1250. Whilst the requirement to complete mandatory combat training will remain extant there will also be a need to ensure personnel are trained for their particular role in the theater closure process. There will be some logistic capabilities that are either unfamiliar or new but inherent with this phase of the operation. These may include the use of NATO and home base logistic and health information systems, contract closure and large scale coalition movement operations. Such demands will contribute to new or enhanced individual and collective pre-deployment training requirements, all of which must be rehearsed and validated during explicit mission closure exercises. A theater closure rehearsal of concept (ROC) drill and war game are critical in analyzing and interrogating the proposed process and should cover the process from an ‘end-to-end’ perspective.

1251. It is acknowledged that operations are routinely supported by contractors however careful consideration needs to be given to the level of contractor contribution during the closure process. The majority of contractors will expect some support from the military (force protection, feeding, medical, accommodation, etc) and therefore the contractor footprint will continue to place a burden on the operation until such time it is either drawn down or replaced by a military capability. The former will simply return the operation to a more austere environment but the latter can only be achieved if military resources have been correctly trained in appropriate skills and have the equipment available to undertake the task.

Section VIII - Post Operation Activities

1252. Post operation activities tend to be focused on the civil population and JOA infrastructure. The scope of activities will include belligerent occupation, humanitarian relief, civil administration, demobilization operations and battle area clearance.

1253. Belligerent Occupation. Whenever the Armed Forces are in control of foreign territory, and find themselves face to face with the inhabitants, some or all of the provisions of

the law on belligerent occupation[35] are applicable. The occupying forces acquire obligations in respect of that territory, which are essentially humanitarian in nature although there are elements of trusteeship. There is a duty to maintain law and order as well as preventing economic collapse, the existing law is to be respected, except where the occupying force is absolutely prevented from so doing. The law on belligerent occupation tries to strike a balance between:

a. The military interests of the occupying forces,

b. Humanitarian protection of the population,

c. The preservation, pending final settlement, of certain interests of the displaced power.

1254. Humanitarian Relief. While not being a primary military responsibility, the possible requirement to initiate humanitarian and related operations quickly will involve troops and formations adapting rapidly from warfighting to operations other than war. This could have considerable logistic implications and must be carefully considered. The demand for supplies and services is likely to increase as military resources are required for defeated enemy and civilians. The type of commodity or functional service required will alter significantly from warlike stores to that for humanitarian and medical needs. This change of emphasis will also require adjustments to the logistic organisation; for example bulk ammunition handling will not be required whereas bulk carriers for food, water and tents will be. Given the inevitable presence of the news media, credit gained by military success could be diminished if there are subsequent support failures.

1255. Civil Administration. The post conflict involvement of the military in civil administration can range from simple liaison at one extreme to military government at the other. The tasks involved represent an extension of humanitarian relief, as expectations of normality rise, to the restoration of public services and political systems. From a military perspective any commitment should be short lived. The key is to ensure that the strategic directive has considered the potential commitment during the initial analysis of the mission and is able to transfer the responsibility to civilian authorities smoothly.

1256. Demobilization Operations. Upon cessation of hostilities, a cease-fire may have to be supervised. This could involve wide dispersion of forces, placing a strain on the logistic infrastructure. The processing and collection of enemy POW, their repatriation, guarding, feeding, clothing, and investigation of war crimes will place further demands and require legal, linguistic and provost specialists.

1257. Battle Area Clearance[36.] Environmental awareness and concern for safety dictate that after operations it will be necessary to mark and then clear possible hazards. In the long term military involvement is not necessary and appropriately trained civilians can

[35] There are 3 sources of international law that guide the application of belligerent occupation: Hague Rules articles 42-56; Geneva Civilians convention, 1949 Articles 4, 5, 27-34 and 47-78; protocol 1, 1977, Part IV.

[36] The systematic clearance of ground over which conflicts have been fought which is contaminated with mines, sub-munitions, unexploded ordnance, ammunition, nuclear biological chemical weapons and their components, missile fuels, weapons, and other hazardous debris.

be contracted to undertake the task. For many UN operations once order is restored, it is policy to use civilian contractors to replace military resources. But in the immediate aftermath of operations the commander will be required to at least identify and mark contaminated areas. Accurate records must therefore be kept during operations. Enemy POW may not be compelled to work on war related tasks, and whilst their specialist knowledge of minefields, armament stores and NBC hazards may be useful, their cooperation cannot be guaranteed.

INTENTIONALLY BLANK

ANNEX A

TERMS AND DEFINITIONS

This glossary contains terms and definitions used in this document as well as others commonly used in joint and combined operations. A comprehensive list of NATO terms and definitions is contained in AAP-6. In brackets the source of the term or definition is mentioned.

Airport of Debarkation (APOD)
The airport at which the aircraft carrying personnel and/or materiel are off-loaded. (AAP-15)

Airport of Embarkation (APOE)
The airport at which final preparations for embarkation are completed and through which assigned troops, materiel, and vehicle loads for aircraft are called forward and loaded onto the strategic airlift. (AAP-15)

Allied Joint Operation
An operation carried out by forces of two or more NATO nations, in which elements of more than one service participate. (AJODWP 96)

Article 5 Crisis Response Operations
The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defence recognised by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area. Any such armed attack and all measures taken as a result thereof shall immediately be reported to the Security Council. Such measures shall be terminated when the Security Council has taken the measures necessary to restore and maintain international peace and security.

Asset Tracking (AST) STANAG 2493 AAP 35
Generic term in industry to refer to the tracking of assets in the support chain. Within NATO, AST is the capability to maintain visibility of a specific asset, normally serially numbered or othewise uniquely identified, throughout the support chain.

battle area clearance
The systematic clearance of ground over which conflicts have been fought and which is contaminated with mines, sub-munitions, unexploded ordnance, ammunition, NBC weapons and their components, missile fuels, weapons, and other hazardous debris.

civil-military cooperation (CIMIC)
The resources and arrangements which support the relationship between commanders and the national authorities, civil and military, and civil populations in an area where military forces are or plan to be employed. Such arrangements include cooperation with non-governmental or international agencies, organization and authorities. (AAP-6)

combat day of supply
The total amount of supplies required to support one day of combat, calculated by applying the intensity factor to a standard day of supply. (AAP-6)

combat service support
The support provided to combat forces, primarily in the fields of administration and logistics. (AAP-6 & MC 319)

combat zone
That area required by combat forces for the conduct of operations. (AAP-6)

combined joint operation
An operation carried out by forces of two or more nations, in which elements of at least two services participate. (AAP-6)

command
1. The authority vested in an individual of the armed forces for the direction, co-ordination, and control of military forces. (AAP-6)
2. An order given by a commander; that is, the will of the commander expressed for the purpose of bringing about a particular action. (AAP-6)
3. A unit, or units, an organization, or an area under the command of one individual. (AAP-6)
4. To dominate by a field of weapon fire or by observation from a superior position. (AAP-6)
5. To exercise a command. (AAP-6)

common user item
An item of an interchangeable nature which is in common use by two or more nations or services of a nation. (AAP-6)

commonality
The state achieved when the same doctrine, procedures or equipment are used. (AAP-6)

communication zone
Rear part of theatre of operations (behind but contiguous to the combat zone) which contains the lines of communications, establishments for supply and evacuation, and other agencies required for the immediate support and maintenance of the field forces. (AAP-6)

compatibility
The suitability of products processes or services for use together under specific conditions to fulfil relevant requirements without causing unacceptable interactions. (AAP-6)

concept
A notion or statement of an idea, expressing how something might be done or accomplished, that may lead to an accepted procedure. (AAP-6)

Contractor Support to Operations (CSO)
Enables competent commercial entities to provide a portion of deployed support, so that such support is assured for the commander and optimises the most efficient and effective use of resources. (LC agreed - NATO agreement pending).

co-operative use
Utilisation of resources identified and made available by nations for utilisation by other nations. Compensation and/or reimbursement will be subject to agreements between the parties involved, if such compensation and/or reimbursement is required. (MC 336).

coordinating authority
The authority granted to a commander or individual assigned responsibility for co-ordinating specific functions or activities involving forces of two or more countries or commands, or two or more services or two or more forces of the same service. He has the authority to require consultation between the agencies involved or their representatives, but does not have the authority to compel agreement. In case of disagreement between the agencies involved, he should attempt to obtain essential agreement by discussion. In the event he is unable to obtain essential agreement he shall refer the matter to the appropriate authority. (AAP-6 & MC 319)

cross-servicing
That servicing performed by one service or national element for other services or national elements and for which the other services or national elements may be charged. (AAP-6)

deployment
1. The movement of forces within areas of operations. (AAP-6)
2. The positioning of forces into a formation for battle. (AAP-6)
3. The relocation of forces to desired areas of operations. (AAP-6)

doctrine
Fundamental principles by which the military forces guide their actions in support of objectives. It is authoritative but requires judgement in application. (AAP-6)

formation
1. An ordered arrangement of troops and/or vehicles for a specific purpose. (AAP-6)
2. An ordered arrangement of two or more ships, units, or aircraft proceeding together under a commander. (AAP-6)

host nation
A nation which, by agreement:
1. Receives forces and materiel of NATO or other nations operating on/from or transiting through its territory;
2. Allows materiel and/or NATO organization to be located on its territory; and/or
3. Provides support for these purposes. (AAP-6)

host nation support
Civil and military assistance rendered in peace, emergencies, crisis and conflict by a host nation to allied forces and organization which are located on, operating in or transiting through the host nation's territory. Arrangements concluded between the appropriate authorities of host nations and sending nations and/or NATO form the basis of such assistance (MC 334).

infrastructure
1. A term generally applicable for all fixed and permanent installations, fabrications, or facilities for the support and control of military forces. (AAP-6)
2. All buildings and permanent installations necessary for the support, redeployment, and military forces operations (e.g. barracks, headquarters, airfields, communication facilities, stores, port installations, and maintenance stations). (MC 334)

interchangeability
The ability of one product, process or service to be used in place of another to fulfil the same requirements. (AAP-6)

interoperability
The ability of Allied forces and, when appropriate, forces of Partner and other nations to train, exercise and operate effectively together in the execution of assigned missions and tasks. (AAP-6 & MC 319)

joint
Adjective used to describe activities, operations and organization in which elements of at least two services participate. (AAP-6)

joint force commander
A general term applied to a commander authorised to exercise command authority or operational control over a joint force.

joint force land component commander
A commander, designated by the JFC or higher authority, which would be responsible for making recommendations to the JFC on the employment of Land Forces and assets, planning and co-ordinating land operations and accomplishing such operational missions as may be assigned to him. The joint force land component commander is given the authority necessary to accomplish missions and tasks assigned by the designating commander.

Joint Logistic Support Area (JLSA)
An area under the authority of the joint logistic support group commander, where theatre-level logistic functions are consolidated in logistic sites. Note: Logistic sites may include but are not limited to seaports of debarkation, airports of debarkation, forward logistic sites, advanced logistic support sites and the theatre logistic base. (This term is a new term and definition and will be processed for NATO Agreed status)

Joint Logistic Support Group (JLSG)
A logistics unit consisting of a permanent headquarters nucleus, augmented by additional staff as required for specific operations, to form a deployable joint logistics support group headquarters that plans and coordinates theatre-level multinational logistics support as tasked and directed by the Joint Force Commander. With assigned logistics enablers (Le. national logistics units, host-nation support and/or commercial capabilities) the deployable joint logistics support group headquarters executes theatre-level multinational logistics support for Alliance Operations and Missions as tasked and directed by the Joint Force Commander. (LC and NATO agreement pending).

joint operations area (JOA)
A temporary area defined by a NATO strategic or regional commander, in which a designated joint commander plans and executes a specific mission at the operational level of war. Note: It is defined in co-ordination with nations and approved by the North Atlantic Council or the Military Committee as appropriate, in accordance with NATO's Operational Planning Architecture. A joint operations area and its defining parameters, such as time, scope of the mission and geographical area, are contingency- or mission-specific and may overlap areas of responsibility. *See also area of responsibility; operational level of war.* (AAP-6)

Logistic Lead Nation (logistic support)
A nation assumes overall responsibility for organizing and coordinating an agreed broad

spectrum of logistic support for all or part of the multinational force, including headquarters within a defined geographical area for a defined period. (AJP-4-9)

Logistic Role Specialist Nation
A nation that assumes the responsibility for providing or procuring a specific logistic capability and/or service for all or part of the multinational force within a defined geographical area for a defined period. (AJP-4.9)

logistics
The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, the aspects of military operations which deal with:
1. Design and development, acquisition, storage, transport, distribution, maintenance, evacuation and disposition of materiel;
2. Transport of personnel;
3. Acquisition, construction, maintenance, operation and disposition of facilities;
4. acquisition or furnishing of services; and
5. Medical and health service support. (AAP-6 & MC 319)

logistic Sustainment
The process and mechanism by which sustainability is achieved and which consists of supplying a force with consumables and replacing combat losses and noncombat attrition of equipment in order to maintain the force's combat power for the duration required to meet its objectives.

maintenance
1. All actions taken to retain equipment in or to restore it to a specified condition, including inspection, testing, servicing, classification as to serviceability, repair, rebuilding and reclamation.
2. All supply and repair action taken to keep a force in condition to carry out its mission.
3. The routine recurring work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be continuously utilised, at its original or designed capacity and efficiency, for its intended purpose. (AAP-6)

Mass Casualty (MASCAL)
situation is one in which an excessive disparity exists between the casualty load and the medical capacities locally available for its management.

materiel
The stores and equipment (as opposed to personnel) available or required for an undertaking. (AAP-33)

medical advisor
The senior medical staff officer in a formation headquarters responsible for ensuring that the commander and his staff are properly aware of the health and medical implications of their actions and any issues connected to the operation. The Medical Advisor may also be the Force or Theatre Medical Director. (MC 326).

medical director
The functional head of the medical services in a formation or theatre of operations. The Medical Director may also have the additional responsibilities of being the Medical Advisor to a senior commander. (MC 326).

medical support
A function encompassing the full range of medical planning and provision of medical and health services to maintain the force strength through disease, prevention, evacuation, rapid treatment of the diseased, injured, and wounded, their recovery and return to duty.

mission command
A style of command that seeks to convey understanding to subordinates about the intentions of the higher commander and their place within his plan, enabling them to carry out missions with the maximum freedom of action and appropriate resources. (This term is a new term and definition, is being staffed for ratification within the context of AJP 3.2, and will be recommended for inclusion in the NTDB and AAP-6)

mobility
A quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfil their primary mission (AAP 6 & MC 336)

movement
Movement is the activity required to change the location of formations and units, their personnel, equipment, and/or stocks. Movement may require the supporting capabilities of mobility, transportation, infrastructure, movement control and support functions. (MC 336)

movement control
The planning, routing, scheduling and control of personnel and cargo movements over lines of communication. (AAP-6 & MC 319)

multinational forces
Forces of more than one nation under a NATO commander or non-NATO commander within a NATO-led operation. (MC 319)

multinational integrated logistic support
Two or more nations agree to provide logistic assets to a multinational logistic force under operational control of a NATO commander for the logistic support of a multinational force. (MC 319).

multinational integrated logistic unit (MILU)
A MILU is formed when two or more Nations agree, under OPCON of a force commander at joint force or component level, to provide logistic support to a multinational force. (AJP-4)

multinational logistics
The overarching term for the different modes to logistically support operations other than purely national, such as Multinational Integrated Logistic Support, Role Specialization Support and Lead Nation Logistic Support. (MC 319)

Mulinational Logistic Unit
A MLU is formed when two or more nations agree, at joint force or tactical level, to provide logistic support to a multinational force. (AJP 4.9)

Multinational Medical Unit
Unit formed when two or more nations agree to provide medical support to a multinational force.

mutual support
That support which units render each other against an enemy, because of assigned tasks, their position relative to each other and to the enemy, and their inherent capabilities. (AAP-6)

Mutual Support Agreement (MSA)
An agreement of support that ensures nations involved in a NATO operation can support one another without the need to negotiate bilateral agreements with all other participating nations, or to face lengthy delays while higher level legal documents are exchanged. (AJP-4)
Note: (This term and definition is only applicable in the context of and for use in this publication).

national logistic support
A nation takes full responsibility for procuring and providing logistic support to her forces. This support can be provided on a solely national basis and/or through bilateral or multilateral agreements with other nations, NATO or other organizations as appropriate. (MC 319)

national support element (NSE)
Any national organisation or activity that supports national forces which are part of the NATO force. NSE are OPCON to the national authorities, they are not normally part of the NATO force. Their mission is nation-specific support to units and common support that is retained by the nation. NSE are asked to co-ordinate and co-operate with the NATO commander and the host nation. If the operational situation allows for a reduction, greater cooperation and centralization of services among NSE could produce significant savings. (AJP-4)

one day's supply
A unit or quantity of supplies adopted as a standard of measurement, used in estimating the average daily expenditure under stated conditions. It may also be expressed in terms of a factor, e.g., rounds of ammunition per weapon per day. (AAP-6)

operation
A military action or the carrying out of a strategic, tactical, service, training, or administrative mission; the process of carrying on combat, including movement, supply, attack, defence and manoeuvres needed to gain the objectives of any battle or campaign. (AAP-6)

operational mobility
The capability to move forces and their associated logistic support quickly and effectively within a region (intra-regional). It also embraces the capability to concentrate regional forces against the major enemy thrust and a counter-concentrate operational reserves.

operation order
A directive, usually formal, issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation. (AAP-6)

operation plan
A plan for a single or series of connected operations to be carried out simultaneously or in succession. It is usually based upon stated assumptions and is the form of directive employed by higher authority to permit subordinate commanders to prepare supporting plans and orders. The designation 'plan' is usually used instead of 'order' in preparing for operations well in advance. An operation plan may be put into effect at a prescribed time, or on signal, and then becomes the operation order. (AAP-6)

operational command
The authority granted to a commander to assign missions or tasks to subordinate

commanders, to deploy units, to reassign forces, and to retain or delegate operational and/or tactical control as the commander deems necessary. Note: it does not include responsibility for administration. (AAP-6)

operational control
The authority delegated to a commander to direct forces assigned so that the commander may accomplish specific missions or tasks which are usually limited by function, time, or location; to deploy units concerned, and to retain or assign tactical control of those units. It does not include authority to assign separate employment of components of the units concerned. Neither does it, of itself, include administrative or logistic control. (AAP-6)

operational level of war
The level of war at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theatres or areas of operations. (AAP-6)

Petroleum, Oils and Lubricants (POL)
petroleum, oils, and lubricants / carburants et lubrifiants A broad term which includes all petroleum and associated products used by the armed forces. (NATO agreed)

reallocation of resources
The provision of logistic resources by the military forces of one nation from those deemed "made available" under the terms incorporated in appropriate NATO documents, to the military forces of another nation or nations as directed by the appropriate military authority. (AAP-6 & MC 319)

Reception Staging and Onward Movement and Integration (RSOM(I))
The intra-theatre deployment phase in which units, personnel, equipment and materiel arriving in a secured joint operations area are transferred from a port of debarkation to their final destination on the commander’s required date.

reclamation
In maintenance, to remove and possibly repair/recondition, assemblies, sub-assemblies or components from an equipment in order to place the item into the spares supply system.

redistribution (of resources)
The utilization of logistic resources after Transfer of Authority (TOA) necessary for the fulfilment of the commander’s combat missions. The logistic resources are designated in peacetime and will become assigned to the NATO commander in crisis and conflict. (MC 319)

rehabilitation
The processing, usually in a relatively quiet area, of units or individuals recently withdrawn from combat or arduous duty, during which units recondition equipment and are rested, furnished special facilities, filled up with replacements, issued replacement supplies and equipment, given training, and generally made ready for employment in future operations. (AAP-6)

resupply
The act of replenishing stocks in order to maintain required levels of supply. (AAP-6 & MC 319/3)

role specialisation
One nation assumes the responsibility for providing or procuring a particular class of supply or service for all or part of the multinational force. The responsibilities include the provision of assets needed to deliver the supply or service. Compensation and/or reimbursement will then be subject to agreement between the parties involved. (AJP-4-9)

Seaport of Debarkation (SPOD)
The Sea Port at which the ship/vessel carrying materiel and/or personnel are offloaded. (AAP-15)

Sea Port of Embarkation (SPOE)
The Sea Port at which final preparations for embarkation are completed and through which assigned personnel, materiel, and vehicle loads for ships/vessels are called forward and loaded onto the strategic sea lift. (AAP-15).

sending nation (movement and transportation)
A nation [or other element] deploying its forces, supplies and/or national components of multinational forces and requesting the use of HN logistic and other support during transit through or employment on the HN's territory.MC 334 and MC 336.

shared use
Utilisation of resources identified and made available by Nations to NATO, free of charge or under reimbursement arrangements predetermined by the provider and NATO.

standard day of supply
The total amount of supplies required for an average day based on Standing Group NATO rates and/or national rates as appropriate. (AAP-6)

standardization
Within NATO, the process of developing concepts, doctrines, procedures and designs to achieve and maintain the most effective levels of compatibility, interoperability, interchange-ability and commonality in the fields of operations, administration and materiel. (AAP-6)

STANAG
The record of an agreement among several or all the member nations to adopt like or similar military equipment, ammunition, supplies and stores; and operational, logistic, and administrative procedures. National acceptance of a NATO allied publication issued by the NATO Standarization Organization (NSO) may be recorded as a Standardization Agreement (STANAG). (AAP-6)

stovepipe
A common term used to refer to national logistic support.

strategic level of war
The level of war at which a nation or group of nations determines national or multinational security objectives and deploys national, including military, resources to achieve them. (AAP-6)

strategic mobility
Strategic mobility is the capability to move forces and their associated logistics in a timely and effective manner over long distances. This could be between theatres (inter-theatre), between regions (inter-regional), or out-of-area. (MC 336)

supplies
All materiel and items used in the equipment, support and maintenance of military forces. (AAP-6)

supply
The procurement, reception, storage, transportation, distribution, maintenance and reclamation of supplies, including determination of type and quantity in each instance.

support
The action of a force, or portion thereof, which aids, protects, complements, or sustains any other force. (AAP-6)

sustainability
The ability of a force to maintain the necessary level of combat power for the duration required to achieve its objectives. (AAP-6)

tactical command
The authority delegated to a commander to assign tasks to forces under his command for the accomplishment of the mission assigned by higher authority. (AAP-6)

tactical control
The detailed and, usually, local direction and control of movements or manoeuvres necessary to accomplish missions or tasks assigned. *See also operational command* (AAP-6)

tactical level of war
The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical formations and units. (AAP-6)

third nation support (working term)
Third nation support is a contractual agreement with a nation, other than the host nation, possibly in close proximity to the area of operations, for the provision of a support activity.

transportation
Transportation is the means of conveyance to move personnel, equipment and/or stocks, including the requisite material handling equipment. (MC 336)

unit
1. A military element whose structure is prescribed by a competent authority. (AAP-6)
2. A standard or basic quantity into which an item of supply is divided, issued, or used. (AAP-6)

ANNEX B

LIST OF ABBREVIATIONS

This list contains abbreviations and acronyms used in this document as well as others commonly used in joint and combined operations. A comprehensive list of NATO abbreviations is contained in AAP-15.

ABBREVIATION	MEANING
AAP	Allied Administrative Publication
ACC	Air Component Commander
ACCIS	Automated C2 Information System
ACO	Allied Command Operations
ACT	Allied Command Transformation
ACOS	Assistant Chief of Staff
ACROSS	Allied Command Resources Optimisation Software System
AD	ACE Directive
ADAMS	Allied Deployment and Movement System
ADL	Allied Disposition List
AJP	Allied Joint Publication
ALP	Allied Logistic Publication
ALSS	Advanced Logistic Support Site
AMCC	Allied Movement Co-ordination Centre
AMOVP	Allied Movement Publication
AOO	Area of Operations
AOR	Area of Responsibility
APOD	Air Port of Debarkation
APOE	Air Port of Embarkation
APP	Allied Procedural Publication
ARRC	ACE Rapid Reaction Corps
ASSESSREP	Assessment Report
ATP	Allied Tactical Publication
ATP	Air Transportation Policies and Procedures
BDR	Battle Damage Repair
Bi-SC	B-Strategic Command (i.e.= SHAPE & HQ SACT)
BUDFIN	Budget and Finance
C2	C2
C3	Command, Control and Communications
C4I	Consultation Command, Control, Communications & Information
CBRN	chemical, biological, radiological and nuclear
CECC	Civil Emergency Crisis Cell
CIMIC	Civil-Military Cooperation
CIS	Communication and Information System
LCC	Combined Joint Force Land Component Commander
CONOPS	Concept of Operations
COA	Course of Action

COP	Contingency Operation Plan
COS	Chief of Staff
CP	Capability Package
CRO	Crisis Response Operation
CSO	Contractor Support to Operations
CSS	Combat Service Support
DCS	Defence Control Surgery
DDP	Detailed Deployment Plan
DOS	Day of Supply
ER	Expedient Repair
EU	European Union
EVAC	Evacuation
FLPC	Final Logistic Planning Conference
FLS	Forward Logistic Site
FSA	Forward Support Area
GOP	Guidelines for Operational Planning
HN	Host Nation
HNS	Host Nation Support
HNSA	Host Nation Support Arrangements
HNSCC	Host Nation Support Co-ordination Cell
HQ	Headquarters
HRF	High Readiness Forces
IER	Information Exchange Requirements
ILPC	Initial Logistics Planning Conference
INTEL	Intelligence
IO	International Organization
IS	International Staff
IT	Information Technology
ITU	International Telecommunication Union
JFC	Joint Force Commander
JFLCC	Joint Force Land Component Commander
JLCC	Joint Logistics Co-ordination Centre
JLSA	Joint Logistic Support Area
JLSG	Joint Logistic Support Group
JMCC	Joint Movement Co-ordination Centre
JOA	Joint Operations Area
LC	Land Component
LLN	Logistic Lead Nation
LO	Liaison Officer
LOC	Lines of Communication
LOG	Logistic / Logistics
LOGASSESSREP	Logistic Assessment Report
LOGBASE	Logistics Database
LOGCC	Logistic Co-ordination Cell
LOGFAS	Logistics Functional Area Services
LOGREP	Logistics Reporting System
LOGUPDATE	Logistics Update Report
LSRN	Logistic Role Specialized Nation
MASCAL	Mass Casualty
M&T	Movement and Transportation
MBC	Military Budget Committee

MC	Maritime Component
MCC	Maritime Component Commander
MEDCC	Medical Co-ordination Cell
MEIB	Military Engineering and Infrastructure Branch
MHE	Materiel Handling Equipment
MILU	Multinational Integrated Logistic Unit
MIMU	Multinational Integrated Medical Unit
MJLC	Multinational Joint Logistic Centre
MLPC	Main Logistics Planning Conference
MLU	Multinational Logistic Unit
MMR	Minimum Military Requirement
MMU	Multinational Medical Unit
(MN) DDP	(Multi-National) Detailed Deployment Plan
MNLC (L)	Multinational Logistic Centre (Land)
MOVCC	Movement Co-ordination Cell
MSA	Multinational Support Agreement
MTCC	Movement and Transportation Co-ordination Cell
MTF	Medical Treatment Facility
NAC	North Atlantic Council
NARC	NATO Ammunition Demand and Reporting Code
NATO	North Atlantic Treaty Organisation
NCIA	NATO Command and Information Agency
NGO	Non-Governmental Organisation
NIS	NATO International Staff
NMCC	National Movement Co-ordination Centre
NMLT	National Medical Liaison Teams
NPS	NATO Pipeline System
NSE	National Support Element
NSIP	NATO Security Investment Program
NSN	NATO Stock Number
NSPA	NATO Support Agency
NSO	NATO Standardization Office
OLRC	Operations and Logistics Review Conference
OPCOM	Operational Command
OPCON	Operational Control
OPLAN	Operation Plan
OPORD	Operation Order (also called OPORDER)
OPP	Operational Planning Process
OPS	Operations
ORBAT	Order of Battle
OSCE	Organization for Security and Cooperation in Europe
PECC	Patient Evacuation Co-ordination Cell
PfP	Partnership for Peace
POD	Point of Debarkation
POE	Point of Embarkation
POI	Point of Injury
POL	Petroleum, Oil and Lubricants
PSO	Peace Support Operation
RC	Regional Command/Commander
RPOD	Rail Point of Debarkation
RPOE	Rail Point of Embarkation

RSOM(I)	Reception, Staging and Onward Movement and Integration
SACEUR	Supreme Allied Commander Europe
SACT	Strategic Allied Command Transformation
SC	Strategic Command
SFC	Single Fuel Concept
SHAPE	Supreme Headquarters Allied Powers Europe
SN	Sending Nation
SNLC	Senior NATO Logisticians' Conference
SOFA	Status of Forces Agreement
SOP	Standing (Standard) Operating Procedure
SOR	Statement of Requirements
SPG	Stockpile Planning Guidance
SPM	Sustainment Planning Model
SPOD	Sea Port of Debarkation
SPOE	Sea Port of Embarkation
STANAG	Standardization Agreement
TACOM	Tactical Command
TACON	Tactical Control
TCN	Troop Contributing Nation
TFHE	Tactical Fuel Handling Equipment
THOC	Theatre Head of Contracts
TOA	Transfer of Authority
TS	Theatre Surgeon
UN	United Nations

ANNEX C

REFERENCE PUBLICATIONS

This annex contains the publications that are referred to in this document as well as others that are useful to logisticians at the operational level. Allied Publications (APs) and NATO Standardization Agreements (STANAGs) are available on NSO Protected Web Site http://nso.nato.int / STANAG and AP Catalogue.

SHORT NAME	TITLE
	NATO Logistics Handbook
AAP-6	NATO Glossary of Terms and Definitions
AAP-15	Glossary of Abbreviations used in NATO Documents
AAP-39	Glossary of Land Military Terms and Definitions
AEP-13	Vehicle Battlefield Recovery Data
AJP-01	Allied Joint Doctrine
AJP-3	Allied Joint Doctrine for the Conduct of Operations
AJP-3.12	Allied Joint Doctrine for Military Engineering
AJP-3.13	Allied Joint Doctrine for the Deployment of Forces
AJP-4	Allied Joint Logistic Doctrine
AJP-4.4	Allied Joint Movement and Transportation Doctrine
AJP-4.5	Allied Joint Doctrine for Host Nation Support
AJP-4.6	Allied Joint Doctrine for the Joint Logistic Support Group
AJP 4.7	Allied Joint Doctrine for Petroleum
AJP-4.9	Allied Joint Doctrine for Modes of Multinational Logistic Support
AJP-4.10	Allied Joint Medical Support Doctrine
AJP-4.11	Allied Joint Doctrine for NATO Asset Visibility
ALP-4.1	Multinational Maritime Force (MNMF) Logistics
ALP-4.3	Air Force Logistics Doctrine and Procedures
AMovP-1	Road Movements and Movement Control
AMovP-2	Procedures for Service Movements Across National Frontiers
AMovP-3	Movement and Transport Documents and Glossary of Terms and Definitions
AMovP-4	Technical Aspects of the Transport of Military Materials by Railroad
AMovP-5	Multimodal Transport Issues
AMovP-6	Allied Multi-Modal Transportation of Dangerous Goods Directive
AOP-6	Catalogue of Ammunitions Held by Nations that Satisfy Interchangeability Criteria of Form, Fit and Function Only
APP-9	Compendium of Allied Land Forces Messages ATP-3.2 Land Forces Tactical Doctrine
APP-16	Classes of Supply of NATO Land Forces
ATP-3.13.1	Reception, Staging and Onward Movement Procedures
ATP-49	Use of Helicopters in Land Operations Doctrine
ATP-83	Recovery and Equipment Evacuation Operations
Bi-SCD 80-3	Bi-SC Reporting Directive 80-3, Volume V, Logistic Reports

Bi-SC (85-1)	Capability Package Directive
Bi-SC SPG	Stockpile Planning Guidance
MC 0055/4	NATO Logistic Readiness and Sustainability Policy
MC 0319/3	NATO Principles and Policies for Logistics
MC 0326/3	NATO Principles and Policies for Medical Support
MC 0327/2	NATO Military Policy for Non-Article 5 Crisis Response Operations
MC 0334/2	NATO Principles and Policies for Host Nation Support (HNS)
MC 0336/3	NATO Principles and Policies for Movement and Transportation
MC 0389/1	Military Committee Policy on NATO's Combined Joint Task Force (CJTF) Capability
MC 0400/3 (Add 1)	MC Guidance for the Military Implementation of NATO's Strategic Concept, Additional Guidance for the Nuclear Mission
MC 0411/2	NATO Military Policy on Civil-Military Cooperation (CIMIC) and Civil-Military Interaction (CMI)
MC 0551	Medical support concept for NATO Response Force operations
MC 0586/1	MC Policy for Allied Forces and their use for Operations
STANAG 2034	NATO Standard Procedures for Mutual Logistic Assistance
STANAG 2070	Emergency War Burial Procedures
STANAG 2109	Postal Organization and Courier Service for the NATO Forces
STANAG 2115	Fuel Consumption Unit
STANAG 2184	NATO Principles and Policies for Asset Tracking
STANAG 2418	Policy for Expedient Repair, including Battle Damage Repair
STANAG 2459	The Procedures for Ammunition Interchangeability
STANAG 2827	Materials Handling in the Field
STANAG 2939	Medical Requirements for Blood, Blood Donors and Associated Equipment
STANAG 3854	Policies and Procedures Governing the Air Transportation of Dangerous Cargo

ANNEX D

EXAMPLE OF A SUSTAINABILITY STATEMENT

The Sustainability Statement is the commander's statement of logistic requirements to support the operation. It may include following statements:

1. General Sustainability: Planning guidance; national logistic planning concepts and sustainability requirements are to be applied; a general level of sustainability is to be ___ days of supply (DOS) in theatre.

2. Rations: Contracts for fresh rations are to be established in theatre as early as possible. Fresh and dry rations storage facilities must be utilised to insure a continuous flow of rations. A ___ DOS of rations should be maintained in theatre.

3. Water: Fresh water sources must be established at the earliest opportunity and a reserve of ___ DOS must be held in bulk storage.

4. POL: Contracts/lead nation, or role specialisation agreements are to be established at earliest opportunity. A reserve of ___ DOS is to be held in bulk storage.

5. Ammunition: ___ DOS (at the _____ rate) are to be held available in theatre; ___ days of which will be in the national sectors and the balance held by the support element in a location available for rapid deployment. A further balance of ___ DOS is to be available from the nation or HN country with load plans for rapid deployment.

6. Equipment: Mission essential equipment should be listed (tanks, helicopters, artillery, etc.). Availability targets are ___% - Mission Essential; ___% others. Utilisation: a projection of ___ km/day (by vehicle type) for the operation is to be expected. Vehicle and equipment attribution estimates are projected to be _____.

7. Supply: A minimum of ___ DOS are to be held in theatre. A distribution system for urgent and routine supply should be established. A system of monitoring the performance of the supply system based on demand priorities and distribution time is to be established. A system to monitor high priority requirements must also be established. Note: In supplies are included spares and medical supplies.

8. Accommodation: HN or local facilities (if available) should be contracted for _____ with availability in ____ months. Units should plan for deployment into field conditions for _____ months.

9. Engineer Resources: Where possible, all engineer resources are to be procured in theatre. If not possible, then through allied HN near the AO or at the home station.

10. Clothing: Special _____ clothing must be issued to all forces deployed. Other special clothing that is required should be available for issue ___ months before required usage. Recovery of clothing procedures must be addressed in logistic operational plans.

11. Environment: Terrain will be mostly hilly with some valleys. Temperatures will range from ___ °C to ___ °C.

12. Duration and activity level: The operation is expected to last for _____ with a possible _____ extension. The departure of personnel and equipment (as considered necessary) should be planned to occur after _____ months. This can be achieved by unit departures and/or individual departures.

13. Medical Support:

    a. Units will provide their own adequate role 1 medical capacity including role 1 medical transport. Arrangements for support of guest-units in AOR and -personnel without own role 1 medical capacity must be listed.

    b. Role 2 and 3 medical assets with capacity for ____ sick and wounded per day. Locations of role 2 and 3 medical units within ____ hours transport distance. Included in role 2 and 3 medical assets is medical transport capacity for ____ sick and wounded per day.

    c. Dedicated MEDEVAC helicopters available for ____ sick and wounded.

    d. Possibilities for use of HN or local facilities for medical support will be assessed and arrangements for cooperation are drawn up.

ANNEX E

AREAS SUITED FOR MULTINATIONAL PROVISION

Ser	Class of Support	National	HNS/Con-tracting	Multi-national	Multinational MILU	Multinational Lead Nation	Role Specialisation
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Class I Fresh		x	x		x	x
2	Class I Combat	x					
3	Bulk Water		x	x		x	x
4	Bottled Water		x	x		x	x
5	Class II	x					
6	Class III Bulk		x	x	x	x	x
7	Class III Oil/Lubricants	x					x
8	Class IV		x	x			x
9	Class V	x		x		x	
10	Transport		x	x	x		x
11	Port Operations		x	x	x	x	
12	Maint/Repair	x		x		x	
13	Maint/Recovery	x		x	x	x	
14	Laundry & Bath		x	x	x	x	
15	Environmental Hygiene	x		x	x		
16	Postal	x		x		x	
17	Care of Death	x					
18	Sanitation/ Refuse/Salvage	x	x	x (3)			
19	Troop Welfare	x	x				
20	Labour Resources		x	x	x		
21	Storage		x	x	x		
22	Materiel Handling Equipment	x		x (4)	x		
23	Blood/Products	X					
24	Pharmaceuticals/ Medical Materials	X	x	x(5)		X	X
25	Medical Support	x	x	x	x	x	x
26	Aeromedical Evacuation	x		x		x	
25	Printing		x	x		x	x

Table E-1: Areas suited for multinational provision

Notes:

1 Where a supply or service is indicated as being suitable for multinational provision, options for role specialisation, lead nation, or multinational integrated logistic unit (MILU) and/or HNS and contracting are shown in the shaded area.

2 Many services whether national or multinational, can be sourced from host nation or contracted suppliers. These are indicated in column (d).

3 Co-ordination on a multinational basis, execution on a national contracted basis.
4 Materiel Handling Equipment (MHE), although normally an element of the national transportation and/or supply systems, could be provided multinationally for specific missions.
5 Such multinational provision of medical supplies, especially pharmaceuticals, is subject to multiple laws, regulations and certification requirements.

INTENTIONALLY BLANK

ALP-4.2(B)(1)