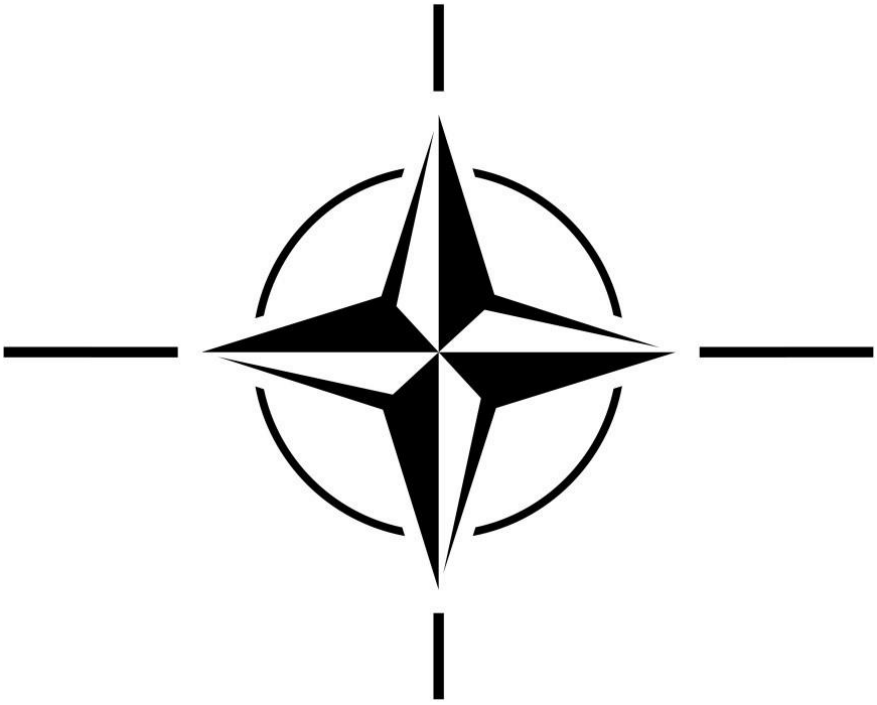
NATO STANDARD

AJP-5

ALLIED JOINT DOCTRINE FOR THE PLANNING OF OPERATIONS

Edition A Version 2

MAY 2019



NORTH ATLANTIC TREATY ORGANIZATION

ALLIED JOINT PUBLICATION

Published by the
NATO STANDARDIZATION OFFICE (NSO)

Intentionally blank

NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

24 May 2019

1. The enclosed Allied Joint Publication AJP-5, Edition A, Version 2, ALLIED JOINT DOCTRINE FOR THE PLANNING OF OPERATIONS, which has been approved by the nations in the Military Committee Joint Standardization Board, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 2526.

2. AJP-5, Edition A, Version 2, is effective upon receipt and supersedes AJP-5, Edition A, Version 1, which shall be destroyed in accordance with the local procedures for the destruction of documents.

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

Zoltán GULYAS
Brigadier General, HUN (AF)
Director, NATO Standardization Office

Intentionally blank

RESERVED FOR NATIONAL LETTER OF PROMULGATION

Intentionally blank

TABLE OF CONTENTS

Intentionally blank

Related documents

Strategic Concept	*Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organisation*, 19 Nov 2010
C-M(2001)0063	*NATO Crisis Response System (NCRS): Policy Guidelines*
C-M(2009)0048 (INV)	*NATO's Comprehensive, Strategic-Level Policy for Preventing the Proliferation of Weapons of Mass Destruction (WMD) and Defending against Chemical, Biological, Radiological and Nuclear (CBRN) Threats*
C-M(2011)0022	*Political Guidance*
EAPC(C)D(2007)0022	*Euro-Atlantic Partnership Council Document implementing SCR 1325 on Women, Peace and Security*
NCRSM	*NATO Crisis Response System Manual*
PO(96)64(Revised)	*Framework for Alliance Politico-Military Coordination*
PO(2000)0030-REV2	*Role of Civil Emergency Planning in NATO*
PO(2009)0141	*NATO Strategic Communications Policy*
PO(2010)0143	*Comprehensive Approach Report*
PO(2011)0141	*Political Military Framework for Partner Involvement in NATO-Led Operations*
PO(2011)0045	*Updated List of Tasks for the Implementation of the Comprehensive Approach Action Plan and the Lisbon Summit Decisions on the Comprehensive Approach*
PO(2016)0315	*Revised NATO Policy for Standardization*
PO(2016)0407	*NATO Policy for the Protection of Civilians*
SG(2006) 0244 Rev 1	*Force Declarations and Designations*
SG(2008)0806 (INV)	*NATO Lessons Learned Policy*
MC 0064/10	*NATO Electronic Warfare (EW) Policy*
MC 0133/4	*NATO's Operations Planning*
MC 0161/NSIE/	*NATO Strategic Intelligence Estimate (NSIE)/NATO*
NIAT/NIAP/ series	*Intelligence Assessment on Terrorism (NIAT)/NATO Intelligence Assessment on Proliferation (NIAP)*
MC 0165/ series	*Significant Technological Developments and their Military Implications*
MC 0166 (Final)	*NATO Intelligence Warning System*
MC 0319/3	*NATO Principles and Policies for Logistics*
MC 0324/3	*The NATO Military Command Structure*
MC 0326/3	*NATO Principles and Policies of Operational 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*
MC 0336/3	*NATO Principles and Policies for Movement and Transportation*
MC 0362/1	*NATO Rules of Engagement*

MC 0400/3	*MC Guidance for the Military Implementation of NATO's Strategic Concept*
MC 0402/2	*NATO Military Policy on Psychological Operations*
MC 0411/2	*NATO Military Policy on Civil-Military Cooperation (CIMIC) and Civil-Military Interaction (CMI)*
MC 0422/5	*NATO Military Policy for Information Operations*
MC 437/2	*Special Operations Policy*
MC 0457/2	*NATO Military Policy on Public Affairs*
MC 0472	*NATO Military Concept for Defence against Terrorism*
MC 0511 (NC)	*Guidance for Military Operations in a CBRN Environment, including the Potential Military Contribution to NATO's Response to the Proliferation of WMD*
MC 0551	*MC Medical Support Concept for NATO Response Force Operations*
MC 0560/2	*MC Policy for Military Engineering*
MC 0586/1	*MC Policy for Allied Forces and their Use for Operations*
MC 0593	*Minimum level of Command and Control (C2) service capabilities in support of combined joint NATO led operations*
MC 0626	*Power Generation for Deployed Force Infrastructure*
MC 0628	*NATO Military Policy on Strategic Communications*
MCM-0077-2000	*MC Guidance on the Relationship between NATO Policy and Military Doctrine*
MCM-0164-2009	*NATO Strategic Communications Policy*
MCM-0041-2010	*MC Position on the Use of Effects in Operations*
MCM-0085-2010	*NATO Military Concept for Strategic Communications*
AAP-03	*Production, Maintenance and Management of NATO Standardization Document*
AAP-06	*NATO Glossary of Terms and Definitions*
AAP-15	*NATO Glossary of Abbreviations Used in NATO Documents and Publications*
AAP-47	*Allied Joint Doctrine Development*
ACO-Dir 83-1	*Medical Support of Operations*
AJP-01	*Allied Joint Doctrine*
AJP-2	*Allied Joint Doctrine for Intelligence, Counter-Intelligence and Security*
AJP-3	*Allied Joint Doctrine for the Conduct of Operations*
AJP-3.4.1	*Allied Joint Doctrine for the Military Contribution to Peace Support*
AJP 3.5	*Allied Joint Doctrine for Special Operations*
AJP-3.6	*Allied Joint Doctrine for Electronic Warfare*
AJP-3.8	*Allied Joint Doctrine for CBRN Defence*
AJP-3.9	*Allied Doctrine for Joint Targeting*
AJP-3.10	*Allied Joint Doctrine for Information Operations*
AJP-3.10.1	*Allied Joint Doctrine for Psychological Operations*
AJP-3.12	*Allied Joint Doctrine for Military Engineering*

AJP-3.13	*Allied Joint Doctrine for the Deployment and Redeployment of Forces*
AJP-3.14	*Allied Joint Doctrine for Force Protection*
AJP 3.15	*Allied Joint Doctrine for Countering - Improvised Explosive Devices*
AJP 3.16	*Allied Joint Doctrine for Security Force Assistance*
AJP-3.19	*Allied Joint Doctrine for Civil-Military Cooperation*
AJP-3.21	*Allied Joint Doctrine for Military Police*
AJP-3.22	*Allied Joint Doctrine for Stability Policing*
AJP-4	*Allied Joint Doctrine for Logistics*
AJP-4.10	*Allied Joint Doctrine for Medical Support*
AJP-6	*Allied Joint Doctrine for Communication and Information Systems*
AJMedP-1	*Allied Joint Medical Planning Doctrine*
AJMedP-2	*Allied Joint Doctrine for Medical Evacuation*
AJMedP-4	*Allied Joint Doctrine on Force Health Protection*
APP-28	*Tactical Planning*
COPD	*Allied Command Operations, Comprehensive Operations Planning Directive COPD Interim V 2.0*
FPG-CIMIC	*Allied Command Operations Civil-Military Cooperation Functional Planning Guide*
FPG-MILENG	*Allied Command Operations, Functional Planning Guide for Military Engineering*
FPG LANDCOM	*Functional Planning Guide for Countering Improvised Explosive Devices*

Intentionally blank

Preface

Scope

1. Allied joint publication (AJP)-5 (A) *Allied Joint Doctrine for the Planning of Operations* is the keystone NATO doctrine for planning of Allied joint operations. It is subordinate, and refers, to AJP-01 Allied Joint Doctrine.

Purpose

2. Although all operations are unique, their planning and conduct can be approached in the same manner. AJP-5 presents an overarching framework of the key planning principles, considerations and processes that are followed in planning. It describes how planning activities and processes are integrated and coordinated to support decision-making and producing plans, orders and directives for all types of operations. It focuses on the operational level, although it also has utility at the strategic and tactical levels.

Application

3. AJP-5 is intended primarily as guidance for NATO commanders and staffs. However, the doctrine is instructive to the planning for operations by a coalition of NATO members, partners and non-NATO nations. It also provides a reference for NATO civilian and non-NATO civilian actors.

Intentionally blank

Chapter 1 – Planning overview

Section 1 Introduction to planning

Overview

1.1 Planning develops viable options to achieve an acceptable outcome from an unacceptable situation. Military planning is a sequence of activities undertaken by commanders and staff at all levels. Planning identifies the actions, effects, decisive conditions and objectives required for mission accomplishment. It is not an end in itself but an adaptive process for confronting changing conditions and a wilful adversary. Consequently, military planning requires active and continuing collaboration and dialogue by commanders and staff at all levels of command. The results of planning – plans – articulate how those actions (ways) and resources (means) are employed to achieve objectives (ends).

Operational art

1.2 Operational art is the conceptual framework underpinning the planning and conduct of operations. It includes the concepts operations design and operations management. Operational art seeks to clarify the situation, assess opportunities and risks, foster actions that continually gain advantage, and deliver logical solutions to complex problems. It enables detailed planning to take place and for the staff to write practical orders (plans). Operational art integrates ends, ways and means; it determines which forces conduct what actions in time and space to create effects and achieve objectives. This includes transitioning and terminating NATO's crisis management role. The commander's active participation is essential in operational art as it is a blend of science and art requiring their intuition, experience and leadership.

a. **Applying operational art,** commanders with support from their staffs determine how to employ the joint force with best effectiveness. This requires the integration of Allies', partner nations', other nations' and agencies' resources and forces. Operational art is the critical link between strategy and tactics. Strategy and policy guide operational art by determining the ultimate objectives to be achieved and by allocating the necessary military and non-military resources. Strategy also defines and imposes limitations on the use of one's forces and sets conditions for tactical force employment. To be successful, commanders and their staffs should develop and maintain situational awareness, balance ends and means, determine ways and orchestrate and direct actions and capabilities. They should evaluate their actions' results and re-orientate themselves, if required. Poorly applied operational art can adversely affect the achievement of objectives.

b. **Operational art requires broad vision, the ability to anticipate and the skill to plan, prepare, execute, and assess**. The commander bears responsibility for the planning and conduct of the operation. In order to provide effective guidance, the commander must be able to stand back from detailed planning to frame the larger context, set forth objectives and priorities, identify opportunities and risks, and formulate operational ideas that maximize the effectiveness, responsiveness and flexibility of the force. Commanders are supported by their staffs, which conduct detailed planning and assessments.

1.3 Operational art is therefore realized through combining a commander's skills and the staff-assisted processes of operations design and operations management. Operations design frames the environment and the problem, and then develops or refines options that give a comprehensive logic to the operation. Operations design expresses vision and refines plans and orders. Operations management then translates the operations design into action by integrating, coordinating, synchronizing, prioritizing and allocating capabilities across the joint functions. The commander and staff use operations assessment[1] to appraise progress. The tactical level supports operations assessment with tactical assessment input. Operations assessment findings regularly lead to the refinement of the operations design.

1.4 Based on understanding gained through the application of operations design, more detailed planning takes place during the sequence of planning activities. This sequence is a logical, analytical methodology that consists of progressive actions to analyze a mission; develop, analyze, and compare alternative courses of action (COAs); select the most appropriate COA; and produce a plan or order by which the joint force can achieve the objectives and accomplishes its assigned mission. This links tactical activities to accomplishing operational and strategic objectives in support of the end state[2]. The operations planning group (OPG) aligns actions and resources in time and space to complete the plan. Operations assessment as a cornerstone of operations management is already part of all planning phases. Consideration of how to assess and what will be assessed during operations design fosters a conclusive planning, execution and assessment effort.

[1] For details on operations assessment, see AJP-3 chapter 5.

[2] NATOTerm defines 'end state' as 'the political and/or military situation to be attained at the end of an operation, which indicates that the objective has been achieved'.
MCM-0041-2010, Annex B defines 'end state' as 'the NAC approved set of required conditions within the engagement space that defines an acceptable concluding situation to be attained at the end of a strategic engagement'.
AJP-5, also referencing AJP-01, consequently understands 'end state' as a political strategic statement by the North Atlantic Council which may include but is not limited to military aspects.

Relationship between planning policy and planning doctrine

1.5 The aim of Military Committee (MC) 0133/4, NATO Operations Planning, is to detail the system by which NATO initiates, develops, approves, executes, reviews, revises and cancels all categories of Alliance plans.

a. The policy:

(1) describes the operations planning process (OPP) from initiation, through orientation, design, plan development, approval and execution, as well as addressing plan review, revision and cancellation;

(2) identifies the various operations planning categories and outlines the crisis response management procedures;

(3) defines the purpose of operations planning categories and describes the architecture necessary for timely, efficient, standardized and coherent plan development;

(4) guides commanders and staff on how to develop subordinate operations planning documents as well as NATO doctrine.

b. The Allied joint publication (AJP)-5 principles and procedures are embedded within this overarching process, and specifically focus on practical plan development. The doctrine describes how commanders develop specific planning products to identify individually applied actions (ways) for which the joint force will employ its capabilities and resources (means) to achieve the objectives (ends). In conducting planning for operations, commanders and staff blend operational art, operations design, and the sequence of planning activities as part of an overall process to produce the eventual plan or order for the NATO operation.

Section 2 Planning categories

Advance and crisis response planning[3]

1.6 NATO has two main operations planning categories; advance planning and crisis response planning. Advance planning is conducted to deal with potential threats to the Alliance when identified and before they occur. Advance planning is used to develop plans for a broad range of activities based on requirements identified by the North Atlantic Council (NAC). Crisis response planning addresses emerging and unexpected crises and is based on circumstances that exist at the time planning is conducted. The crisis response planning activities are based on dynamic, concurrent real-world

[3] See MC 0133/4 *NATO's Operations Planning*.

conditions, crisis response planning activities may be performed under time constraint, with supporting and subordinate plans being developed concurrently.

a. **Advance planning**. Advance planning develops four types of plans:

(1) **Standing defence plan**. A standing defence plan (SDP) is developed to address a long-term, short or no-notice Article 5 identified potential security risk in concert with NATO member national defence plans. A SDP's purpose is to guarantee the defence of the NATO members, aimed at the integrity and protection of NATO states, populations and/or territory. A SDP is required to be immediately executable, with forces assigned and execution authority delegated to the appropriate level of command.

(2) **Contingency plan**. A contingency plan (COP) is developed to respond to a region-specific potential crisis and will be normally based on MC 161, NATO's Strategic Intelligence Estimate, and one or more of the planning situations identified during the NATO defence planning process. A COP must be based on a number of planning assumptions. Required resources and capabilities are not attached to it (just roughly outlined), therefore a COP is not an executable document. Should a crisis materialize, the appropriate COP would be used as the basis for developing an executable operation plan (OPLAN).

(3) **Generic contingency plan**. A generic COP is developed to respond to a non-region-specific potential crisis. It is designed to facilitate rapid crisis response planning for a specific situation in any region. Since generic COP are developed without regional context, they are the least detailed type of plan, but provide clarity on the essential capabilities requisite for success in a specific situation. In sum, generic COP require adaptation applied to a specific region.

(4) **Graduated response plan**. A graduated response plan (GRP) is developed to address existential threats to the Alliance that require a high responsiveness. The GRP consists of a set of plans having three parts:

(a) GRP Part 1 is executable and provides details on the integrated deployment and employment of the Transferred National Home Defence Forces and the Very High Readiness Joint Task Force. It also accounts for readiness levels and deployment time of involved forces.

(b) GRP Part 2 details the deployment and employment of the Initial Follow-On Forces Group (IFFG). This part is not directly executable, but will be the foundation for an OPLAN once a NAC initiating directive (NID) is issued at the time of the crisis.

(c) GRP Part 3 details the deployment and employment of the Follow-on Forces Group (FFG) and the Follow-on Forces (FOF). This part is not immediately executable, but will be the foundation for an OPLAN once a NID is issued at the time of the crisis. The NAC has the option to develop a single NID directing the development of a single OPLAN based on GRP Parts 2 and 3.

b. **Crisis response planning**. Crisis response planning is conducted in response to an escalated or to a developing crisis. It guides the development of an OPLAN for the deployment, employment, sustainment and redeployment of NATO forces in response to a situation that may result in actual military operations. A crisis may emerge with little or no notice and develops rapidly. Sometimes a single crisis may cause another crisis elsewhere.

(1) If a crisis had been anticipated, the OPLAN might be developed from an existing advance plan and suitably adjusted. An OPLAN can be described as a detailed and comprehensive plan capable of execution as soon as required forces are assigned.

(2) Because of the rapid manner in which crises can develop, it is essential procedures are in place throughout the NATO Command Structure (NCS) to allow for the timely and efficient development of OPLANs. In circumstances where multiple operations are conducted concurrently within a single region, it may be deemed necessary to develop a single, theatre-wide OPLAN to ensure proper coordination, unity of effort, and economy of effort of all military activities.

(3) Crisis response procedures are governed by the NATO Crisis Response Process (NCRP). The NCRP allows the NAC and Supreme Headquarters Allied Powers Europe (SHAPE) to communicate decisions rapidly and accurately to subordinate commanders to facilitate detailed OPLAN development.[4]

Planning during the conduct of an operation

1.7 NATO operations usually take place in a dynamic environment in which actors are constantly changing the political, military, economic, social, infrastructure and information (PMESII) elements. Therefore, the planning is a continuous process that takes place throughout the course of an operation. During the conduct of an operation, the commander, assisted by the staff, assesses the forces employment, assesses risks, and measures progress toward mission accomplishment by using the operations

[4] For Allied Command Operations, procedures related to operations planning are developed within the Comprehensive Operations Planning Directive (COPD).

assessment process. They adapt and adjust operations as required ranging from minor adjustments in execution to radical changes in the overall plan. A significant change of the operating environment may require a review of the operation and discussions with higher authority to determine if the end state is still viable. Early in execution, changes to the original plan may be necessary due to intelligence, environmental considerations, tactical or deployment limitations. Therefore, ongoing refinement and adjustment of deployment requirements and schedules as well as close coordination and monitoring of deployment activities are required. Planning continues during the conduct of an operation, with an initial emphasis on refining the existing plan and producing orders and refining the force flow utilizing employed, assigned and allocated forces. Commanders and staffs often organize planning activities into three interrelated areas: current operations, future operations, and future plans. Current operations focus on immediate shaping and execution of the existing plan, with assessments and operational feedback influencing future operations and future plans. Future operations look further ahead, with a focus on the next important change in objectives and priorities for subordinate forces. Finally, future plans look even further ahead to the next important change in objectives and priorities for the force as a whole. Commander and staff continually assess progress towards objectives. They may review and select various branches or sequels[5], if applicable, or make modifications to the plan as necessitated by changes in the situation.

[5] For branches and sequels see chapter 3.

Section 3 Other planning factors

Support plans

1.8 Depending on the complexity of an OPLAN of any category or the requirement to provide support to concurrent operations, it may be necessary to develop support plans (SUPPLANs) to the main (parent) plan. The supporting agency or commander develops the SUPPLAN, which the supported commander must endorse. The initiating authority must approve the SUPPLAN in concert with the supported (parent) plan. SUPPLANs are based on, and are consistent with, the parent plan. Additionally, SUPPLANs must be developed in a manner that is consistent with political guidance and authority applicable to the parent plan. Their approval and authorization for execution automatically becomes part of the approval and authorization process for the execution of the parent plan. Examples include SUPPLANs for deployment and redeployment, communication and information, logistic sustainment, or military engineering SUPPLANs and NATO common funded projects.

Planning documents

1.9 Operations planning supporting documents are one of the key elements of the operations planning framework. These planning tools provide general and specific guidance and formats to planners at various levels for advance and crisis response planning.

a. **The NATO Crisis Response System Manual (NCRSM)** codifies crisis response procedures in accordance with the NCRP. The purpose of the NATO Crisis Response System (NCRS) is to provide for required preparedness and support for crisis and conflict prevention and for crisis management across the range of operations. The system enables the Alliance and, where appropriate, non-NATO nations to prepare measures for, and respond to, the full range of threats allowing the Alliance to react in a timely and coordinated manner. To be able to respond to a range of operations, NATO has strengthened its ability to work effectively both internally, improving its civil-military interaction (CMI) with planning staffs such as civil emergency planning experts and externally with partner countries and non-military actors, enhancing synergy at all levels. For operations in which Alliance military forces participate, the NCRS and OPP are complementary. The latter provides instruments to the decision makers and planners to prepare for and respond to a crisis through the NCRP. Other NCRS components, especially crisis response measures (CRMs) and preventive options are supporting tools within the NCRP.

b. **The Allied Command Operations Comprehensive Operations Planning Directive (COPD)** is the basic document for planning staffs within the NATO

military command structure and the NATO force structure.[6] It describes the OPP from the military strategic level to the operational level and the interaction of both with the higher tactical level commanders. It addresses all aspects of an OPLAN, provides guidance on the conduct and methods of planning, as well as identifying the factors to be taken into consideration during the development of a plan. It also contains the standard structure and content of OPLANs. As such, it can be a reference for planning at tactical levels, especially for headquarters (HQ) operating at the high end of the tactical level.

c. **Functional Planning Guides (FPGs)** provide planning guidance in specific functional areas. Functional areas include warfare areas that are normally divided into components. Functional areas also include specific areas of expertise such as intelligence, logistics, communication and information systems (CIS) support and military police support. In general, the FPGs mirror the areas covered in the list of typical annexes to the main body of a plan. The intent of these guides is to supplement the planning information available in MC 0133/4, other MC documents, approved NATO doctrine and the COPD. The purpose of FPGs is to help a planner concerned with a particular functional area orient to the OPP.

Planning within NATO's contribution to a comprehensive approach

1.10 Effective crisis management calls for a comprehensive approach involving diplomatic, information, military and economic (DIME) instruments of national power.[7] Military means, although essential, are not enough on their own to meet the many complex security challenges. The effective implementation of a comprehensive approach requires all actors to contribute with a shared purpose, based on a common sense of responsibility, openness and determination, taking into account their respective strengths, mandates and roles, as well as their decision-making autonomy. The implementation of NATO's contribution to a comprehensive approach is a permanent feature of the Alliance's work. Commanders and staffs should consider how to:

- involve all major actors, including agencies and non-military actors in the planning process;
- de-conflict, coordinate and synchronize joint force actions with the operations of these organizations; and
- apply military activities and resources to fulfil the other actors' functions when they are unavailable, consistent with existing legal authorities.

1.11 Experience gained from recent NATO operations demonstrates that the international community must work closely together and adopt a comprehensive approach to re-establishing and maintaining international peace and security. To maximize the ability

[6] See MC 0133/4

[7] The Allied Command Operations Comprehensive Operations Planning Directive refers to instruments of power as military, political, economic and civil.

to operate within a comprehensive approach, commanders and plans staff must consider the impact of, and interaction with, other actors involved in crisis resolution during the planning process.

Intentionally blank

Chapter 2 – Fundamentals of planning

Principles of operations

2.1 The following principles of joint and multinational operations are established in AJP-01 *Allied Joint Doctrine* and detailed in AJP-3, *Allied Joint Doctrine for the Conduct of Operations*. The commander and the staff should understand and apply these fundamental principles to approach problems coherently:

- unity of effort;
- concentration of force;
- economy of effort;
- freedom of action;
- definition of objectives;
- flexibility;
- initiative;
- offensive spirit;
- surprise;
- security;
- simplicity;
- maintenance of morale.

Operational considerations

2.2 The principles listed above are supported by operational considerations. The commander and the staff should incorporate these operational considerations which are further elaborated in AJP-3:

- credibility;
- consent;
- mutual respect and understanding;
- transparency;
- freedom of movement;
- strategic communications;
- cyberspace operations;
- environmental protection;
- protection of civilians[8].

[8] See PO(2016)0407 *NATO Policy for the Protection of Civilians*.

Joint functions

2.3 Operations design provides an overarching master concept which visualizes the operational demands the staff has to address with the functional areas represented, on the way to the achievement of objectives. The mutually combined and balanced activity fields to be covered for the realization of the operations design, for the transcription into an operation plan, are described by the joint functions explained in AJP-01 and AJP-3. These are:

- manoeuvre;
- fires;
- command and control;
- intelligence;
- information;
- sustainment;
- force protection;
- civil-military cooperation.

Command centric planning

2.4 A commander's responsibility for mission accomplishment is total. Therefore, the commander is the central figure in operations planning. It is the commander's role and personal responsibility to guide the staff through the planning process. Commanders draw on operations design to mitigate the challenges of complexity and uncertainty, to generate a clearer understanding of the conditions required to focus effort and achieve success. Operations design supports the effective exercise of command that deepens understanding and visualization.[9] Understanding the operating environment, defining the problem, devising a sound approach, and developing feasible options are rarely achieved within a first attempt. Strategic guidance addressing complex problems may initially be incomplete, requiring the commander to interpret and filter it for the staff. While the strategic commander and the political-military level have a clear strategic perspective of the problem, operational-level commanders and subordinate commanders have a better understanding of specific circumstances that comprise the operating environment. Both perspectives are essential to achieve a sound solution. Commanders should be proactive in sharing their perspective with their higher headquarters and both levels should resolve differences at the earliest opportunity. Commanders should consider the following guidelines when interacting with their staff and other commands during operations planning:

- strive for simplicity;

[9] Operations design is addressed in detail in chapter 3.

- apply intuition and experience to the basic operations design;
- enforce mission command to generate freedom of action for subordinate commanders;
- incorporate risk management in operations design and management;
- build deliberate surprise in the operations design;
- avoid routine use of capabilities;
- encourage originality, supported by skill, knowledge and experience;
- be agile (thinking, understanding and acting quickly may contribute to success).

Commander's intent

2.5 The commander´s intent is the foundation of the operations design. It is the commander's clear and concise expression of what the force must do and the conditions the force must establish to accomplish the mission. It is a succinct, written description of the commander's visualization of the entire operation and what the commander wants to accomplish. The commander will communicate the intent to the staff and subordinate commands ensuring a common understanding. The commander produces the intent based on the findings depicted in the mission analysis and initiates the development of the courses of action through the commander´s planning guidance. While there is no specified format for the commander's intent, a generally accepted construct includes the purpose and objective(s).

a. **Purpose**. The purpose explains how the military actions contribute to achieving objectives and attaining the end state. The purpose helps the force pursue the mission without further orders, even when actions do not unfold as planned and it enables exploitation when the execution unfolds more favourable than expected. Thus, if an unanticipated situation arises, participating commanders understand the purpose of the forthcoming action well enough to act decisively and within the bounds of the higher commander's intent.

b. **Objective(s)**. In operations, an objective is a clearly defined and attainable goal that contributes to the attainment of the end state. Objectives describe what the commander is tasked to achieve in regard to military conditions that define mission success. The commander´s intent also describes these desired conditions as integral part of the higher command's objectives and describes how own objectives contribute to attaining the end state.

Analysis and understanding

2.6 A comprehensive analysis of the operating environment, its components, actors and their relationships is the beginning of the operations planning process. Commanders and the staff must build and foster a comprehensive understanding of the operating environment and promote this understanding continuously throughout the entire operations planning process in conjunction with higher headquarters, component commands and other actors.

Termination criteria

2.7 Termination is a key consideration for planning. The strategic commander derives the termination criteria from the end state. The criteria should include military and non-military conditions and capabilities required to transition or terminate the NATO operation. The commanders and staff will integrate these into their operations design and plan.

Definition of success

2.8 The commander should have a clear vision and understandable objectives when defining success for activities in operations. The incorporation of operations assessment aspects through all phases of an operation, including planning, ensures assessment focus is maintained on the actions and effects required for mission accomplishment. Through monitoring available information and utilising measures of effectiveness (MOEs) and measures of performance (MOPs[10]), commanders and staff can ensure advancement toward achieving objectives and attaining the end state.

Sequential, parallel and collaborative planning

2.9 Operations planning can be conducted in a sequential, parallel, or collaborative manner. These methods are applied by all levels of command.

a. **In the sequential planning process** operations planning is conducted by the higher-level commander and staff; this is followed by planning at the subordinate headquarters (HQ). This method fits better with the advanced planning category.

(1) Advantage: This type of planning produces usually detailed and methodical results. It also minimizes the risk that subordinate HQ may have an obsolete common operational picture and plans.

[10] Measures of performance (MOPs) are indicators used to assess friendly actions tied to measuring task accomplishment.

(2) Disadvantage: The entire operations planning process takes a relatively long time to be completed.

b. **In parallel planning**, the commanders together with their staffs at various levels of command initiate the operations planning process staggered only by brief time lapses. The continuous information flow between the higher HQ and its subordinate commands is the core and most significant precondition for the parallel planning process. An early, continuous and rapid information sharing allows the commanders and their staffs, at each level, to concurrently start the planning activity. This simultaneous approach is supported by issuing warning orders and planning guidance. A prerequisite for successful parallel planning is a promptly performed decision-making process. Thus, the establishment of effective command and control (C2) is of high importance.

(1) Advantages: This type of planning is especially suitable when the planning time is extremely limited, because it allows the subordinate units to simultaneously contribute to the documents produced by the higher level and to produce their own products. Parallel planning, for instance, is particularly suitable for crisis response operations.

(2) Disadvantages: This type of planning can introduce risks in terms of reliability of the plan and needs increased coordination.

c. **Collaborative planning** is a very dynamic process that requires disciplined information management. This method implies the interaction between two or more command echelons involved in the operations planning process. It allows subordinate commanders to provide the superior commander with their assessment and advice. Collaborative planning, in order to be effective, requires information technologies systems[11] to promote the fast distribution and sharing of ideas and planning products. Compared to other planning methods, collaborative planning allows the development of more coherent and harmonized plans across all levels. The method may be more appropriate for meeting contingency situations which can occur during the conduct of an operation, requiring an urgent plan revision.

(1) Advantages: This type of planning method speeds up the planning process.

[11] Like e.g. the tools for operations planning functional area services (TOPFAS). TOPFAS is a suite of tools to support both NATO advance and crisis response planning through all phases of the operations planning process: Operations Planning Tool (OPT), ORBAT Management Tool (OMT), User Management Tool (UMT), TOPFAS Web Portal (TWP), Systems Analysis Tool (SAT) and Campaign Assessment Tool (CAT).

(2) Disadvantages: The evolution of the operating environment may quickly divert the original operation plan and may possibly result in confusion and misalignment at subordinate levels. A rising risk of groupthink and “one level of command” oriented planning may arise.

Chapter 3 – Operations design

3.1 **Introduction.** The commander and staff develop plans and orders through the application of operations design and the sequence of planning activities, in particular, during the 'mission analysis' activity (see chapter 4, section 3.). They combine art and science to develop products that describe how (ways) the joint force will employ its capabilities (means) to achieve objectives (ends) to attain the end state. Operations design is a process of iterative understanding and problem framing that supports commanders and staffs in their application of operational art. This helps the commander and staff understand the operating environment and construct viable approaches to operations. With operations design, the commander expresses vision and develops and refines ideas to provide detailed and executable plans. Operations design is underpinned by a clear understanding of the political and strategic context. Structured processes, as in the concepts and tools detailed below, enable the operations design.

Ends, ways, means and risks

3.2 Clarification on ends, ways, means and risks is of central importance for the operations design. The commander should be able to answer the following essential questions:

a. **The ends**. What objectives must be achieved in support of the higher commander's objectives and to attain the end state? What conditions are required to achieve the objectives? The commander considers the nature of the force and the assigned (and obtainable) objectives. A change in political objectives will invariably create a requirement for an adjustment in the plan or even the requirement for a new plan.

b. **The ways**. What broad approaches will establish the conditions identified? What sequence of actions and effects is most likely to achieve these conditions? How can instruments of power be used to create coherent effects that will establish the essential conditions? How should actions and effects be arranged in time and space to establish these conditions?

c. **The means**. What resources are required to accomplish the identified sequence of actions and effects? What capabilities and other resources are available and should be applied to produce these conditions? How are the military and non-military instruments integrated and synchronized to achieve these conditions?

d. **The risks**. A risk is assessed by the likelihood of its occurrence and the gravity of its impact and has to be mitigated accordingly. The level of risk can be determined with a certain degree of confidence; assessing likelihood and consequence is a matter of military judgment. The degree of risk can be greatly reduced by scaling down one's ends, adapting one's ways or increasing one's means. The problem of mismatch can be resolved by modifying, altering, or even abandoning one's ends. Another solution for resolving mismatch is to find a novel way of using one's sources of military and/or non-military instruments. It is the commander´s responsibility to weigh opportunities versus risks, assess their potential impact, and identify opportunities that offer the greatest operational benefit for the risk incurred. The commander will decide on risk management.[12]

Understanding the operating environment

3.3 Understanding the operating environment is a critical prerequisite for all planning activities, particularly for operations design. The operations design delineates the principal approach in an operation while all activities of the force are deduced from it. It provides the context for understanding the problem. AJP-2 *Allied Joint Doctrine for Intelligence, Counter-Intelligence and Security* depicts an enhanced understanding of the joint intelligence preparation of the operating environment (JIPOE), exceeding the former traditional focus on military matters by covering the PMESII spectrum[13]. AJP-5 uses JIPOE in the following paragraphs and chapters.[14] The JIPOE describes the main characteristics and allows the planning staff to further assess the potential impact of the operating environment on accomplishment of the mission. The commander and the staff develop a shared understanding and a holistic view of the operating environment in terms of the crisis background, the underlying causes and the specific dynamics. It allows the commander to visualize the extent of the problem and how they might shape and alter the operating environment to their advantage, which will inform their decision-making.

3.4 **Factor analysis and key factors**. The commander and staff have to examine specific aspects, facts or conditions of the operating environment and the capabilities, goals,

[12] For risk management, see AJP-3 Annex D.
[13] PMESII - political, military, economic, social, infrastructure, and information.
[14] For developing a broad understanding of the operating environment, the Allied Command Operations Comprehensive Operations Planning Directive (COPD) introduces and uses the term "comprehensive preparation of the operational environment" (CPOE) and states the following: NATO utilizes the PMESII model for the CPOE. The use of the PMESII model shall ensure that the intelligence requirements of the decision-makers, planners and operators can be comprehensively met. The CPOE is a cross-headquarters process, supported by the various functional and special staff areas. The CPOE may also take into account the assessments of non-military and non-governmental organizations, the joint intelligence preparation of the operating environment (JIPOE) and the Joint Intelligence Estimate support.

relationships and interactions between actors to determine their impact on operational success. Interactions include intents, potential capabilities, trends, tensions, strengths, and weaknesses. The commander and staff will consider the effects of the operating environment on the main actors as well as on NATO forces as they interact in time, space and information. Deductions and conclusions gained from this analysis set the boundaries for the development of solutions. Furthermore, the determination of key factors that will have a direct bearing on what may have to be accomplished in the area of operations, and under what conditions, is important.

3.5 Coupled with any assigned or anticipated tasks as well as guidance and intent from higher echelons, the commander and staff will determine desired conditions resulting in a future and acceptable status of the operating environment. Understanding of the operating environment will benefit from applying a comprehensive approach involving non-military actors. These actors will likely contribute to, and receive the output from mission analysis. Similarly, this information exchange will inform the decisions taken by non-military leaders. Integration of non-military actors may not be possible or advisable in some situations, dependent on specific circumstances, e.g. for operations security (OPSEC) reasons. However, for promoting a comprehensive understanding, commanders should embed non-military expertise as a general guideline and send military liaison officers to civil organizations as appropriate.

Operations design concepts

3.6 Operations design concepts help the commander and the staff think through the challenges of understanding the operating environment, analyzing the strategic and operational factors[15]; defining the problem, and developing an approach, which guides planning and shapes the concept of operations (CONOPS). The concepts are explained in the following paragraphs. They are:

- end state;
- (initial ideas for) transition and termination;
- centres of gravity;
- direct versus indirect approach;
- objectives;
- decisive conditions;
- effects and actions;
- lines of operation;
- culmination;
- operational pause;

[15] For information on the operational factors – time, space, forces and information – see Annex A

- sequencing and phases.

End state

3.7 The end state is the North Atlantic Council (NAC) statement of conditions that defines an acceptable concluding situation for NATO's involvement. Therefore, the NAC, the Military Committee (MC) and the Supreme Allied Commander Europe (SACEUR) as the strategic commander will necessarily describe the end state and the strategic objectives to enable planning at the operational level. Articulating the end state should happen well before military forces are committed. Moreover, the ability to plan and conduct operations for conflict termination depends on a clear understanding of the end state. It describes conditions for a favourable, self-regulating situation within the operating environment that satisfies the overall political objective. The end state must be comprehensible, feasible, and attainable because it defines the ultimate criteria for the cessation of Alliance activities in a crisis region. It is often linked to the provisions of an international mandate or agreement providing legal authority for resolving the crisis.

Transition and termination

3.8 Transition and termination are key considerations in the operations design.[16] In most cases they will include the achievement of acceptable conditions as well as the mutual acceptance of terms and conditions to ensure a lasting settlement. It will require political action, especially when a military force has been employed, and will require a comprehensive approach to involve diplomatic, economic and informational instruments of power. The process may continue well beyond the cessation of hostilities and encompasses stabilization and reconstruction activities.[17] Termination and transition provide an essential link between Alliance operations and post-conflict activities. The commander and the staff must clearly understand the termination criteria for the operation. Appropriate and well-conceived termination criteria are the key to ensuring that successful operations result in conditions favourable to the Alliance. Commanders must continually re-evaluate the operational conditions to determine if the original end state and termination criteria are still valid and attainable.

[16] For termination and transition see AJP-3 chapter 5. Termination in terms of ceasing an operation may occur within the following, not exclusively outlined circumstances: Termination by NATO for local reasons; termination by NATO for strategic reasons; termination by host nation; termination by transition.
[17] Security force assistance (SFA) by NATO assists a host nation in developing a sustainable capability that should enable its defence against threats to stability and security. Transition of security responsibilities to local forces – to be understood as a progressive transfer of security functions – is an essential part of SFA.

Centres of gravity

3.9 A centre of gravity (CoG) is the primary source of power that provides an actor its strength, freedom of action, or will to fight. It is always an entity. At the political-strategic level, moral-strength as well as physical-strength CoGs exist; both types are physical entities in nature, but vary in purpose. At lower levels of command, only physical-strength CoGs normally exist. By affecting an actor's moral strategic CoG, the Alliance aims to influence the actor's will (make the actor accept the Alliance objectives, by persuasion or coercion), while by affecting a physical strategic CoG, the Alliance influences the actor's ability to carry out its overall strategy (so the actor cannot achieve its strategic objectives). By affecting an actor's operational CoGs, the Alliance influences the actor's ability to achieve its operational objectives with its current course of action (COA). CoGs have critical capabilities (abilities – what the CoG can do in context of the actor's mission), critical requirements (means, resources, and conditions essential for a CoG to perform its critical capabilities), and critical vulnerabilities (deficient, missing, or vulnerable critical requirements). A key element of operational art is to derive ways to affect the primary actors' CoGs sufficiently to achieve NATO objectives, whether by strengthening, protecting, weakening, or destroying the CoG; this can be done by affecting their critical vulnerabilities and critical requirements. CoGs and their critical vulnerabilities are always contextual and therefore subject to change at any time during the operation; consequently, CoG analysis is an iterative, continuous process. Annex B provides details on CoG identification and validation as well as on CoG analysis.

Direct versus indirect approach

3.10 An important point in planning an operation is to determine the best approach for dealing with the adversarial CoGs. Two alternative approaches to consider are the direct and indirect approaches. The direct approach attacks the adversary's CoG or principal strength by applying combat power directly against it. The indirect approach typically seeks to circumnavigate, isolate, or otherwise render combat ineffective rather than physically destroy the adversarial CoG(s). In some cases, an indirect approach may require a series of operations against multiple critical vulnerabilities. In other cases, it may involve a single operation against a few particularly critical vulnerabilities that has the effect of creating the required condition of the CoG, but without engaging in direct battle with adversary's primary combat units. Deciding between the two approaches is a question of weighing factors such as relative strength, Alliance capabilities, the types of adversarial critical vulnerabilities, risk appetite and tolerance, the required condition of the adversarial CoG, time, etc. In addition, it is possible to use the direct approach at one level of command (e.g.,

strategic) and the indirect at another level (e.g. operational), as the type of approach relates to how the CoG(s) at each level are dealt with.

Objectives

3.11 An objective is a clearly defined and attainable goal for an operation, for example seizing a terrain feature, neutralizing an adversary's force or capability or achieving some other desired outcome that is essential to a commander's plan and towards which the operation is directed. Objectives lead to the end state and they are achieved by aggregating decisive conditions through effects and their underlying actions.

a. **Strategic objectives** establish the strategic purpose for all actions by the Alliance within a comprehensive approach. They are laid down within the NAC initiating directive and describe the goals to attain the end state. Based on its analysis of the principal actors, influencing factors and centres of gravity, planners at the strategic level determine the essential conditions that must be achieved to attain the end state. The development of strategic objectives will be an iterative process during which the planners have to ensure these objectives are in balance with the ways and means available. Strategic objectives are subdivided into non-military strategic objectives and military strategic objectives (MSOs).

b. **Military strategic objectives.** MSOs define the role of military forces in the wider context of the Alliance's strategic objectives. They are a clear description of the military objectives necessary for mission accomplishment and describe what the military must pursue, progress and sustain. MSOs provide the focus for operational-level planning and therefore must clearly state those military conditions that contribute to the achievement of MSOs to attain the end state. They must be attainable given the ways and means available, the strengths and vulnerabilities of the adversary or other factors in the operating environment.

c. **Operational objectives.** Operational objectives define the role of the joint force within the context of the MSO. They are a clear description of the military objectives at the operational level necessary for the achievement of MSOs and describe what the operational-level commander must pursue, progress and sustain. Operational objectives provide the focus for planning in supporting and subordinate elements and therefore must clearly state those military conditions that contribute to their achievement.

Decisive conditions

3.12 A decisive condition (DC) is a combination of circumstances, effects, or a specific key event, critical factor, or function that, when realized, allows commanders to gain a marked advantage over an opponent or contribute materially to achieving an operational objective. DCs are logically determined from the factor and CoG analysis processes. DCs do not necessarily constitute a battle or physical engagement. DCs also do not need to have a geographical relevance. The application of the broader substance of DCs aids the analysis of the problem and the operating environment in broader context. DCs are elements of lines of operation and, like objectives and effects, have to be realizable.

Effects and actions

3.13 Effects are recognizable changes in the behavioral or physical state of a system that result from one or more actions. Based on the DCs for each objective and their previous analysis of each actor's systems, the operations planning group (OPG) determines the changes required in a specific non-NATO actor's system/system elements and identifies relevant actions across the joint functions to create the changes.

Lines of operation

3.14 A line of operation (LoO) links decisive conditions to achieve an objective. Along any LoO it will be necessary to determine the sequence of actions, effects and conditions required to achieve the objectives. Having determined the best overall approach to affect the key actors' CoGs and DCs to be achieved, the next step in the operations design is to determine primary and alternative LoOs. These are used to arrange operations in time, space and purpose to transform specific unacceptable conditions at the start of the operation to conditions required to achieve operational and strategic objectives. The conclusions of the CoG analyses provide valuable inputs to the required conditions and how to achieve them. The determination of LoOs will shape the development of the plan as well as the conduct of operations. Functionally cross-cutting LoOs, each involving more than one element of power, will create a more effective system for coordination between partners during planning and execution. This type of LoO construct brings to bear the capabilities of multiple elements of power, which makes it particularly effective toward achieving more complex objectives or outcomes.

3.15 Identifying DCs along each LoO is critical to the operations design:

- ensure that progress towards the objectives is measurable;

- sequence the effects to be created along each LoO;
- establish the nature and sequence of actions along each LoO;
- take into account possible links to actions and effects along other LoOs;
- synchronize and coordinate actions on and between different LoOs;
- establish and manage the priority of effort;
- determine the force and capabilities requirements for each LoO over time.

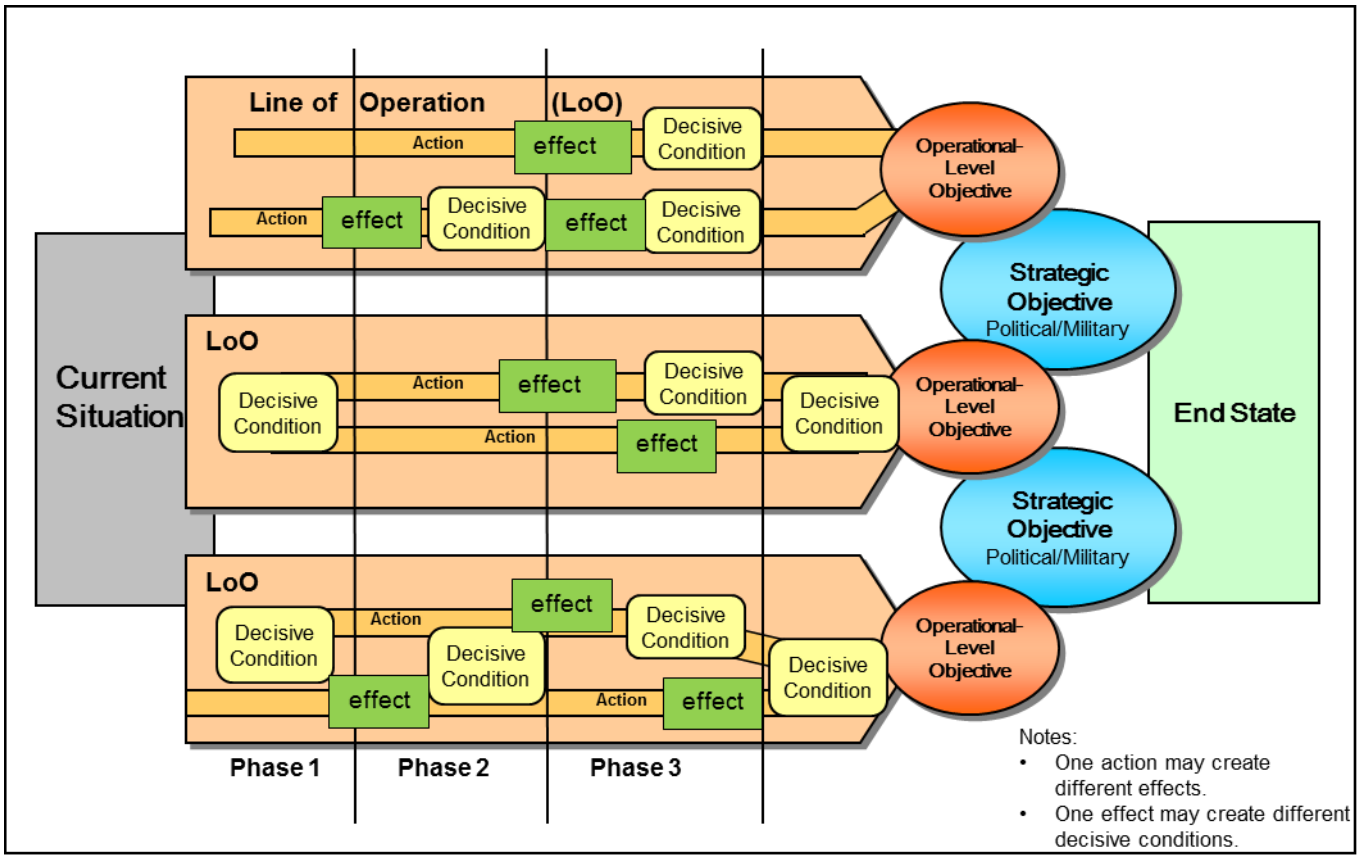


Figure 3.1 - Operations design

Culmination

3.16 Culmination is that point in an operation when a force can no longer successfully continue its current operation. Sequencing and phasing should ensure that operations from adversaries culminate well before they can achieve their objective while ensuring that own operations achieve their objectives well before any culmination. Therefore, operations design should determine ways to speed the adversary's culmination while precluding one's own. Culmination has both offensive and defensive applications:

a. In offensive operations, the attacking force reaches its culminating point when it can no longer sustain its offensive action and must shift to the defence or risk counter attack and defeat.

b. In defensive operations, the defending force reaches its culminating point when it no longer has the capability to mount a counter offensive or defend successfully and needs to be reinforced, disengaged or withdrawn to avoid defeat.

Operational pause

3.17 An operational pause is a temporary cessation of certain activities during the course of an operation prior to achieving the objectives to avoid culmination. It allows the force to regenerate the combat power required to proceed with the next stage of the operation. Nevertheless, the OPG needs to ensure an integrated approach to the operations design in order to minimize the requirement for operational pauses.

Sequencing and phases

3.18 Sequencing is the arrangement of actions in an order producing the effects for the generation of decisive conditions. The primary aim in sequencing and phasing an operation is to maintain continuity and tempo and to avoid unnecessary operational pauses. The OPG should determine the best arrangement of actions and effects to achieve objectives. This arrangement will often be a combination of simultaneous and sequential actions. However, it may not be possible to achieve the objectives in a single engagement or even a major operation. As such, the operations design normally provides for the sequencing of actions and the phasing of operations. Although simultaneous action on multiple lines of operation may be ideal, resource availability usually forces the commander to prioritize and sequence the actions; consequently, a commander may choose to sequence the actions in order to reduce risks to an acceptable level. This process assists in thinking through the entire operation logically in terms of available forces, resources and time, and helps to determine different operational phases.

a. **Phases** represent distinct stages in the progress of the overall operation. Phases are sequential but the course of effects and actions may overlap. The actions required to create certain effects in a certain phase, may well start prior to the phase in question. In some cases the beginning of a phase may be contingent on the successful completion of a preceding phase. Commanders should clearly recognize and address this dependency in the operations design. The arrangement of supported/supporting relationship may be a valuable instrument in phasing the operations. The commander may designate a main effort in each

phase and assign the execution of the action to a subordinate commander. This subordinate commander may in turn become the designated supported commander for all mission elements. A commander may provide the supported commander with the authority for the general direction of the supporting effort.

b. **Synchronization, synergy and leverage**. The OPG considers how to best synchronize actions in order to generate the greatest effect with a given expenditure of resources or a desired effect with the least expenditure.

(1) **Synchronization** is the arrangement of actions and their effects in time, space and purpose to achieve DCs. The OPG will therefore make integrated use of all capabilities available to them to achieve the DCs. The primary benefit from synchronized actions is the ability to produce synergy using different resources and gain leverage through creating effects and their exploitation throughout the operations area.

(2) **Synergy** is the ultimate aim of all synchronization efforts. Synergy is the cumulative outcome or result of discrete acts; it is greater than the sum of the individual parts acting independently. Synergy should be the result of effective synchronization. In practice, it means integration and synchronization of actions aimed to achieve the objective. This approach is also closely associated to the idea of comprehensive approach.

(3) **Leverage** is achieved when the resulting impact of an action is more than proportionate to the effort applied. Leverage can be achieved by focusing Allied joint force strengths, against another actor's weaknesses when aiming at DCs utilizing also other instruments of power in a comprehensive approach.

c. **Simultaneity and depth**. The OPG determines the extent to which joint forces can conduct simultaneous operations to create DCs throughout the depth of the operations area. This is largely a function of the availability of military resources and their operational reach. The intent should always be to achieve synergy by combining the effects of simultaneous actions to overwhelm the adversary's ability to respond effectively with so many actions occurring at one time and to conceal the direction of main effort as long as possible.

d. **Tempo** is the rate or rhythm of activity relative to the adversary's, within tactical actions and between major operations. Within peace support the reference point may be different.[18] Tempo incorporates the capacity of a joint force to make the

[18] In peace support operational tempo may be developed relative to other actors' activities or during humanitarian assistance relative to the exacerbation of the humanitarian situation.

transition from one operational posture to another to gain and maintain the initiative. Commanders and their staff should anticipate adversarial actions and be prepared well in advance. Commanders should develop the ability to decide and act rapidly for the right and timely concentration of military capabilities and massing effects to generate DCs. The ability to dictate the operational tempo provides freedom of action and is key to bringing an adversary to its culmination point while preventing the premature culmination of one's own operation.

e. **Branches and sequels**. An essential step in the operations design process is to anticipate eventualities that may occur during the course of an operation and determine alternative LoOs and sequences of action, while still achieving the objective. For every action there is a range of possible outcomes that may or may not create the desired effects or the expected changes of conditions. Outcomes that are more favourable than expected may present opportunities that can be exploited. Outcomes that are worse than expected may pose risks that can be mitigated. However, the ability to exploit opportunities and mitigate risks depends on anticipating such situations and linking them to decision points and on developing options for dealing with them. The commander and the OPG must anticipate possible outcomes and ensure that options are provided in their planning to preserve freedom of action to allow them to keep the initiative. This is achieved by developing branches and sequels derived from continuously exposing the operations design to questions, concerning situations that could possibly occur during each phase of the operation

(1) **Branches** are options within a particular phase of an operation, which are planned and conducted in response to an anticipated opportunity or risk within that phase, to provide the flexibility to retain the initiative and ultimately achieve the original objective. The planning of branches is sometimes referred to as 'contingency options' planning, which has to be well differentiated from the contingency plan (COP) planning described in chapter 1. Branches address the question of "what if"?

(2) **Sequels** are options for subsequent operations within an operation or the following phase(s) of an operation. They are planned on the basis of the likely outcome of the current operation or phase, to provide the flexibility to retain the initiative and/or enhance operational tempo. Sequels address the question of "what's next?"

(3) **Decision points**. Decision points are events defined in time or space on which the commander is expected to have to make a decision to ensure timely

execution and synchronization of resources. Decision points can be linked to assumptions and commander's critical information requirements and they should lead to the requirement for branches and sequels. They focus the staff's monitoring activities and help to prioritize the organization's collection efforts. To support the commander, the OPG should consider developing a decision support matrix to link decision points with the earliest and latest time a decision is required; the intelligence (the adversary or actor) requirements; and the friendly force information requirements. Each branch from a decision point requires different actions, and each action demands various follow-up actions, such as sequels or potential sequels.

Chapter 4 – The sequence of planning activities

Section 1 Introduction

4.1 The sequence of planning activities is a series of logical, sequential, analytical processes, to examine a mission; develop, analyze, and compare alternative courses of action (COAs); select the best COA; and produce a plan or order. Operational art and the application of operations design provide the conceptual basis for structuring operations as discussed in Chapter 3. The sequence of planning activities provides a proven process to organize the work of the commander, staff, subordinate commanders, and other partners, to develop plans that will appropriately address the problem to be solved. It focuses on defining the military mission and developing and synchronizing detailed plans to accomplish that mission. The planning activities are:

- initiation;
- mission analysis;
- COA development;
- COA analysis;
- COA validation and comparison;
- commander's COA decision;
- plan development.

4.2 Commanders and staffs apply the thinking methodology introduced in the previous chapter to discern the correct mission, develop creative and adaptive COAs to accomplish the mission, and synchronize actions so that they can be executed. It applies to all levels of command when components are involved in operational-level planning. Together with operations design, the planning activities facilitate interaction between the commander, staff, and subordinate and supporting headquarters throughout planning. They also help commanders and their staffs organize their planning events, share a common understanding of the mission and commander's intent, and develop effective plans and orders.

Section 2 Initiation

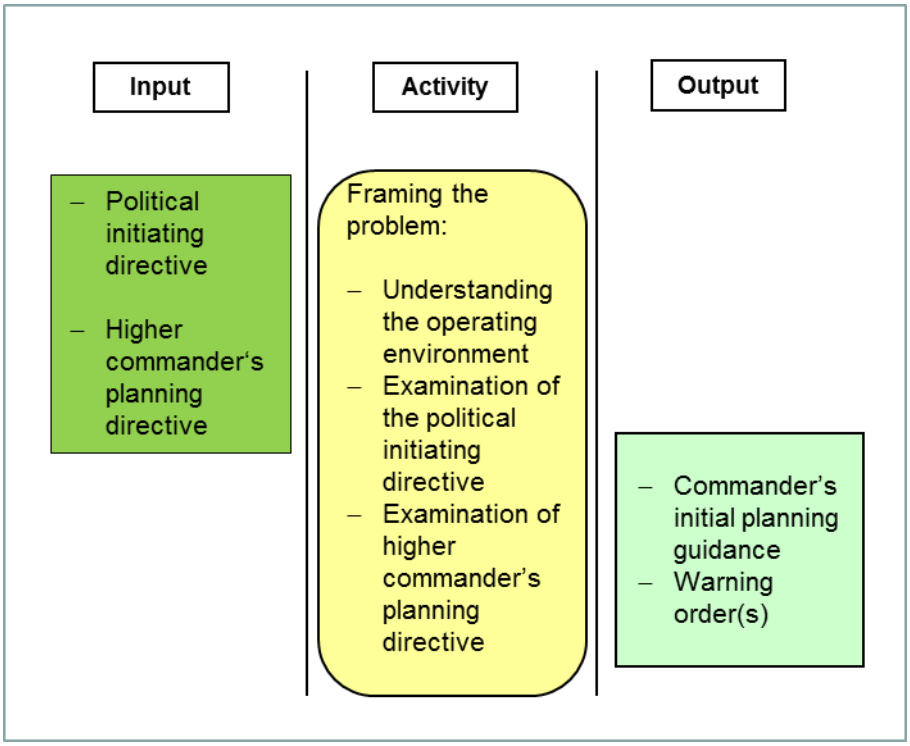


Table 4.1 – Initiation

Initiating directive and derived planning directive

4.3 Initiation, in its simplest terms, is the action or activity that causes another action, activity or process. Planning for Alliance operations begins when an appropriate authority recognizes potential for military capability to be employed in support of NATO objectives or in response to a potential or actual crisis. It can be conducted as part of advanced planning, crisis response, or execution planning. The political strategic level initiates strategic planning by tasking the strategic commander to conduct a strategic assessment and possibly to develop military response options. Military options normally are developed in combination with other non-military options so that NATO can respond under a comprehensive approach. Such procedure is covered by the COPD. Once a military option is selected, operations planning will be initiated.

4.4 The strategic commander, subordinate and supporting commanders initiate planning when directed by the higher authority. Analyses of the operating environment

(developing or immediate crises) may result in initiating military planning through a warning order or other planning directive. The commander and staff will perform an initial assessment of the initiating directive and the higher commander's planning directive respectively. This will determine the time available until mission execution; the current status of the joint intelligence preparation of the operating environment (JIPOE) and other intelligence products and staff estimates; and other factors relevant to the specific planning situation.[19] The strategic and the operational-level commander typically will provide initial planning guidance based upon current understanding of the operating environment, the problem, and the politically directed mission. Initial planning guidance could also specify time constraints, outline initial coordination requirements, or authorize movement of key capabilities within a specific commander's authority.

4.5 While planning is continuous, once execution begins, planning re-initiation during execution is particularly relevant if there are significant changes to the current mission or planning assumptions; or the commander receives a mission for follow-on operations.

Commander's initial planning guidance

4.6 A planning timeline is needed to manage planning efforts and the identification of key issues for consideration in the commander's initial planning guidance. In particular, the operations planning group (OPG) must evaluate the time available for planning, including force generation, based on the worst case, and recommend adequate time for planning and preparation at lower levels of command. As a guiding proportion, when sequential planning is used, each headquarters (HQ) should plan to use not more than one third of the time available to reach commanders' decisions in order to leave sufficient time for subordinates to develop their plans and prepare their forces. In preparation of the commander's initial planning guidance, the OPG also assists the commander by considering and summarizing command group activities that could impact planning as well as the requirement for the commander's personal involvement in planning milestones.

4.7 The commander will issue the commander's initial planning guidance and a warning order (or several warning orders). This guidance should cover:

- principal characteristics of the operation;
- issues to raise and clarify with the superior command;
- any appropriate applicable legal framework, current or anticipated;

[19] Other relevant factors include relevant doctrine, lessons identified and ongoing research and concept development.

- time critical requirements;
- coordination and cooperation requirements;
- liaison and planning team requirements (in and out);
- deployment of an operational liaison and reconnaissance team (OLRT);
- key timings;
- planning milestones
- warning order(s) to subordinate commands.

Liaison and reconnaissance team deployment

4.8 Once authorized, the early deployment of an operational liaison and reconnaissance team materializes a means to conduct required reconnaissance and coordination in the theatre to provide accurate and relevant intelligence products, in a simply manner, towards enhancing situational understanding and awareness. This requires that the commander designates a single authority for direction and tasking of the team, as well as to establish and maintain effective communications for the exchange of information. Accordingly, the OPG provides prioritized coordination and collection requirements to confirm critical aspects of the mission analysis and key assumptions. Ideally, the commander and key staff will visit the theatre to conduct high level coordination and gain firsthand insights to acquire better knowledge and understanding of the operating environment.

Section 3 Mission analysis

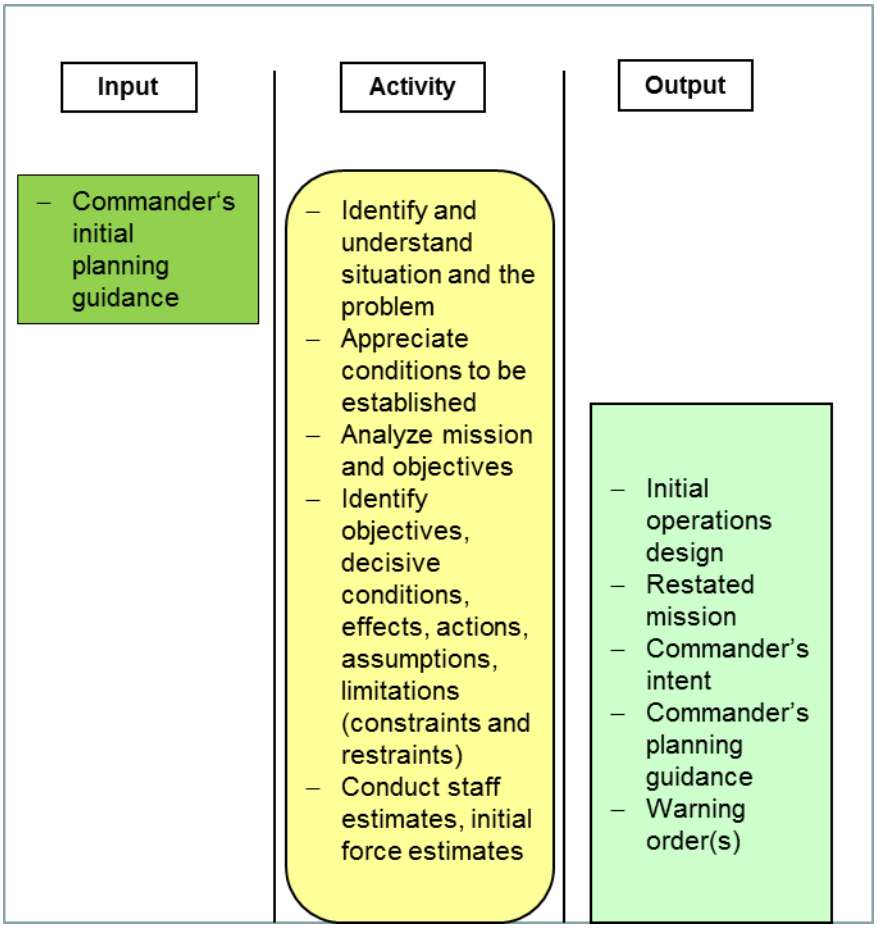


Table 4.2 – Mission Analysis

4.9 The purpose of mission analysis is to analyze the strategic context in order to establish precisely what the mission involves and where it fits in the bigger picture. This will include:

- analysis of the strategic intent, the outcomes sought and related strategic objectives;
- identifying the role of the joint force, key objectives and conditions to reach;
- identification of freedoms, limitations (constraints and restraints) and assumptions that will apply and;
- identifying possible changes of the situation since initiation.

The main outcome of this activity comprises the initial operations design[20], the planning guidance to the staff and to subordinate commands, both containing the initial[21] commander's intent. This enables detailed planning.

Elements of the mission analysis

4.10 The mission analysis includes the following elements:

- refinement of the JIPOE;
- a detailed analysis of the mission and factors that will influence mission accomplishment;
- the designing of the initial commander's intent;
- the development of an overall operations design, including effects, lines of operation (LoOs) and decisive conditions (DC);
- the formulation of the commander's planning guidance towards the staff, containing the initial intent, providing view and direction for the OPG developing COAs;
- initial force estimates;
- the issue of the commander's planning guidance to subordinate commanders to formally initiate parallel tactical operations planning;
- forwarding of requests for information (RFIs), provisional rule-of-engagement requests (ROEREQs) and recommendations for the authorization to declare crisis response measures (CRMs);
- adapting initial commander´s critical information requirements (CCIRs).

Framing the problem

4.11 **Strategic context review**. Normally the designated commander and staff will have been involved in the development of the strategic- level assessment of the crisis and will share a common understanding of the situation. A review will update, as required, the current state of the different actors' systems that are part of the problem as well as the features of the operating environment. Additional updates eventually needed:

a. **Review of superior authorities' directives**. The initiating directive and higher command planning directives set the boundaries of the problem to be solved and the conditions that must be met to achieve objectives. The OPG will study these directives and update their own analyses, as required.

[20] The Comprehensive Operations Planning Directive (COPD) considers the operations design consisting of two distinct parts: the operational framework and the commander's (initial) intent.
[21] The commander's intent is of initial nature first and will be refined later in the planning process, as outcome of the course of action decision activity.

b. **Collection and review of historical analysis, lessons learned and relevant doctrine**. Many situations have historic precedents that share similarities with other recent situations. Historical studies and analysis may provide lessons that are instructive in understanding the current strategic context and how to deal with it. Additionally, commanders and staff should consult the existing doctrine portfolio for guidance.

4.12 **Appreciation and refinement of the JIPOE**. The commander and the staff will continue to develop their estimates on the operating environment as more information becomes available. This process is aiming at a holistic picture of the operating environment.

4.13 **Evaluation of actors**. Based on the JIPOE, the OPG validates or determines the opposing and neutral actors they need to influence and friendly actor relationships needed to establish the conditions required to achieve the strategic objectives.

a. **Goals and objectives of each actor**. Analysis of the political goals and likely end state for each actor and assessment of likely objectives to be achieved by the use of military force.

b. **Primary and supporting instruments of power**. Review of the systems that contribute to the main instruments of power that each actor seeks to leverage to influence other actors and systems.

c. **System interaction, interdependencies, influences and vulnerabilities**. Analysis of the strengths and weaknesses of the main actors and systems in terms of the capacity to influence other actors and systems and to be influenced based on their vulnerabilities and interdependencies. Identification of, and focus on, critical relationships. This includes system of system analysis (SoSA) to analyze how systems are connected and how they interact in order to better understand the dynamics of the operating environment.

d. **Military, security forces and other organized armed groups/capabilities.** Assessment of the strengths and weaknesses in the ability of each actor to achieve its objectives. In particular, its capabilities and capacity to use force in time and space with relation to the current order of battle and disposition of the different actors.

e. **Assessment of possible activities**. Based on strategy, operational doctrine, intelligence and recent operations (the assessed strategic objectives and the military means available), the planning staff assesses the full range of the

adversaries' possible activities and could evaluate them in terms of the most likely and most dangerous COA. The staff should assess the likely response of each actor to possible NATO military action, including the likelihood and the nature of any responses using military force and/or other forms of violence.

4.14 **Factor analysis and key factors**. As identified in the previous analysis of the operating environment and main actors, the OPG possesses a broad understanding of actors with operational impact. The OPG should examine specific aspects, facts or conditions of the operating environment and the capabilities, goals and relationships between actors to determine their impact on operational success. It will consider the effects of the operating environment on the main actors as well as on NATO forces as they interact in time, space and information. The deductions and conclusions gained from this analysis are critical to setting the boundaries and the "realm of the possible" within which solutions must be developed. An example is depicted in Table 4.3. To assist completion of the mission analysis and the development of an operations design, the OPG also needs to determine and analyze those key factors that will have a direct bearing on what may have to be accomplished in the area of operations and under what conditions. These key factors will be presented during the mission analysis brief.

Factor	Deduction	Conclusion
A significant factual statement of information known to be true that has operational implication. *What is the current state of affairs or trends?*	The implications, issues or considerations, derived from fact(s) that have operational significance. *So what is the significance of the factor?*	The outcome or result reached that requires action in planning or further analysis. *So, what can or should be done?*
Example ▪ *Existing SPODs have limited throughput capacity*	▪ *Identified ports are not adequate for rapid deployment of large heavy forces*	▪ *Pre-deployment of enabling forces to maximize/expand SPOD capacity is required (action, forces)* ▪ *SPOD usage requires detailed de-confliction with HN/IOs/NGOs (operational action, liaison)* ▪ *Need ready alternatives (risk, branch, CCIR)*

Table 4.3 Factor analysis

Analyze the mission

4.15 The commander is personally engaged in the mission analysis validating the descending results. The OPG will analyze the factors related to the strategic context and the operating environment, review the framing of the problem, make deductions about mission implications and draw conclusions related to the mission requirements that must be addressed in planning. The following aspects will normally be considered:

4.16 **Orientation towards higher and lower levels of command**. The purpose of continuous orientation towards higher and lower levels command is to:

a. translate the higher commander's intents and contextualize them for the own level in order to drive the commander's thinking to understand, visualize, describe and direct the operation.

b. direct subordinate commanders' activities through guidance, information and coordination.

4.17 **Operational objectives and criteria of success.** Based on the mission analysis the commander and the staff share a clear understanding of the operational conditions that must be established and sustained, as well as the actors and systems that must change. The evaluation of the main actors/systems and the analysis of their centres of gravity (CoGs) provide additional insight into what changes in the behaviour and capabilities of specific actors/systems may be required. Focus should be on linking the operational objectives to the strategic objectives and the end state established by the political level. On the basis of the operational objectives the OPG determines the criteria for success. Criteria for success describe the desired system states in an ascertainable way. The desired system changes based on desired effects resulting from actions are assessed based on measures of effectiveness (MOEs) and measures of performance (MOPs).

4.18 **Centre of gravity identification and analysis.** CoG identification and analysis help commanders and their staff to focus their planning effort because it helps identify how actors' will and primary ability might be influenced in order to achieve NATO objectives. While commanders and their staff should focus on CoGs at their own level of command, they must be aware of higher-level CoGs and their relationship to own-level CoGs. If higher-level CoGs are not already identified, the commander should start by identifying and analyzing higher level CoGs, including both moral and physical strategic CoGs. Already identified CoGs should be validated and the analyses refined/revised, since CoGs and their critical capabilities, requirements and vulnerabilities may change as the situation changes. They should analyze all actors

with central interests in the conflict, and establish the conditions of each actor's CoGs (strategic and operational) that must exist to achieve NATO objectives; it is a natural extension of the previously described analyses activities. Key insights from the analysis of CoGs should contribute to the development of the main ideas for the operation and should be captured in the conclusion as objectives, decisive conditions, effects, actions, rules of engagement (ROE) (to prevent undesired states and effects), CCIRs, etc.. When conducting CoG analysis, identification of the friendly CoG (from both adversarial and own perspectives) will inform the commander of potential adversary's courses of action and assist in developing the plan. Although CoG analysis is initiated in mission analysis, it is not related to a specific planning activity. Rather, it is a continuous, iterative process that must continue throughout planning and conduct of the operation, as collaborative planning by multiple levels of command. Annex B describes how to identify CoGs, it presents a CoG analysis model, and it offers a method for using CoG analysis in the planning process.

4.19 **Developing assumptions.** There will be some gaps in knowledge and information at this point, such as the current conditions of the information environment or the reaction of main actors to the involvement of NATO. In such cases, certain assumptions will be made as a basis for further planning. To be valid, an assumption must be logical, realistic and necessary for the planning to continue. Assumptions must never assume away critical problems, such as dealing with adversarial capabilities or assuming unrealistic friendly capabilities or successes. Each assumption needs to have a risk evaluation and to determine any requirement for a branch or sequel.

4.20 **Determining critical operational requirements.** During the mission analysis the OPG analyzes the main JIPOE products and updates available, as well as assessments and advice at hand to identify critical operational requirements across the joint functions including:

a. **Critical capabilities, support and resources requirements.** These capture military capabilities (abilities), sustainment and strategic support required to accomplish the mission.

b. **Strategic communications requirements.** The OPG coordinates with higher level planners, including public affairs, information operations and psychological operations, to analyze and to assess the information environment in order to develop strategic communications (StratCom) objectives including themes and messages based on the given StratCom guidance. The OPG will identify audiences for North Atlantic Council (NAC) approval, including decision-makers who may be engaged by Alliance information activities.

c. **Pre-conditions for success.** Identification of any essential conditions that must be established to allow operational success but are beyond the influence of the commander.

d. **Information and intelligence requirements.** The mission analysis will highlight gaps in the critical information required for subsequent command decisions. These requirements are expressed with the CCIRs. CCIRs cover all aspects of the commander's concern including friendly forces information requirement (FFIR), essential elements of friendly information (EEFI) and the priority intelligence requirements (PIRs).

e. **Crisis response measures (CRMs).** The identified operational requirements may call for the request and implementation of CRMs to ensure that necessary preparations are made and that capabilities will be ready and available. Many CRMs are intended to complement operations planning, force activation and deployment procedures. The concerned CRMs may range from those designed to enhance the Alliance's preparedness, including preparation, activation and deployment of forces to those initiating particular military actions (e.g. "Report Strategic Military Lift Available" with the aim to identify the potential availability of military lift resources, which could be made available where appropriate, for intra- and interregional movements).

4.21 **Determining requirements for complementary interaction with relevant international and national actors.** Requirements for the use of non-military means to create desired effects are captured during mission analysis and, if possible and authorized, addressed with cooperating organizations during planning. This may include requirements for complementary non-military actions in support, in coordination, or at least, in de-confliction of military action, and reverse for critical non-military activities.

4.22 **Limitations on operational freedom of action.** The mission analysis seeks to identify any limitations on the commander's freedom of action in accomplishing the mission. Limitations include constraints and restraints. These may be imposed by international law, the mandate, caveats of troop- contributing nations (TCNs) or by NATO political or military authorities. However, they may also be determined by operational factors that will dictate the time, space and forces to be used.

4.23 **Risk assessment and tolerance.** During the mission analysis, the commander identifies, analyzes and evaluates any risks (in terms of the probability and severity) to the accomplishment of the required objectives which result from the operating environment or the capabilities and actions of the main actors. To aid the design

process the commander expresses their risk appetite and risk tolerance to give guidance to the risk management process.

Development of the initial operations design

4.24 The constituting concepts that allow the development of operations design were detailed in Chapter 3. Operations design provides the critical link between operational problems to be solved and the required operational outcomes. It takes the results of framing the problem, conducted during the analysis of the operating environment and the mission, and develops and refines the commander's vision. It applies operational art in transforming the unacceptable operational situation at the start of the operation by establishing DCs via their constituting effects along different LoOs. These LoOs will lead to the accomplishment of operational and strategic objectives and attainment of the end state. The operations design provides a conceptual overview of the entire operation and is fundamental to:

- communicate the commander's vision of the operation and the initial intent;
- provide the common basis for the development of courses of action;
- integrate, synchronize, coordinate, prioritize and allocate capabilities for the operation over time;
- assess progress of the operation;
- refine plans to deal with foreseen and unforeseen events;
- develop initial ideas for transition and termination of the operation.

4.25 **Determining lines of operation.** Operations may be planned using LoOs to arrange operations in time, space or purpose to transform specific unacceptable conditions at the start of the operation to conditions required to achieve operational and strategic objectives. These required conditions often relate to opposing, own and other key actors' CoGs. The determination of LoOs will shape the development of the plan as well as the conduct of operations.

4.26 **Conditions to be established and selection of decisive conditions.** The operational objectives will contribute to establishing the conditions that must be achieved to attain the end state. Therefore the OPG analyzes these conditions in the context of the different actor systems and their interaction to determine the conditions that must be established and sustained in the operations area. Along any LoO it is necessary to determine the sequence in which DCs must be established to focus the effort required to achieve one or more operational and strategic objectives. When specific sustainable states of the situation are determined to be critical to gaining or retaining freedom of action or to the accomplishment of the objective, they may be designated as DCs. The conclusions drawn from CoG analysis should highlight the

effects deemed important for generating the required condition of the key actors' CoGs.

4.27 **Determining the actor systems to be influenced and the effects to be generated**. The OPG examines the entire operating environment and identifies relevant actors to determine precisely which of these systems/system elements can be influenced by military means. This set will be refined to focus on actors or groups to support the actions and effects required to achieve the desired operational conditions and objectives. It will also identify requirements for contributions by non-military means and for possible military contribution to required non-military effects.

4.28 **Determining actions to support the effects.** The OPG examines actions to be carried out by the joint force to create desired effects. The OPG may consider single action or coordinated actions, in parallel or sequenced, against determined system elements to be influenced, involving selected joint and component capabilities.

4.29 **Evaluation of alternatives and selection of the operations design.** The OPG discusses alternatives to the operations design with the commander and provides its recommendations. The commander will decide on the LoOs as well as on the DCs seen along each LoO. The commander will use LoOs to designate and shift the main effort during the course of the operation and use DCs to coordinate operations in cooperation with relevant national and international actors. Therefore, when finalizing the operations design, the commander may seek advice from the subordinate commanders and representatives from cooperating relevant national and international actors.

4.30 **The initial commander's intent** reflects the commander's vision of the purpose of the operation and envisioned objectives. The initial intent will:

- establish the purpose of the main operational activities in terms of the conditions and objectives that the commander intends to achieve;
- indicate whether the main operational activities are being conducted concurrently or sequentially;
- identify risks accepted or not accepted;
- conclude by relating the commander's intent to the higher level objectives.

Production of force estimates

4.31 Once the operations design is completed there will be two tasks to finalize the situation and problem analysis:

- the estimate of the force and capability requirements; and
- the establishment of the commander's planning guidance.

4.32 **Initial force/ capability requirements**. The mission analysis will have identified critical operational capabilities requirements, while the development of the operations design will have identified additional requirements as well as the general sequence and areas for employment. On this basis, the OPG will conduct a high level troops-to-actions analysis to identify the major force/capabilities, including the assessment of peacetime establishment (PE) augmentation from NATO Command Structure (NCS), NATO force structure and nations required for the operation. The process is simply to update the estimate of required operational capabilities based on the mission analysis and to compare it with the force capability requirements provided in the higher command's directive. This will allow identification of any significant differences that may reflect an imbalance between required outcomes and the means likely to be available. Significant issues may constitute an operational risk and should be brought to the attention of the commander.

4.33 **Command, control, communication and information requirements.** The OPG and the communications staff will work together with the component/subordinate command liaison to establish the basic command and control (C2) requirements based on the mission analysis and operational factors, determining:

a. **Theatre and operations area requirements**. This is to estimate the area required to conduct and support operations and considerations should be based on the conclusions drawn from time – space – force requirements with respect to the necessary lines of communications (LOC), entry points and operating areas.

b. **Required command and control functions and locations**. This step is to assess what tasks will be accomplished, where and by what kind of forces.

c. **Geographical and functional areas of responsibility**. The commanders will make preliminary estimates about their requirements to organize their C2 structure based on geographical and functional areas of responsibility.

d. **Critical liaison and coordination requirements**. The location of international and governmental authorities in the area may require a permanent high level C2 presence that influences C2 requirements.

e. **Span of control**. While some of the structure will be given to the commander and fixed, commanders need to ensure that they can conduct effective C2 of the whole force for the entire operation. This may require adjusting the C2 arrangements during the operation.

f. **Communication and information systems points of presence**. Depending on the theatre location and communication and information systems (CIS) infrastructure in place, the commander may have to rely on deployable CIS, with its inherent limitations, which will influence the number of deployed HQ locations.

g. **Required communication security**, which may lead to a more complex or two-fold communication architecture.

h. **Required frequencies**. As frequency management planning and coordination is critical to ensure communication interoperability and to avoid electromagnetic interference, the commander will have to ensure strategic frequency management planning and coordination is performed at the required government and military levels.

i. **Development of requests for the higher command**. This is to address issues that require action at the higher level, clearly stating those conditions that must be created at higher levels to allow for success of own activities including but not limited to: requests for additional CRMs and ROE; pre-conditions for success; recommendations on theatre and joint operations area; critical liaison and coordination requirements; command and control requirements.

Validation of mission analysis and operations design

4.34 The commander validates the results of the mission analysis and the operations design, including the risk assessment. The validation usually takes place during the mission analysis briefing (MAB) the staff provides. Consequently, the commander takes ownership of:

- mission;
- perception of the objectives at own level, the criteria for success, decisive conditions and effects;
- operations design in terms of LoOs and the sequence of required decisive conditions in different phases of the operation;
- most likely and most dangerous adversarial COAs with related CoG(s), in broad terms, which are to be developed as a basis for planning;
- risk assessment and risk tolerance.

4.35 **Restated mission.** The restated mission is a simple, concise expression of the essential tasks the unit must accomplish and the purpose to be achieved. The mission statement states who (the unit), what (the task), when (either the critical time or on order), where (location), and why (the purpose of the operation). The commander will also confirm (or adjust) the initial commander's intent.

Commander's planning guidance

4.36 **Guidance for courses of action development**. The commander will provide sufficient guidance to the OPG to allow them to work efficiently in developing own COAs within the time available. The level of detail in the guidance typically depends on the nature of the mission, the operational circumstances, especially the time available, and the experience of the staff. In all circumstances, the commander should:

- specify adversarial actions and estimated COAs to be considered;
- establish commander´s COA selection criteria for COA development and selection;
- describe in broad terms the COAs the commander wants to develop;
- direct the OPG to focus its efforts on developing a single COA due to the urgency and nature of the situation.

4.37 The commander will issue the commander's planning guidance to the staff and to subordinate commanders to provide them with operational output from the mission analysis and to provide the necessary direction to formally initiate planning at the tactical level. In addition, the commander will issue a warning order (or several warning orders) to subordinate commanders.

Section 4 Courses of action development

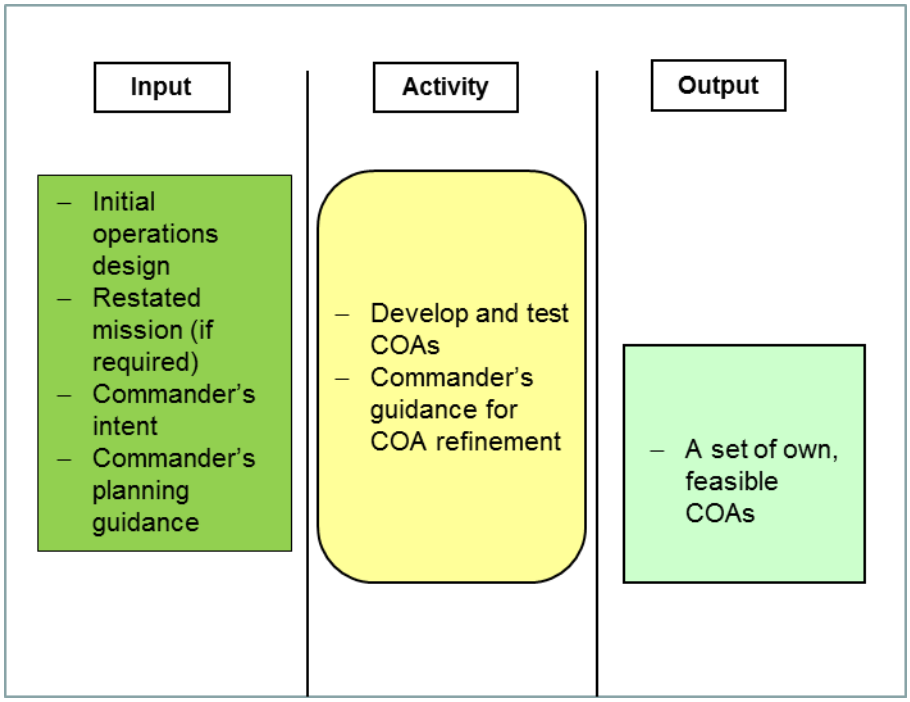


Table 4.4 – Courses of action development

4.38 The purpose of this activity is to identify how to achieve objectives and what needs to be done for it, by developing a set of tentative COAs. All tentative COAs should enable effective mission accomplishment in accordance with the commander's intent and the commander's planning guidance. This activity may be a collaborative planning effort between the OPG and planners at higher level to produce coherent broad COAs to preserve a common context during the further development. The prerequisites are: the restated mission and initial operations design which provide the common basis for the development of COAs; and the commander's planning guidance, including the commander's initial intent and guidance for COA development and selection. COA development begins with a review of the commander's planning guidance as a basis for updating functional staff checks and analyses as required. The focus is on developing tentative COAs starting with the adversary's COAs. Initially, COAs are described in broad terms then tested for viability.

Adversarial courses of action and other factors affecting courses of action development

4.39 **Evaluation of adversarial courses of action**. Before developing COAs, the OPG must appreciate the COAs open to the adversary. The intelligence staff will refine their estimate of adversarial COAs, including the most likely and most dangerous COAs for each adversary separately and combined COAs for multiple opposing actors as appropriate. This analysis provides the OPG with a more dynamic understanding of the adversary's capabilities, as well as the inherent risks to their own mission. The development of own COAs takes into consideration possible adversarial actions and the opportunities to influence the adversary's decision-making through military and non-military actions, including sound and coherent StratCom, under following conditions:

- prior to any public announcement of NATO intervention;
- after a public announcement of NATO intervention until the initial entry of NATO forces;
- after the initial entry of NATO forces until the full build-up of forces;
- after the full build-up of forces.

The evaluation of adversarial courses of action also provides insight into the opposing elements including the following:

- adversary's decisive conditions;
- critical intelligence, surveillance and reconnaissance capabilities;
- adversarial forces networks, infrastructure, critical C2 nodes, key leaders, and decision makers (including identification of the adversarial moral strategic CoG);
- high value targets.

4.40 **Consideration/confirmation of the actions of non-adversary actors**. Prior to developing own COAs, the OPG also develops a common understanding of the actions of relevant national and international actors in the theatre to avoid adversely impacting their actions or own COAs, and to enhance interaction with them. This includes identifying and analyzing their CoGs. Ideally, liaison elements of these actors represent and confirm their activities, including where coordination, cooperation and mutual support are required to create positive effects.

Development of own courses of action

4.41 A COA describes the employment of specific forces and capabilities in a sequence of actions within the assigned area, e.g. the joint operations area or an area of operation. The development of COAs applies creativity in determining the realm of the possible while staying within the commander's intent and the operations design. Typically, the OPG will form teams to produce ideas for possible COAs and to develop tentative COAs. Tentative COAs will be tested for viability and selected for review with the commander, who will decide which options will be further developed and evaluated through analysis and wargaming, as a basis for recommending a COA.

4.42 **Development and consolidation of tentative courses of action**. Within the parameters of the commander's guidance and the results of the mission analysis, the staff will develop suitable courses of action for testing. They will make use of appropriate functional expertise (like the operations framework with its joint core activities: shape; engage; exploit; protect; and sustain; see AJP-01). Originality and imagination are encouraged to produce the least predictable feasible COAs. Throughout this process, it will be important to maintain focus on the commander's intent, the identified decisive conditions and objectives from operations design. During development, for each COA the staff will want to:

- consider how tasks can be completed down two levels of command;
- elaborate the likely phases and sequencing, including main and supporting efforts;
- identify initial missions for subordinate commands; and
- describe the outline command arrangements, including any supported/ supporting relationships.

4.43 Tentative COAs should illustrate the:

- sequence and purpose of the main actions required to create the required DCs through generating desired effects;
- system/system elements at which actions are directed, including key actors' CoGs and related critical vulnerabilities;
- main forces/capabilities across the joint functions required to carry out the main actions and to create the desired effects. The primary entity/force required is designated own CoG for that tentative COA; update/revise initial own CoG identification and analysis as required;
- required complementary non-military actions;
- outline of information activities.

4.44 **Test viability of each COA.** After the tentative COAs have been developed, they should be tested for viability using the six criteria listed below. Any COA that does not meet all criteria should be adjusted to meet the criteria or rejected and not be presented to the commander.

a. Feasibility. Is the COA possible, given the time, space and resources likely to be available and does it fit the operating environment?

b. Acceptability. Are the likely achievements from the COA worth the expected costs in terms of forces deployed, resources expended, casualties suffered, collateral effects, media and public reaction and levels of risk (using insights from the analysis of own CoG related to the tentative COA)?

c. Completeness. Is the COA complete? Does the COA answer the questions of when, who, what, why, where and (to a limited extent) how?

d. Consistency with NATO Doctrine. Does the COA implement Allied Joint Doctrine in an appropriate way?

e. Exclusivity. Is the COA sufficiently varied from other COAs to clearly differentiate its comparative advantages and disadvantages?

f. Suitability. Does the COA accomplish the mission and comply with the planning guidance?

4.45 **Commander's guidance for the refinement of tentative courses of action.** Before the OPG commits to developing a set of COAs in detail, it will review proposed COAs with the commander to ensure they meet expectations. Tentative COAs along with any other relevant information and questions will be briefed to the commander in a concise and logically sequenced manner. This provides an early opportunity for the commander to focus efforts and to influence further COA development by ruling out or adding any COAs or modifying elements of a COA. The commander may modify criteria for the development and selection of COAs; it is critical at this stage that the OPG reviews these criteria and discuss them as necessary with the commander. These criteria should reflect what the commander considers to be most important based on factors such as the guidance and direction received in the higher commander's directive, LoOs, DCs and known risks.

Section 5 Courses of action analysis

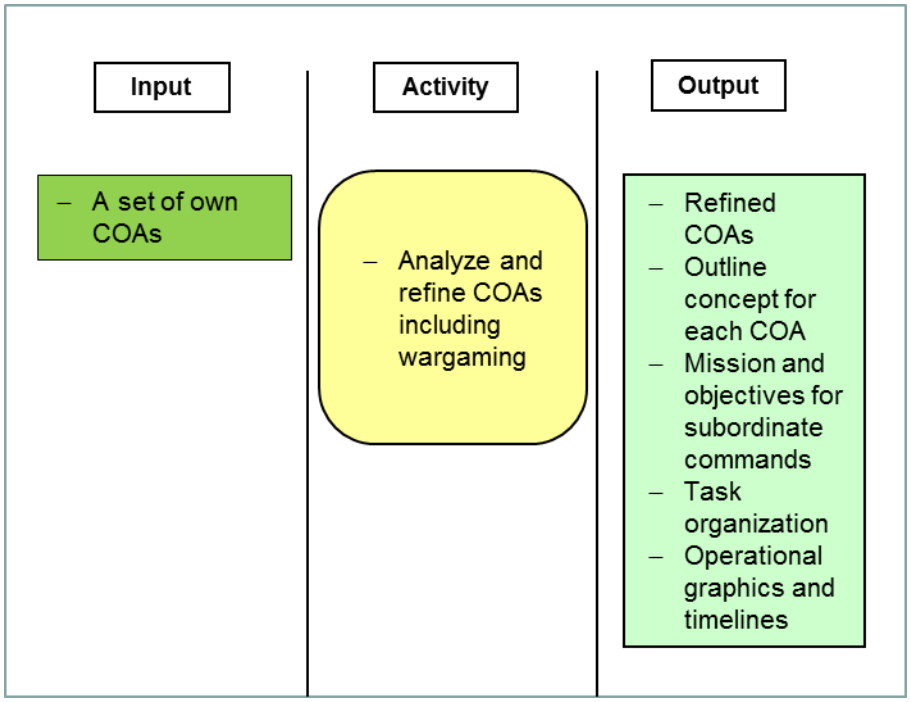


Table 4.5 – Courses of action analysis

4.46 The purpose of COA analysis is to evaluate each COA based on the commander's guidance, reaffirm their viability, and refine the COAs before they can be validated and compared during the next planning activity. The final product of this activity is a series of COAs derived from a comprehensive, logical cross-functional evaluation and synchronization. This series is then ready for comparison and validation in the next step. Course of action analysis will partly be a collaborative planning effort between the operational-level and the tactical-level planners to produce coordinated COAs. COA analysis begins with a review of the COAs as a basis for further refinement. The focus is on scrutinizing the initial COAs in a cross-functional manner by the entire staff. These COAs are also coordinated with subordinate commands and refined through their analysis. Finally they are evaluated by means of wargaming and synchronized. Key outcomes of this activity are:

a. **Outline concept of operations**. It features the following attributes:
   - the logical sequence and main purpose of operations to be achieved in clearly defined phases;

- when, where and in what sequence operations will be carried out to create desired effects and resulting DCs;
- the main and supporting efforts;
- effects to support DCs and actions to support those effects;
- operational reserve;
- StratCom themes and messages;
- required complementary non-military actions.

b. **Missions and objectives for subordinate commands**. These must be developed in conjunction with subordinate commanders; the commander and the OPG lead this collaborative process.

c. **Task organization** - force/capability requirements two levels down (i.e. one level below components/subordinate commands), based on an initial troops-to-actions analysis for mission-essential tasks for each component/subordinate command; supporting/supported relationships in the task organization; any significant changes in the task organization between phases.

d. **Operational graphics and timelines** - illustrate the spatial aspects of the COA by phase and the sequencing of key tasks by subordinates for each phase of the operation, including other key events and opposing actions.

Analysis and synchronization of courses of action

4.47 COA analysis provides an opportunity for the OPG to examine each COA from different functional perspectives to identify inherent advantages and disadvantages, as well as to determine key aspects to be evaluated in wargaming such as: high pay-off targets; risks and a tentative set of risk management actions; decision points for required branches and sequels.

4.48 **Synchronize courses of action**. During the analysis, coherence across the different forces and functions should be achieved for each of the COAs. The different force elements' actions and functions can be harmonized to create synergies. A synchronization matrix (or other visual aids) may be of great help. Such visualization should be refined during plan development, and later on included in the operation plan (OPLAN).

4.49 **Troops-to-actions analysis**. This analysis seeks to determine the military capabilities and capacities required to execute the COA by phase of the operation and under the conditions expected within the operating environment. It provides essential detail to the task organization for the determination of deployment feasibility and the conduct

of wargaming. Inputs are required from subordinate commands; however, the commander and the OPG must lead and coordinate the process to optimize joint force employment. A typical sequence of analysis is:

a. Determination of the optimum employment of joint capabilities for each action and the desired effects for each phase.

b. Establishment of the most effective mix of component, C2 and CIS capabilities and update of the task organization.

c. Estimation of the most effective and efficient theatre and component-level capabilities to support the joint force. NATO and nations have a collective responsibility for logistic support. However, nations have the ultimate responsibility for equipping their forces and for ensuring, individually or by collective arrangements, the provision of required logistics resources and capabilities to support the forces assigned to NATO during peace, crisis and conflict.

d. Preparation of a draft combined joint statement of requirements (CJSOR) focusing on the required capabilities by phase.

e. Assessment, in coordination with cooperating relevant national and international actors, of potential requirements for the support of relevant national and international actors, in accordance with the commander's planning guidance.

4.50 **Deployment feasibility**. Experts in the OPG should develop an estimate of the feasible deployment of the main forces based on their assumed readiness to forecast their potential arrival in the theatre and assigned areas.[22]

Wargaming

4.51 **Wargaming of the courses of action**. Wargaming is an instrument designed to develop and improve COAs. It should be used, whenever time permits, in order to evaluate the potential of a COA to accomplish the mission against foreseen counteraction with respect to the different adversarial COAs, as well as to identify and correct deficiencies. However, the real value is its ability to permit the commander and the staff to visualize the conduct of operations and gain insight into opposing capabilities and actions, as well as conditions in the operating environment. Wargaming should also help identify necessary coordinating measures, potential risks and opportunities, which may drive the need for branches and sequels to counter or

[22] The Allied Movements Coordination Centre at SHAPE is in charge of coordinating strategic movements of the force taking consideration of those operational recommendations.

exploit such situations, as well as decisive conditions (and their constituting effects) for the commander to take action. In addition, wargaming synchronizes the joint elements of an operation. Ideally, each own-force COA should be war gamed against the 'most likely' and 'most dangerous' adversarial COAs. While there are benefits to wargaming, it must be noted that it may be cost, manpower and time intensive.

4.52 **General preconditions**. Some preconditions have to be met, without which wargaming will fail or only achieve biased results:

a. **Well prepared staff** must be available. Special wargaming personnel should be appointed, e.g. a wargaming director and a wargaming coordinator. They will be responsible for the preparation and the conduct in terms of contents and organization.

b. **Constraints and restraints** for the own conduct of operations as well as for the adversarial forces' COAs assumed have to be identified.

c. **Operational analysis** (OA) is desirable but may not be possible, especially in a deployed HQ. Therefore OA is not a mandatory pre-condition for conducting wargaming, but it is described here for completeness. OA includes not only the development and application of mathematical models, statistical analyses and simulations but also the application of expertise and experience for the determination of quantitative factors for own and adversarial COAs. The results indicate trends and tendencies, and as such are only one factor to be considered. The quality of these trends and tendencies depends on the quality of the initial factors. These models simplify reality, which is especially true for asymmetrical scenarios. The scope of OA has to be agreed upon between the coordinator, the head of the OPG, and the OA experts. If available and time allows, wargaming can benefit from OA support from the very beginning, whether it is conducted in a computer-based or manual manner.

4.53 **Wargaming options**. The coordinator, with the approval of the head of the OPG, decides which method will be applied. There are three basic wargaming options:

a. By phases (Figure 4.1) - play out critical activities by phase against the desired outcomes of each phase.

(1) Advantages:
- method corresponds to human thought patterns;
- suitability for proving critical phases.

(2) Disadvantage:

- less operations design oriented.

(3) Risks:

- distraction by tactical discussions;
- focus only on one phase; reduced view on the operations design.

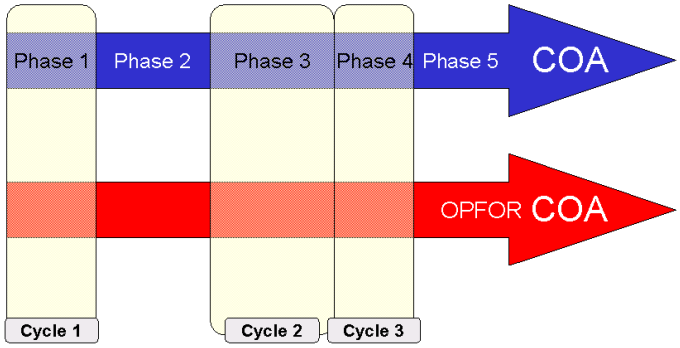


Figure 4.1 - Wargaming phases

b. To set decisive conditions (Figure 4.2) - play out critical activities for setting DCs.

(1) Advantages:

- test of the operations design and the synchronization matrix;
- method supports the identification of branches and sequels (decision points);
- less time-consuming;
- measurable outcomes.

(2) Disadvantages:

- less linear and logical;
- high intellectual investment required.

(3) Risk:

- neglect of the most likely/most dangerous COA.

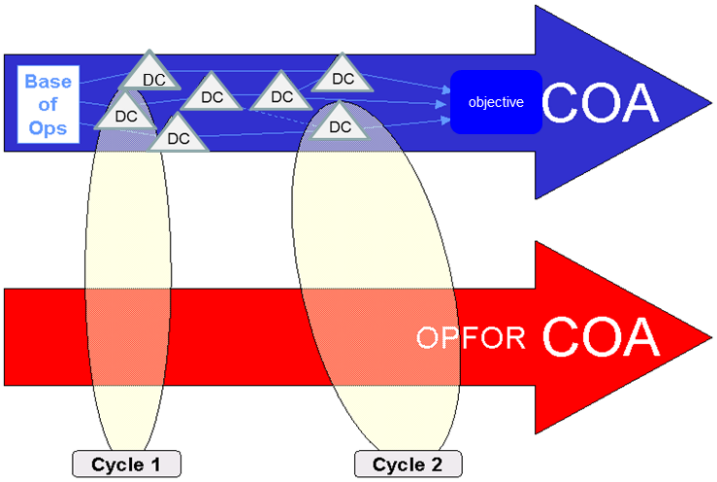


Figure 4.2 – Wargaming decisive conditions

c. In segments of the operating environment (Figure 4.3) - play out critical activities in specific areas.

(1) Advantage:
- good suitability for large areas.

(2) Disadvantages:
- time-consuming;
- lack of interactivity between area portions.

(3) Risks:
- neglect of the joint approach;
- reduced view on the operations design.

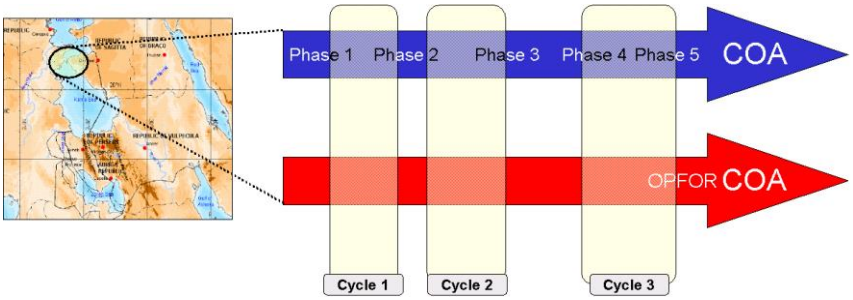


Figure 4.3 – Wargaming segments of the operating environment

4.54 **Preparing and conducting wargaming**. This involves determining: the desired outcome, the method and scope of the game; and the players and supporting functional participants of the game. The operational situation must be prepared, tools for manual or computer assisted simulation and analysis, and rules need to be established. The conduct of wargaming is determined largely by the desired outcomes, selected method and the scope. Wargaming will include:

a. **Setting conditions**. An introduction to set the conditions (the aspects of the operating environment) affecting the operation.

b. **Wargaming moves**. A series of ‘game cycles’ considering the action - reaction - counter-action, starting with the friendly forces action after being briefed that the adversary (opposing forces (OPFOR)) has the initiative. A simplified depiction is given in Figure 4.4 and complementary Figure 4.4.1.

c. **Required products**. For conducting wargaming a complete COA should be developed. Therefore, following products, including force and capabilities, should be prepared: Phase chart (including description of phase, decisive conditions to be achieved, effects and actions, decision points, CCIRs, risks, priority of effort, start and end), synchronization matrix, initial operations design, commander’s selection criteria, and the operational timeline.

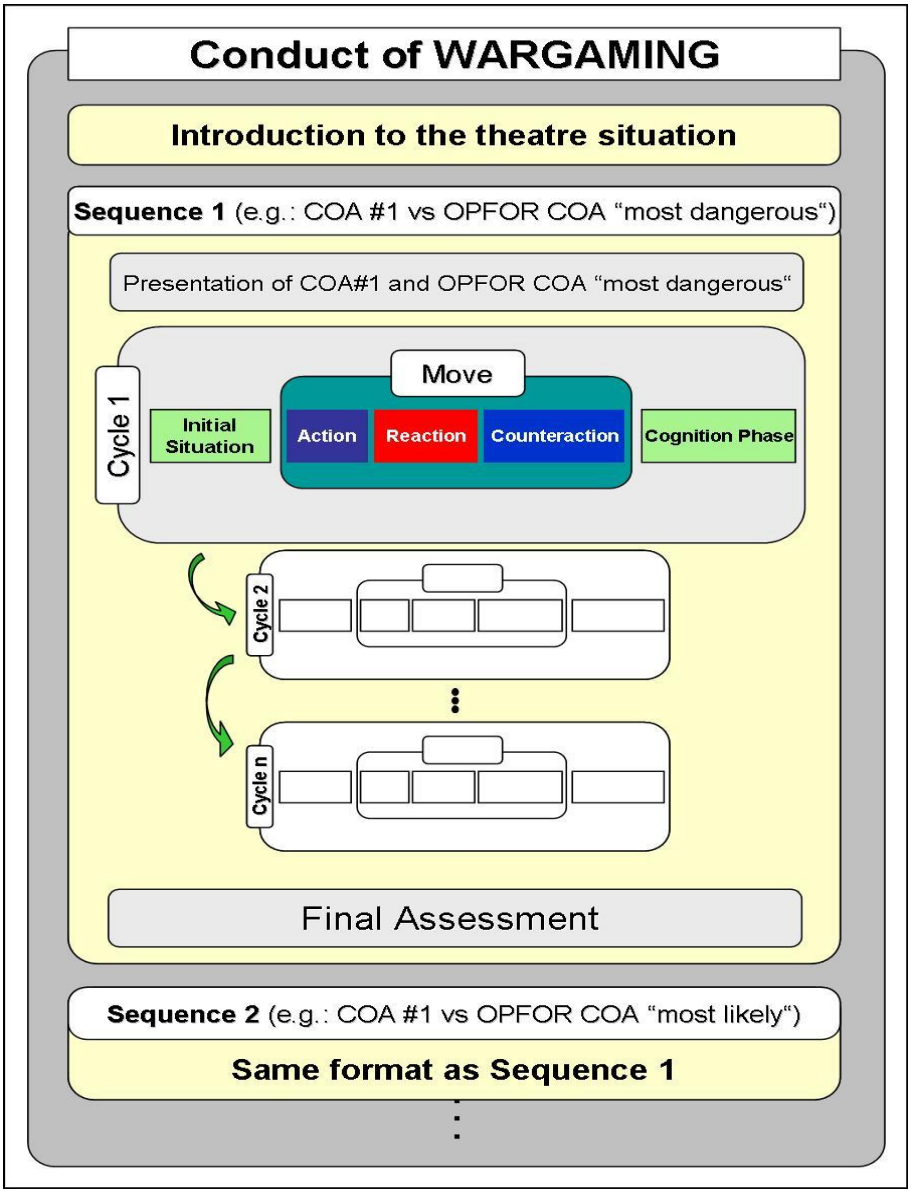


Figure 4.4 - Conduct of wargaming

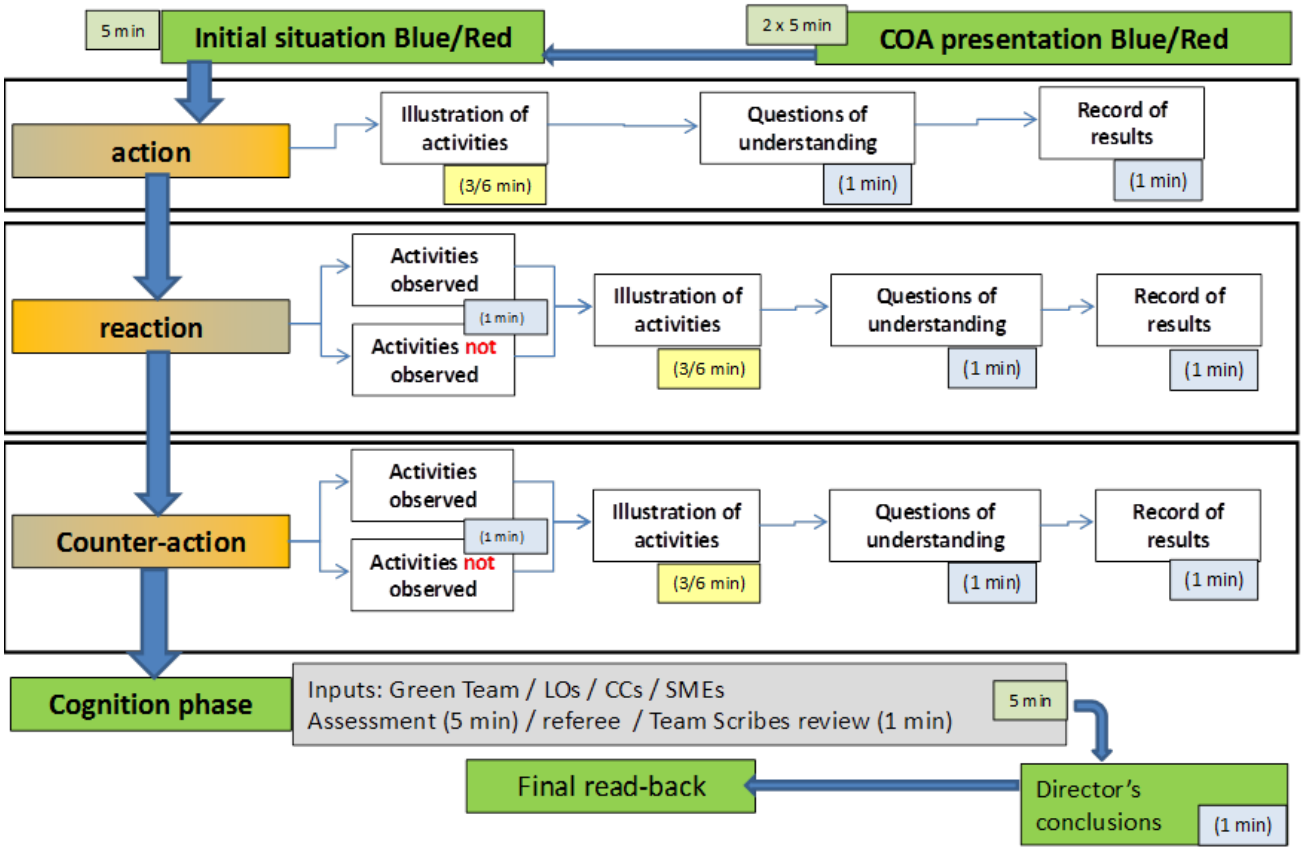


Fig. 4.4.1 – Illustration of a cycle within wargaming moves

4.55 **Assessment and recording of overall results**. An assessment of probable results of any action - reaction - counter-action typically follows each game cycle within a cognition phase and is used to set conditions for succeeding game cycles. The cognition phase includes, for example, the provision of a final contribution to the wargaming cycle by components' liaison officers (LOs) and functional subject matter experts; provision of an overview by operations assessment experts on effects or decisive conditions achieved or not; determination of the resulting conclusions by the wargaming referee; revision of the conclusions (i.e. opportunities and risks identified, any mitigation required leading to adjustments of the COA, branch plans, sequels, decision points or CCIRs by each team-scribe); conclusion of the wargaming cycle by wargaming director. An illustration is given in Figure 4.5. Observations and conclusions drawn are recorded in line with the purpose. Typically, these include:

- refinements to the COA and correction of deficiencies;
- additional force/capability requirements;

- casualty estimation;
- synchronization requirements;
- significant risks and opportunities encountered against adversarial COAs;
- decision points, branches and sequels required;
- decisive conditions and supporting CCIRs;
- updates/revisions of the CoG analyses of key actors, and related inputs to required conditions of CoGs, decisive conditions, CCIRs, ROE, etc.;
- other lessons identified;
- refinement of actions/measures of performance and effects/measures of effectiveness wording by assessment staff.

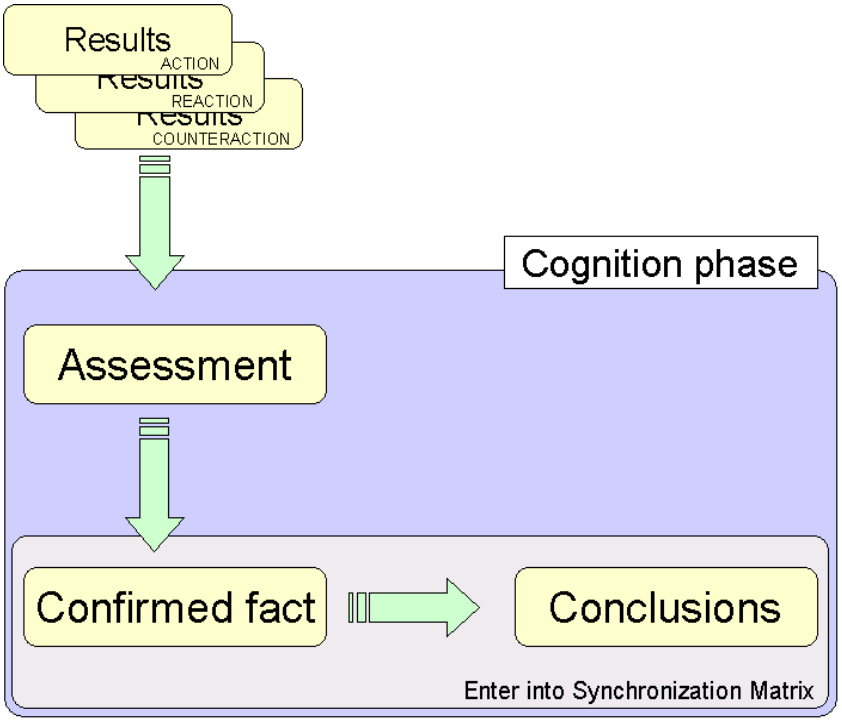


Figure 4.5 – Move results, assessment, conclusions

4.56 These overall results have to be integrated into the next planning activity ‘COA validation and comparison’. If during the assessment findings can be confirmed as factual conclusions, meaning confirmed facts, these can be entered into a synchronization matrix.

Section 6 Courses of action validation and comparison

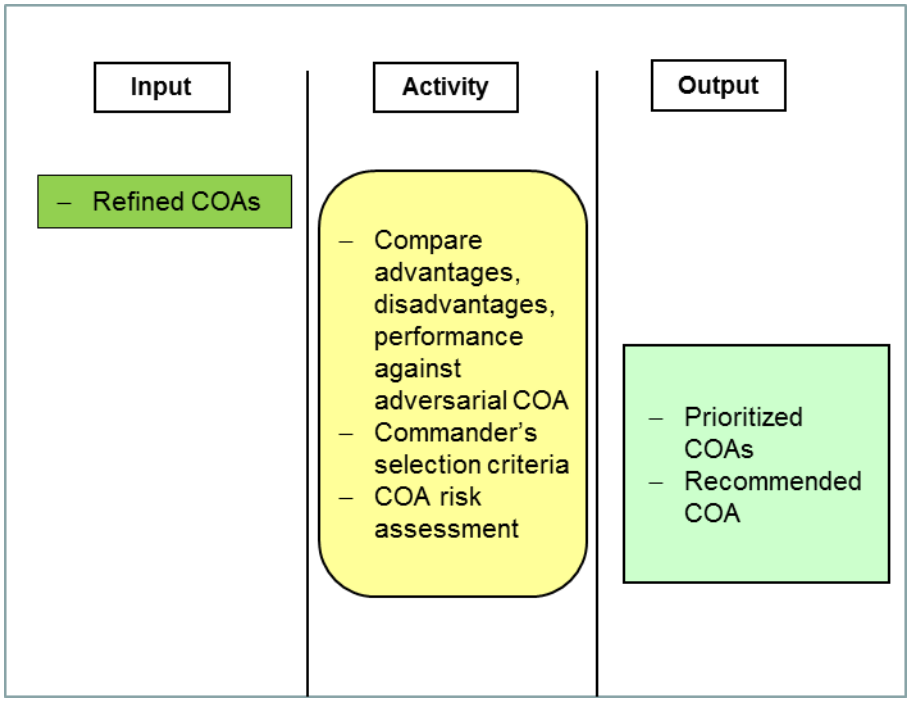


Table 4.6 – Courses of action validation and comparison

Comparison of courses of action and risk assessment

4.57 COAs are compared in different contexts:

- by comparing their inherent advantages and disadvantages;
- by comparing them against the commander's COA selection criteria;
- by comparing their performance/risks against adversarial COAs.

4.58 Based on these different comparisons, the OPG validates the efficiency of the individual COAs for mission accomplishment and then will prioritize and recommend the COA with the highest probability for mission success (success regarding the achievement of the objectives) within acceptable risks and costs (human, materiel, financial).

a. **COAs advantages and disadvantages**. The OPG consolidates the advantages and disadvantages found during the initial analysis of each COA, as well as those revealed during wargaming. The process of comparing these should seek consistency by using the same set and weight of criteria across the different COAs.

b. **COAs against the commander's selection criteria.** The commander has guided the development of COAs by issuing the commander`s COA selection criteria. Therefore, all COAs should meet these criteria. However, COAs will differ as to how well they satisfy them. The OPG will compare these differences using whatever method[23] the commander prefers.

c. **Assessment of friendly COAs against adversarial COAs**. Based on the results of wargaming, the OPG should rate how well each COA coped with the most likely and most dangerous adversarial COAs. They should indicate the expected effectiveness, likely costs and potential risks for each combination.

d. **COAs risk assessment**.[24] The final COA risk assessment provides the OPG a way to compare the risks for each COA against specific operational outcomes (operational objectives, decisive conditions, desired effects, etc.), as well as how those risks could be mitigated, including requirements for branches and sequels. There will be one table per COA per risk against specified operational outcome. The table results have to be compiled in order to show the total risk for the scrutinized COA.

[23] Methods could be: narrative – using free text; one word descriptors – like good/medium/bad; numerical rating – with an assessed cardinal number value; rank ordering – with an ordinal number, or +/0/- as qualifying attribute.
[24] See AJP-3 Annex D on risk for more details.

<table>
<tr><th colspan="4">Operational Risk Assessment</th></tr>
<tr><th>Sources</th><th>Consequence for</th><th>Severity</th><th>Proba-bility</th></tr>
<tr><td>Actions of opposing actor(s) / element(s).

Actions of friendly forces.

Operational environmental factors.</td><td>Overall mission.

Line of operation.

Decisive condition.

Desired effect.</td><td>Extreme - could result in failure to accomplish mission.
High - could result in failure to achieve objectives.
Moderate - could result in failure to meet criteria for success or exceed time, space, force limits.
Low - minimal impact on mission accomplishment.</td><td>High

Moderate

Low</td></tr>
<tr><td colspan="4">Risk Mitigation
• Can the source be neutralized?
• Can the vulnerability to the source of the risk be reduced?
• Can the consequence and/or severity of the occurrence be limited?
• Can the probability of occurrence be reduced?</td></tr>
<tr><td colspan="4">Conclusion
Unacceptable - risk mitigation cannot reduce risk to an acceptable level.
Conditionally acceptable - risk can be reduced to an acceptable level by taking actions to:
• modify force disposition / posture / composition.
• adjust current operations.
• prepare branch plan or sequel.
Acceptable - no action required.</td></tr>
</table>

Table 4.7 - Courses of action risk assessment

4.59 **Risk assessment matrix**. The risk of any particular event occurring within a COA may be plotted on a matrix, as the one at Table 4.7, showing risk probability versus severity.

An activity or event may, for example, be classified with a high probability of occurrence (i.e. likely), and with a high severity level if the event occurs (i.e. high risk) - overall, a high risk score. To support COA development and analysis from the start, commanders may draw their own risk tolerance line, to provide broad guidance rather than a prescriptive rule to be followed. In spite of the constructs shown above, COA comparison remains a subjective process and should not be turned into a mathematical equation. The key element in this process is the ability to articulate to the commander why one COA is preferred over another.

Top Risks by COA

COA 1 Risk	Probability	Impact On/Severity	Mitigation	After Mitigation (AM)	Conclusion
Risk 1					
Risk 2					
Risk 3					
COA 2 Risk	**Probability**	**Impact On/Severity**	**Mitigation**	**AM**	**Conclusion**
Risk 1					
Risk 2					
Risk 3					
COA 3 Risk	**Probability**	**Impact On/Severity**	**Mitigation**	**AM**	**Conclusion**
Risk 1					
Risk 2					
Risk 3					

Legend
- **Extremely High Risk; Mission Likely to Fail**
- **High Risk; Inability to Accomplish all Parts of the Mission**
- **Moderate Risk; Mission Accomplishment likely but possibility of reduced capability**
- **Low Risk; Little or No Impact on Accomplishment of the Mission**

Table 4.8- Risk assessment matrix

Section 7 Commander's course of action decision

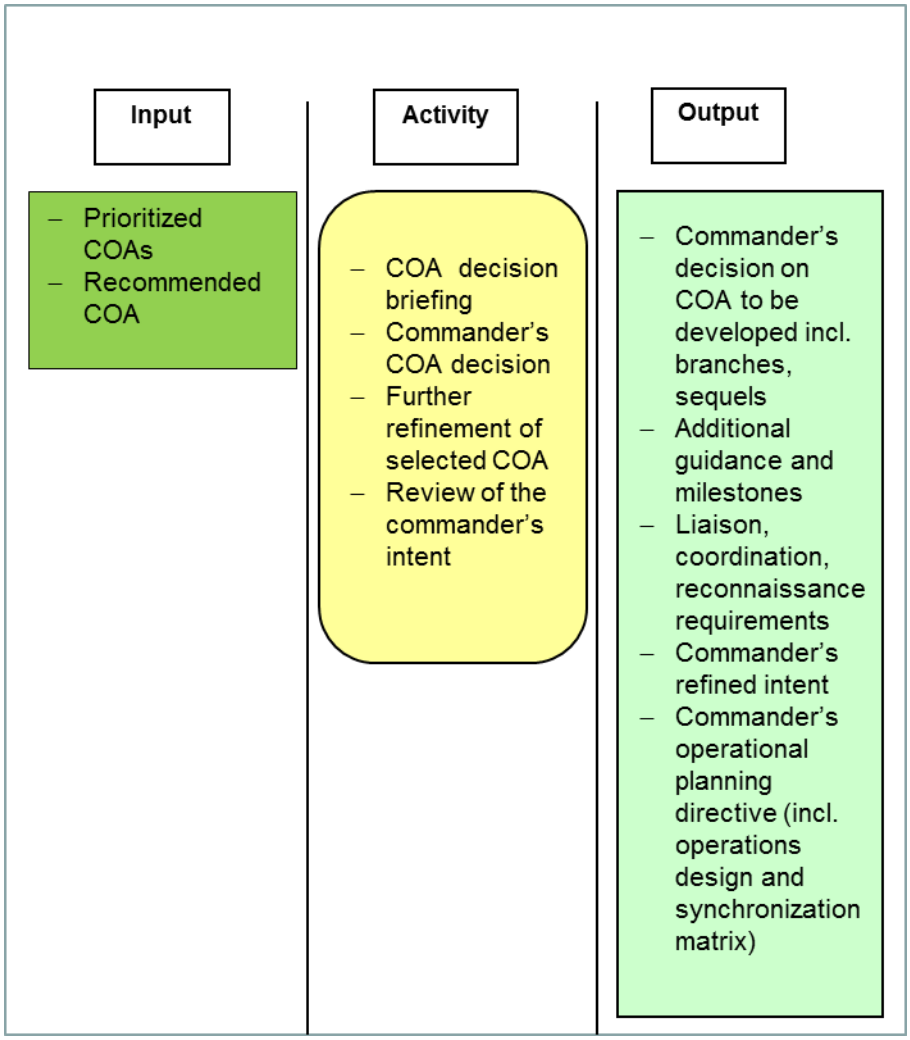


Table 4.9 – Course of action decision

4.60 The purpose of this activity is to gain a commander's decision on a chosen COA and then (further) refine this COA as the future core of the concept of operations (CONOPS). The prerequisites for commencement of this phase are: a set of prioritized COAs; the staff recommended COA; the COA selection rationale; the commander's personal analysis having earlier led to the COA selection criteria. The desired outputs are: commander's COA selection; COA modifications; a refined commander's intent and the commander's operational planning directive. These will then be inputs to the CONOPS development in the subsequent step.

Commander's course of action decision and additional guidance

4.61 The OPG presents its comparison of COAs to the commander with a coordinated staff recommendation. This is typically accomplished by means of a briefing to the commander, but could also be provided in written form. This briefing often takes the form of a decision briefing that is focused on a few alternatives, between which the commander can make a selection. The information provided could then also include the current status of the joint force; the current JIPOE; and assumptions used in the COA development. The staff normally uses the wargaming evaluation criteria to brief the commander on the COA comparison and the analysis and wargaming results, including a review of important supporting information. The presentation must ensure the commander has optimum information upon which to base the decision; detailed enough to identify focal points but summarized for effectiveness and brevity. The commander will coordinate with the subordinate commanders and solicit their advice, especially during time-compressed crisis response planning.

4.62 The commander selects a COA based upon the staff recommendations and their personal estimate, experience, and judgment. The commander may:

- accept a COA in full;
- accept a COA with modifications;
- decide for merging two or more COAs;
- order the investigation/development of a new COA.

4.63 The essential results of the commander's COA decision are:

- clear direction on the COA to be refined as well as required branches and sequels;
- additional guidance and milestones for the development of the CONOPS;
- issues to be raised with the higher commander;
- priority issues requiring liaison, coordination or reconnaissance in-theatre;
- coordination required with relevant national and international actors;
- expression of the commander's refined intent;
- guidance for the development of the commander's operational planning directive.

Selected course of action refinement and commander's refined intent

4.64 When taking the COA decision the commander should lay down the rationale for the decision including the acceptance of risks. Once the commander has selected a COA, the staff will begin the refinement process of that COA for two purposes: Firstly, the COA has to be adjusted per any final guidance from the commander. Secondly, the

selected COA has to be prepared to contribute to the refined commander's intent. For the latter purpose, the staff will apply a final 'acceptability' check. The staff refines the commander's COA selection in terms of:

a. developing a brief statement that clearly and concisely sets forth the COA selected and provides only whatever information is necessary to develop a plan for the operation.

b. describing of what the force is to do as a whole, and as much of the elements of when, where, why and how as may be appropriate.

c. clarifying the commander's refined intent in terms of what is to be accomplished, if possible. This will inform the plan development (CONOPS and OPLAN).

d. using simple language so the meaning is unmistakable.

Commander's operational planning directive

4.65 The main outcome of this COA decision activity is to issue the commander´s operational planning directive (OPD) to promulgate the output of the COA decision briefing including the refined COA, the commander´s (refined) intent, the final operations design and a synchronization matrix, and the missions of subordinated commanders. The OPD is the formal tasking to start planning (with mission analysis) at the component level.[25]

[25] Even though components may have already started parallel planning, the OPD is nonetheless the formal tasking.

Section 8 Plan development

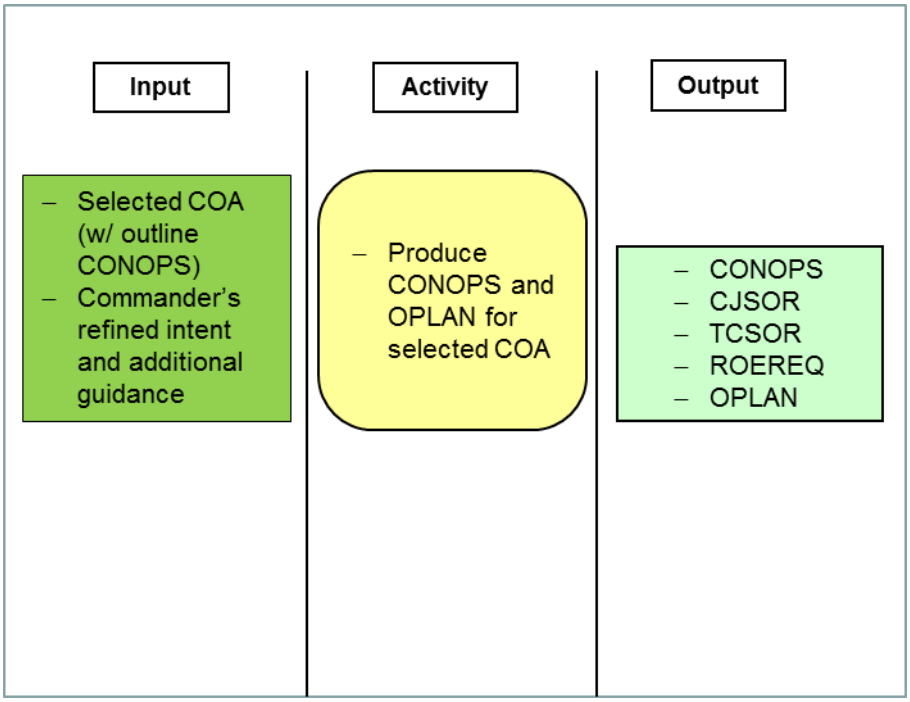


Table 4.10 – Concept of operations and operation plan development

4.66 The purpose of this activity is to produce a coherent CONOPS and an OPLAN. The CONOPS clearly and concisely expresses what the commander intends to accomplish and how it will be done using available resources. It describes how the actions of the joint force components and supporting organizations will be integrated, synchronized, and phased to accomplish the mission, including potential branches and sequels. The OPLAN has the same structure and format as the CONOPS, but includes more detail and further particulars[26]. Prerequisites are: the commander's selected COA; and the refined commander's intent (possibly including resulting additional guidance).

a. **Desired outcome**. The CONOPS and OPLAN development is successful when:

(1) The sequence of operations along clearly defined LoOs creates DCs that retain freedom of action and lead to achievement of objectives that set the conditions for transition/termination of the operation.

[26] For the format of CONOPS, OPLAN and list of annexes see COPD.

(2) Capabilities across the joint functions required for the conduct and sustainment of actions are identified.

(3) The CONOPS includes all operational aspects of the operational factors time, space, forces and information, balanced sufficiently within acceptable risks.

(4) Arrangements to specify the conduct of operations have been developed into an OPLAN.

(5) The OPLAN provides further details for planning by subordinate/supporting commands.

(6) The OPLAN is arranged for flexibility or subsequent adaptation, respectively, as required to meet eventual changes in the operating environment.

b. **Products**. The main outputs are:
- CONOPS;
- proposal for target categories and target sets;
- rule-of-engagement request (ROEREQ);
- CJSOR; theatre capability statement of requirements (TCSOR); personnel/crisis establishment;
- OPLAN.

Joint functions

4.67 The joint functions are a framework that provides the commander and staff a means to visualize the activities of the force and to ensure all aspects of the operation are addressed. They are a point of reference, as well as a description of the capabilities of the force. The activity fields to be covered by the OPG and appropriate subject matter experts across the staff, for the transcription of the operations design into a CONOPS and a deduced detailed OPLAN (and later employment of forces), are described by the joint functions. In planning, as well as in the conduct of operations, the joint functions describe fields of activities which are not separated, but are in fact mutually combined and balanced for the desired outcome. In any operation, these joint functions are to be considered, although the individual functions' contributions, significance and demands will vary, dependent on the type of operation.[27] Later in this section, planning considerations in relation to joint functions and related capabilities are addressed.

[27] For the types of operations see AJP-01.

Production of the concept of operations

4.68 The CONOPS brings together the planning output from the outset of the process to this point. It is the formal expression of the commander's intent for the conduct of the operation, including the deployment, employment, and sustainment of forces. It will later provide the basis for the further development of the OPLAN. The operations design elements described in the CONOPS provide the basis for executing the operation. The CONOPS therefore establishes the sequence and purpose of critical actions in distinct phases from initial entry to termination and transition, including the required operational outcomes in terms of objectives and the resulting DCs to be achieved for each phase. The CONOPS provides the basis for the assignment of missions to subordinate and supporting commands, as well as priorities for each functional area and the risk treatment plan. It comprises a synchronization matrix referred to before and detailed in planning directives. The operation is described from the perspective of the commander, encompassing the employment of forces.

Termination criteria

4.69 Termination criteria are a fundamental element of planning operations. They may be characterized by a set of conditions defined by the political- strategic level. The strategic commander uses them as a basis for planning the transition and redeployment from the theatre. Termination criteria are to be developed at the strategic level during the strategic CONOPS development, and then forwarded to the operational level via the strategic planning directive. Here, and as well at subordinate (tactical) level, they are adequately addressed in the CONOPS and the OPLAN in order to play their part in the commander's future periodic assessments of progress, which finally feed the strategic commander's periodic mission review process. Termination criteria are also included in the operational-level CONOPS and OPLAN to aid subordinate HQ in their tactical operations assessment during the execution phase.

Force and capability requirements development

4.70 **The illustrative CJSOR** is developed in parallel with the CONOPS. It will be presented to the nations as the provisional CJSOR with the activation warning (ACTWARN) following approval of the strategic CONOPS and release of the NAC Force Activation Directive (FAD). It includes preliminary deployment information based on the commander's required force flow into the theatre. It balances the ends and means to ensure the viability of the operation in terms of: its suitability to accomplish agreed objectives; acceptability of costs and risks; and the feasibility of deployment,

employment and sustainment. Critical elements of information required by nations to determine their contributions and prepare them for deployment include:

- required force/capability and any special capabilities;
- commander's required date (CRD) for the force to be available for employment;
- required destination;
- priority of arrival;
- command authority to be transferred to the gaining NATO commander.

4.71 **The provisional TCSOR** identifies capabilities required to support the entire theatre and which should be in principle eligible for common funding. Based on their troops-to-actions analysis, the OPG identifies any functional capabilities required to support the entire joint force and/or the theatre as well as the required timeframe for this support. Given that meeting these requirements may take time, the OPG should investigate interim solutions.

4.72 **Mission training and certification of headquarters, personnel and forces**. The OPG establishes mission training and certification requirements for HQ, personnel and forces deploying into the theatre with details included in the OPLAN. These will be based on mission essential tasks and conditions in the operating environment, including force protection requirements, nonlethal weapons training requirements, cultural aspects, etc. Requirements and arrangements should be established for augmentation training, pre-deployment training support, certification of forces and in-theatre training support. Mission training and certification are important enablers for forces and staff in order to prepare them for upcoming challenges in operations.

4.73 **Manpower/crisis establishment statement of requirements**. Appropriate templates identify personnel required to fill the crisis establishments for the activated HQ. They are developed by personnel management staff members of the OPG. Particularly the area of manpower deserves an assessment, whether or not additional CRMs should be implemented.

4.74 **Forwarding the concept of operations and the requirements to the higher commander.** The OPG coordinates the CONOPS and the illustrative CJSOR with subordinate and supporting commands, as well as with the higher commander, to ensure that they are harmonized with the development of the higher-level CONOPS. The commander approves the CONOPS and the illustrative CJSOR and forwards them to the higher commander for approval. The higher staff will ensure it is harmonized with the development of the higher commander’s concept. The strategic commander forwards the strategic CONOPS to higher authorities and simultaneously issues the illustrative CJSOR and manpower statement of requirements to nations

through their national military representatives. This allows nations to consider the strategic CONOPS together with the capabilities required for its implementation. It is also sent to subordinate commands as a basis for their tactical CONOPS development. Development of the operational-level OPLAN can begin with submission of the operational-level CONOPS, but cannot be finalized prior to its approval.

Development of the operation plan

4.75 **Overview**. The minimum prerequisite for the commencement of OPLAN development is a commander-approved CONOPS, but it must address any issues resulting from the higher commander's review. Once national responses to the CJSOR in broad terms and a response to the ROEREQ are received they can be taken into consideration during OPLAN development.[28] OPLAN development is an iterative, collaborative process that focuses on synchronizing and coordinating the deployment, employment, protection, support and sustainment of the force during the different phases of the operation within a single plan. Plans are prepared in accordance with instructions and formats provided by the strategic level. All planning specifics developed are to be brought into the OPLAN format and its respective annexes. Plan development concludes with final coordination, forwarding, approval and promulgation of the plan as required by the different planning categories which were introduced in chapter 1.

a. **Timelines** - planning products are produced in time to allow subordinates to complete required planning and preparation.

b. **Adequacy** – the following arrangements meet operational requirements: the legal framework, including applicable international law, international mandates and arrangements with host nations (HNs); force capabilities and resources; the flow of forces into the theatre; C2 arrangements, including liaison and coordination with external organizations, CIS and ROE; provisions for theatre support and sustainment; contingency planning to cover the assessed risks.

4.76 **Initiation of plan development**. The OPG will review any issues raised in the higher commander's review of the commander's CONOPS, seek guidance from the commander and accomplish the following:

- establishment of a schedule and timelines for the commander's plan development;

[28]National responses to the ROEREQ may include national caveats, although it is more likely that the reply to the ROEREQ will stay more generic at this stage.

- review of the status of strategic planning on which operational-level planning depends: force generation; preliminary deployment planning; legal arrangements with HN(s); communication strategy; and ROE;
- planning in coordination with subordinate commands and other cooperating actors to foster integration of the joint force (this may require full information about the status of planning by these HQ related to the status of COA and CONOPS development and coordination of supporting / supported requirements);
- additional detailed coordination/interaction with a number of relevant national and international actors, if authorized, in the theatre.

The following paragraphs address planning considerations in relation to the joint functions.

Manoeuvre

4.77 The principal purpose of manoeuvre is to gain positional advantage in respect to the adversary from which force can be threatened or applied. Manoeuvre seeks to render adversaries incapable of resisting throughout all dimensions of the joint operations area (JOA) effectively by shattering their cohesion rather than destroying each of the adversarial components through incremental attrition. Manoeuvre involves the assets of more than one component and may even involve strategic assets, temporarily made available for the operation. Manoeuvre is the means by which a commander sets the terms in time and space, declines or joins combat or exploits emerging developments.

4.78 The OPG should keep in mind that the OPLAN should clearly enable the joint force to unfold and focus combat power where it can have decisive effect, to pre-empt, dislocate, or disrupt adversary operations. It involves trade-offs (e.g., speed versus time, width versus depth, concentration versus dispersion), and thus requires an acceptance of risk.

4.79 **Review of the planning requirements for the deployment of forces**. The strategic deployment of forces into a JOA, and the operational movements within the JOA, may be demanding manoeuvres themselves, as deployment and movement in theatre do not necessarily happen unthreatened by an adversary, dependent on the type of operation and the adversary's capabilities and range of influence.

4.80 Deployment planning will cover the entire sequence of activities for national and strategic movement (both valid for the strategic level) and reception, staging, onward movement and integration (valid for the operational level) into/in the JOA. It requires

close coordination with the higher commander, TCNs, the HN(s), port/airport operating organization, and commands concerned. Legal arrangements must be in place regarding the status of forces and understandings/agreements with the HN(s) as well as arrangements for transit and over-flight. Arrangements for access, basing and over flight have the potential to hamper rapid deployment of forces, particularly when peace-time regulations still apply.

4.81 **Design and development of the theatre movements architecture.** The design, development, implementation and control of movements architecture within the theatre is a vital aspect for both manoeuvre and sustainment. It is a responsibility of the commander, supported by the joint logistic support group (JLSG). The OLRT/joint logistic reconnaissance team (JLRT) reconnaissance of movement infrastructure and coordination with the HN(s), as well as with relevant international actors operating in the area, plays a critical role for the use of facilities and LOC. The OPG, in close cooperation with the OLRT/JLRT, will confirm with the HN(s), as early as possible, the availability and capabilities of the following: airport(s) of debarkation, seaports of debarkation and other key transportation nodes; reception areas and facilities; staging areas for operational entry into the JOA; and LOC to and within areas of operations (AOOs) or final destinations.

4.82 **Force flow finalization**. Based on detailed planning for the employment, sustainment, support and C2 of the force, and on the Allied force list, the OPG will make final revisions to the force flow. In general, force flow stands in a proportional relationship with the capabilities the commander can employ. For each element of the force package, specific deployment requirements must be established, including the following:

- strategic LOC and entry points into the theatre;
- final destination in the JOA;
- the commander's required date for the full operational capability of the force for employment;
- priority for sequence of movement;
- command authority to be transferred.

4.83 **Implementation of the scheme of manoeuvre**. The OPG will confirm the flow of forces into the theatre, including the conduct of initial entry operations and the reception, staging, onward movement and integration (RSOMI) within the JOA, movement priorities and points of entry including receiving or host nation support coordination. The commander and staff will plan follow-on operations in detail for all forces and assets, describing the employment and tasking in time and space and under specific conditions.

4.84 **Redeployment** generally presents similar challenges and demands similar considerations as described for deployment above. While redeployment is conducted during the transition and termination phase of an operation, redeployment planning should be considered from the outset of the operation. A fundamental difference between deployment and redeployment is that redeployment needs to return troops, materiel and infrastructure that have been built up over the course of an entire operation, and therefore is not simply a case of reversing the deployment plan.

Fires

4.85 **Targeting and the employment of fires**. A cross-functional coordinated effort by specific members of the OPG will be required to synchronize targeting and the use of lethal and non-lethal means to generate the desired effects and resulting DCs to be achieved in each phase of the operation. This activity will seek to achieve coherence and synergy in the use of all means available to the commander including:

- intelligence support to targeting (to include special reconnaissance by special operations forces; to include specific focus on disruption of adversary threat networks);
- psychological operations, coordinated by information operations (Info Ops);
- key leader engagement, integrated through Info Ops;
- electronic warfare;
- strategic attack and counter-surface force operations;
- maritime strike operations;
- direct action by special operations;
- civil-military cooperation (in coordination with Info Ops);
- military engineering support to targeting;
- military police including related stability policing activities;
- environmental effects of successful targeting and risk to NATO troops;
- cyberspace activities;
- space support in operations;
- military assistance and advising to local security forces.

Command and control

4.86 **Supported/supporting relationships**. The OPG will identify where these relationships are required in cooperation with subordinate/supporting commands to confirm precisely the support required by the supported commander designated for each phase and/or LoO.

4.87 **Mission assignment to subordinate commands**, to include task and purpose, should be done in the CONOPS, in coordination with subordinate commanders. These missions will have been confirmed during wargaming for each phase and captured in the synchronization matrix. Coordinating instructions establish specific requirements, direction and priorities for different operational functions, as confirmed during wargaming, with the aim of synchronization activities across all commands.

4.88 **The description of command and control and communications information systems (C2 and CIS) arrangements** outlines the key aspects for establishing the command authorities, relationships and liaison required by the task organization. As a minimum the CONOPS should establish the following:

- the chain of command;
- the delegation and transfer of command authorities;
- the theatre of operations (TOO), JOA and AOOs;
- liaison and coordination;
- location/co-location of primary HQ based on CIS limitations;
- phasing of C2 if the commander deploys (i.e. forward coordination element, initial command element and joint task force headquarters);
- reporting.

4.89 Based on the force package and further planning by subordinate/supporting commands, the OPG develops the following aspects.

a. **Specification of authorities and responsibilities**. Unity of command and freedom of action require that authority is clearly delegated for critical functions and/or geographical areas. The result should be a clearly designated authority being established with responsibility for each joint function and AOO within the JOA and the TOO.

b. **Refinement and coordination of the areas of operations**. Subordinate/supporting commands need to confirm their respective AOOs are sufficient to accomplish their assigned missions and protect their force, without interference.

c. **Communication and information concepts**. Effective CIS planning must consider time factors and the scale and complexity of the operation. The operational-level CIS staff plans for the support of the selected COA laid down in the CONOPS. The OPG ensures CIS factors are adequately included in the plan.

d. **Confirmation of command and control locations**. The OPG coordinates and confirms the locations of the different HQ and C2 facilities deploying to the theatre.

The OPG must develop and publish the HQ and C2 locations throughout all phases of the operation. This information is critical for the development of the CIS Support Plan. It is critical that the constraints of deployable CIS be considered during the planning of initial, collocation and any subsequent HQ and C2 facility locations throughout all phases of the operation.

e. **Transfer of authority**. The OPG confirms the level of authority required for the employment of each force in the force package and notes any national caveats. It will further establish precisely when, where and under what conditions transfer of authority (TOA) should occur. This information will be included in the activation order and provide the basis for nations' TOA messages.

f. **Exchange of liaison elements**. The exchange of LOs or liaison elements, to facilitate collaboration during an operation, is fundamental to success. Therefore, the OPG must clearly establish the requirements for the exchange of LOs and ensure manpower requirements are filled. Planning for the exchange of LOs includes key non-military organizations (government, international organizations, and non-governmental organizations) to affect the required communication and coordination for operations and transition/termination as far as possible.

4.90 **Rules of engagement review**. The ROE are ultimately the commander's rules that will be implemented by the force who executes the mission. The OPG must continually review the current status of ROE to ensure the ROE are versatile, understandable, easily executable, and legally and tactically sound. The OPG provides further requests with justification as required to adjust ROE to the operational needs. During multinational operations, participating nations are likely to have ROE different from NATO forces. During the conduct of the operation a current list depicting all participating countries' national caveats to the respective ROE must be available for implementation.

Intelligence

4.91 Intelligence is the product resulting from the directed collection and processing of information regarding the environment and the capabilities and intentions of actors, in order to identify threats and offer opportunities for exploitation by decision-makers.[29] It is also about understanding the adversary's culture, motivation, perspective and objectives. Part of the success in military planning (and conduct) of operations is dependent upon the provision of timely intelligence that is of a better quality than that

[29]This also includes e.g. police and criminal intelligence data or medical intelligence (MEDINT) as well as geo-information which are paramount prerequisites to evaluate risks to own troops and to enable successful operations, or to mitigate undesired influences, respectively.

of the adversary. The merging of intelligence with broader knowledge within the staff provides the foundation for planning and operational conduct. It is crucial to understand that intelligence is not an isolated activity within the intelligence staff, resulting in products tailored to planning. The commander, the OPG and the wider staff must formulate their requirements, thus drive the intelligence efforts without biasing the outcomes. In this context the process of producing RFIs and engaging in developing CCIRs as part of the planning process is pivotal in order to provide guidance to the intelligence community. In addition, when NATO becomes involved in any type of planning effort, staffs at all levels of command need to define, develop and articulate the requirements for Intelligence/joint intelligence, surveillance and reconnaissance (JISR) assets and capabilities, C2 and even the CIS required for data exchange. Based on requirements from the OPG a JISR process will be established where operations staff branch (J3) and intelligence (J2) meet to synchronize and integrate the planning and operations of all collection capabilities with processing, exploitation, and dissemination of the resulting information in direct support of planning and conduct of operations. Through the coordinated and deliberate efforts of the operations staff and the intelligence staff, JISR is integrated into the operational process to ensure that the JISR assets have the required capabilities to satisfy requirements. JISR integration provides commanders a flexible means to maintain up to real-time situational awareness and decision advantage in a dynamic environment. However, NATO intelligence collection assets are scarce and early requests for national contributions, either by making intelligence, surveillance and reconnaissance (ISR) assets available to NATO or through sharing of intelligence products, will be an important integrated or parallel process to the planning process.

Information

4.92 Working in close cooperation with the higher commander, the OPG will coordinate StratCom, public affairs, information operations and psychological operations aspects via the information joint function staff. The main purpose of StratCom involvement in the operations planning process is to achieve a common understanding on information activities within the OPG and other functional and capability experts, to coordinate the respective subject matter input related to the information environment, and ultimately promote the implementation of the information strategy (and other superior communication guidance). It includes respective information advice on the development of operational objectives, decisive conditions and effects, including analysis and evaluation, throughout the operations planning process.

Sustainment

4.93 Sustainment is the provision of logistics, personnel services, medical and health support and military engineering (MILENG) necessary to maintain operations until mission accomplishment. The significance of logistics, medical and MILENG aspects is described in the "capabilities related to joint functions"- paragraphs at the end of this section.

4.94 **Personnel - Rotation of HQ, staff and forces**. The OPG anticipates the requirement to sustain the operation until termination. It will develop requirements and initial plans for the replacement of HQs and forces, with consideration to the likely tempo of operations and the possible requirement to adjust force levels over time. Regarding staff personnel including potential augmentees, personnel management requires the national representatives' contribution, as personnel remains under full command of their sending nations and administrative regulations for personnel measures may have varying impact.

4.95 **Build-up and use of reserves**. Based on the force package, plan development identifies reserves for contingencies. Further consideration will be given to: where reserves are positioned; whose authority they are under; and any conditions for their employment. While reserves typically enhance capabilities for manoeuvre and fires, they also support sustainment as reserves may relieve other units involved and challenged in operations.

4.96 **Financial management support**. It is critical that NATO common funding is made available as early as possible to meet those procurement and contracting requirements eligible for common funding. The OPG must identify and prioritize operational requirements for each phase of the operation. Particular attention must be given to detailing requirements to support enabling and initial entry operations.

Force protection

4.97 Force protection (FP) planning establishes requirements and identifies necessary measures and means to minimize the vulnerability of personnel, facilities, materiel, operations and activities from threats and hazards of all kinds in order to preserve freedom of action and operational effectiveness and operational continuity. Force composition and organization should reflect the required elements and components of FP that are needed to implement the OPLAN. FP requirements need to be clearly identified, including the specific FP response measures to be taken under the various threat categories. FP planning should also include, where necessary, the relevant FP aspects of the HN(s) plans.

Civil-military cooperation

4.98 Civil-military cooperation (CIMIC) supports the commander by developing a comprehensive understanding of the civil environment. Understanding the influence and importance of the different non-military actors and the dynamic nature of the relationships between them is necessary for effective crisis management. The OPG will develop the practical arrangements required to cooperate with relevant actors within the JOA and others (such as maritime actors) that are worldwide. As a minimum the following will be specified:

- delegation of authority for civil-military interaction (CMI) and coordination of activities with relevant national and international actors;
- mechanisms and practical arrangements for the conduct of CMI;
- information sharing in accordance with the relevant security policy for release of information;
- civil environment considerations, including relevant actors' mandate, authority, capabilities, plans and objectives and HN civil emergency planning;
- cross-cutting-topics (CCT) consideration in planning at all levels;
- national resilience consideration, in coordination with higher authorities, and its effects on the achievement of the commander's objectives.

Within a comprehensive approach, military support to non-military actors and their environment will generally only be conducted if it is required to create conditions which support the accomplishment of the military mission within the context of the mandate.

Capabilities related to joint functions

4.99 A number of subordinate tasks and related capabilities help define the joint functions and some of them could apply to more than one joint function. In any joint operation, the commander may choose from a wide variety of joint and service specific capabilities and combine them in various ways to perform joint functions and accomplish the mission. The operation plan describes the way forces and assets are used together to perform joint functions and tasks. Forces and assets are not characterized by the joint functions for which the commander is employing them. A single force or asset can perform multiple functions simultaneously or sequentially while executing a single task.

4.100 Related capabilities that apply to more than one function are highlighted below. For appropriate consideration of these capabilities' characteristics, significance, requirements and contribution to mission success the OPG should early consult the subject matter experts of the respective functional areas within their staff and other commands as well as respective doctrine.

a. **Air and missile defence**. Air and missile defence is defined as ‘all measures to contribute to deter any air and missile threat or to nullify or reduce the effectiveness of hostile air action to protect populations, territory and forces against the full spectrum of air and missile threats’. The joint force air and missile defence commander is the commander with overall responsibility for air and missile defence; normally, the component commander with the majority of air and missile defence capability and the command, control and communications capability to plan and execute integrated air and missile defence operations. The component commander integrates and coordinates the air and missile defence assets of each force component into a coherent joint air defence plan. The joint force air and missile defence commander furthermore applies the principles of air defence to counter hostile air activity, including theatre ballistic missile defence (TBMD), and promulgates and employs common procedures for air defence battle management and the reduction of mutual interference, taking into account any air defence required and organized around maritime and land units. TBMD as a subset of ballistic missile defence, is the protection of deployed forces and high-value assets/areas within a theatre of operations from attacks by ballistic missiles. As the responsibilities of the joint force air and missile defence commander and the joint force air component commander are interrelated, they are normally assigned to one individual. Generally the commander delegates the air and missile defence operational- level function to the joint force air component commander.

b. **Chemical, biological, radiological and nuclear**. NATO forces must be prepared to conduct operations despite the threatened or actual use of chemical, biological, radiological and nuclear (CBRN) substances. This includes threats from toxic industrial materials. Any intentional use or accidental release of CBRN substances can create effects that may disrupt or delay the achievement of objectives. The commander provides guidance to subordinate commanders on the balance between operational priorities and avoidance of CBRN hazards. Policy application to minimize personnel exposure to CBRN hazards must be coordinated between national components, the HN and other in-theatre agencies including, but not limited to, non-governmental organizations. Commanders at all levels must be provided with timely, accurate and evaluated CBRN threat, hazard, vulnerability and risk assessments. It is essential CBRN staff engage early in the planning process and incorporate CBRN intelligence requirements into the intelligence collection plan.

c. **Military engineering**. MILENG staffs support the analysis of the operating environment through a mutual understanding of its physical characteristics (terrain and infrastructure) and contribute to the identification of its key elements (i.e.

critical infrastructure). This inherent understanding will be an integral part of all aspects of an operation plan (decisive conditions, lines of operation etc.) and forms the bases of further COA and plan development. They will also ensure that planning for all phases of the operation considers availability of adequate MILENG support and advice on the right mixture of sources (assets inherent to the force, host-nation support (HNS) or contracted) for its provision. MILENG incorporates a number of areas of expertise such as engineering, explosives ordnance disposal, environmental protection, military search and management of infrastructure, including contracted civil engineering. It supports creating effects by enabling or preventing manoeuvre or mobility; developing, maintaining, and improving infrastructure. MILENG also makes a significant contribution to countering improvised explosive devices (C-IED), protecting the force; and providing life support. The planning of MILENG support to sustainment is vital as it identifies the required infrastructure (e.g. theatre logistic bases), lines of communications for sustaining the force and the associated capabilities and resources to build and run such infrastructure, including the consideration of energy efficiency aspects. The same is true for all reception, staging and onward movement (RSOM) - infrastructure (points of debarkation, marshalling and staging Areas). The planning of MILENG support is also vital for force protection as it identifies required capabilities, resources and ROE for force protection infrastructure works and against explosive hazards.

d. **Countering improvised explosive devices**. The C-IED perspective is an integral part of the OPLAN and subordinate plans. C-IED planning is based on the NATO C-IED's approach and establishes objectives, requirements, activities and priorities in order to defeat the adversary's improvised explosive device (IED) system. C-IED activities will be designed to allow commanders and staff at every level to plan and implement proactive measures to identify threat networks and target them in order to interdict, disrupt, neutralize and or destroy their ability to use IEDs in the area of responsibility.

e. **Logistics**

(1) **Concept for logistic support**. The purpose of logistics is to generate and to preserve combat power. It is the chief enabler of combat operations and a major component of military "means" at all levels of command. Logistics frequently shapes the design of operations. Major activities within an operation are frequently conducted solely for the purpose of developing the logistics capability required to sustain the force as a whole. Military logistics encompasses the various requirements that must be taken into account at the

operational level and are specified in the CONOPS/OPLAN: materiel, services, logistic information management, equipment maintenance and repair, movement and transportation, RSOM, MILENG support to logistics, contractor support to operations (CSO), and HNS.

(2) **Logistic sustainment of the force in theatre**. During plan development, detailed planning and coordination will be conducted with TCNs, HNs, international organizations (IOs)/non-governmental organizations (NGOs), CSO integrator as well as subordinate/supporting commands, to ensure supplies and services can be delivered to the force in order to meet operational requirements for each phase. Logistic and movement planning conferences are required to confirm logistical arrangements, especially with the HN(s) to ensure they meet operational needs and allow a sufficient build-up of necessary resources in the theatre. Any shortfalls in HNS may require activation and deployment of additional logistical units or to integrate civil logistic contractors. The following logistic main processes have significant operational impact and must be closely coordinated with all other planning:

(a) **Military logistics**. The purpose of the logistic planning process is to ensure the facts, assumptions, information, and considerations of the military problem at hand are properly analyzed and effectively synthesized within an integrated plan that supports the concept of the operation. The logistic staff of a joint forces HQ must be able to properly analyze and evaluate the potential impact of logistics in operational art and operations planning to successfully balance their means against the desired ends and prospective ways. The main outcome of this process is to support the future operation plan, and to make sure that the operation is logistically feasible. The logistic staff must undertake military logistics planning at the earliest opportunity to support further OPG planning activities.

(b) **Movement and transportation**. The purpose of the movement and transportation process is to identify theatre movement and transportation requirements for establishing a solid transport network and architecture in the JOA and must be integrated in planning to prevent congestion at strategic entry points (ports of debarkation) and in the JOA. The movement and transportation system establishes an in-theatre hub to maximize cargo throughput and optimize theatre distribution. All TCNs must provide accurate movement and deployment data to the respective

movement and transportation planning staff to deconflict strategic movements with other theatre movements.

(c) **Host-nation support**. The HNS process as an integral part of logistic planning and is an important factor in any operational or exercise scenario to achieve both efficiency and cost effectiveness. The process identifies HNS capabilities that are available to support military activities in order to reduce the overall force structure requirement and secure support from the HN to the maximum extent possible.

(d) **Contractor support to operations**. The CSO process as an integral part of logistics and movement and transportation planning should provide advice for the planning of commercial logistics support options and solutions in support of the preparation, planning and conduct of operations.

(e) **Joint logistic support group**. The joint logistic support group (JLSG), if activated and deployed, is an executive operational-level support organization. The commander JLSG is responsible to the operational commander for coordination and execution of operational-level logistic support using assigned national, HN and/or commercial resources. The construct of the JLSG is determined by multiple factors adapted during the operations planning process (OPP), including scale; characteristics of the force; and geographical requirements of the operation.

f. **Medical**. Planning for health and medical support is vital for the sustainment of the force, thus for forces' capabilities, readiness, and preservation of their power. Nations retain their legal duty of care and remain ultimate risk owners accountable for the health of their forces at all times. Medical support though, based on NATO common risk and burden sharing, is increasingly delivered via multinational and modular solutions, thus NATO commanders increasingly share responsibility for the health of the force. For that reason, health and medical support to NATO forces will meet agreed upon NATO standards acceptable to all participating nations. This also applies to all forward and tactical evacuation as well as all medical treatment facilities (MTFs) level role 2 and 3. Medical support planning allows the input of medical expertise to the operations planning process and the development of a medical concept and a medical support plan for the operation. As for the first, early consideration of medical aspects at each stage of planning is critical for the development of a plan that can be supported medically. On the other hand, a medical support plan should comprise all relevant information about how medical

support will be conducted in the operation. It will ensure effective coordination of deployed medical support capabilities, the optimal usage of medical resources to achieve an adequate force health protection, appropriate healthcare and medical evacuation. This can involve appropriate numbers and levels of MTFs) and medical evacuation assets to ensure a continuum of care, from any point of injury or casualty collection point to the appropriate MTF. These capabilities and the proper medical support concept answer the risk for the casualty flow in relation to the operational tempo and demands for each operational phase through an appropriate medical support concept to mitigate the personnel risk to the lowest individual risk possible. A key planning factor in determining the medical support laydown is medical evacuation and treatment planning guidelines based on clinical timelines. The clinical timelines seek to provide appropriate treatment as soon as possible in every case of a medical emergency on operations and to deliver expert medical care within timeframes based on clinical evidence. The clinical timelines serve as planning guidelines and ultimately, the commander will determine what timelines will apply. A number of factors will influence the commander's decision, such as strategic guidance, availability of medical capabilities, the operational situation and risk. Another key factor in medical planning is the consideration of casualty rate estimation. Its calculation is an overall responsibility of the OPG, with the contribution of medical planners. Coordination between medical planners and the OPG is paramount. Great importance should be given to the coordination with CIS-staff during medical planning, as effective CIS means are required to capture, relay and analyze required medical data , to conduct an effective patient tracking and regulation, to elaborate and share medical intelligence and, overall, to build a medical command and control structure.

g. **Military police**. Military police (MP) are designated military forces responsible and authorized for the control and maintenance of law and order and providing operational assistance through assigned doctrinal functions. These functions are: police, security, detention, mobility support and stability policing. As one of the combat support elements, MP support the commander and the JTF with a wıde variety of missions, ranging from peacetime military engagement, securıty tasks in support of stabilization and reconstruction, up to combat operations. Unique to the MP profession are specialized police certifications, training and equipment that increases the commander's ability to conduct operations. MP perform similar functions in all components (maritime, land, air and special operations forces) which allows seamless transition into joint and multinational operations. While component MP forces deployed in support of an operation may not be joint at their

respective level, in order to achieve multinational unity of effort there must be a coordinating authority that synchronizes MP activities to maximize interoperability.

h. **Stability policing**. Stability policing encompasses police-related activities intended to reinforce or temporarily replace the indigenous police, contributing to restoring and/or upholding public order and security, rule of law, and protection of human rights. Stability policing assets perform police activities in the mission area aimed to tackle possible threat sources and provide security to the local population by replacing and/or reinforcing indigenous police forces. Under a comprehensive approach, a combination of military and non-military actors, such as indigenous and international police forces, could be employed to achieve this goal.

ANNEX A

The operational factors – time, space, forces and information

General

A.1. Commanders and their staffs have to evaluate the influences of time, space and forces when linked to the fourth factor, information. It is a skill to balance the first three factors to set military conditions for success. While this is true within the traditional set of the operational factors, information possesses attributes that set it apart from the other three; in general, the volume of information received can hardly be regulated. Information is also essentially indefinable in any meaningful way, unlike traditional operational factors. Information has always been a source of power but in the information age the sheer mass of information generally bears the risk of confusion or overload. In general, not higher quantity of information but more orientation through definition of information requirements, quality, verification, timeliness, right degree of granularity, assessment and correlation is needed.

A.2. A proper evaluation of forces, space and time simply cannot be done without accurate information on the various aspects of the operational situation. Besides gaining information and intelligence as prerequisite for decision making, information also affects morale and cohesion of forces. Information today is an operational factor that has to be considered throughout the whole planning process.

Fundamental relationships between the operational factors

A.3. **Time-space** relates to the relative speed with which forces can reconnoitre, gain, occupy, secure, and stabilize or control a given area. Commanders and their staffs should evaluate an operations area in terms of space and the time necessary to accomplish objectives within that area. A commander can harmonize the factors of time and space by selecting the objectives that lie at short distances; shortening average distances by operating from a central position enhancing speed in execution; changing routes. For attacking forces the objective is to gain space as quickly as possible while the defending forces try to keep control over the space and delay or deny the attacking forces´ achievement of an objective. Any gain of time is an advantage for an actor that wants to maintain the status quo. If a defending force is not decisively beaten, it may retain sufficient space and time to withstand an attack. The less time available for the defending forces the more likely the attacking forces will catch the defending forces unprepared. This is the key to surprise.

A.4. **Time-force** relates to the relative readiness and availability of forces and their necessary support over time. Velocity multiplies the overall striking power of the force. The attributes that affect the timely availability of forces include: the type and size of forces and their organization, the distance to the employment area, the transportation mode and the infrastructure in the employment area.

A.5. **Space-force** relates to the relative ability to control significant areas; the concentration and dispersion of forces within areas and the ability to give up space in order to avoid becoming decisively engaged. Overcoming the factor of space involves movement of forces, the impact of fires, and the transmittal of messages. Movement of forces can be affected by: the limited means of transportation available; inefficient infrastructure; the general requirement to move large quantities of personnel and materiel; and the time consumption of longer distance moves. In general, the more distant the physical operational objective in space, the larger the sources of power needed to accomplish it. A sound force-to-space ratio is one of the most critical factors in planning an operation. In general, the greater the expanse of space involved, the more stringent the limitations on resources will be.

A.6. **Time-space-force** relates to the capability to project forces into a region and the comparative speed with which they can build up decisive capabilities in a given area. The larger the distances involved in moving and deploying one's force, the more critical the factor of time will be. Furthermore, the larger the prospective theatre, the larger the force that will be required to accomplish objectives.

A.7. **Information and space**. Current information technologies allow for detailed and accurate information on all aspects of the physical space. Nevertheless, networking in information and communications is not without limitations; geographic location and distance significantly affect the establishment, control and use of 'information highways' as these are heavily dependent on the bandwidth of the network nodes and the power supply to the connected 'server farms'. Both bandwidth and energy supply can be costly, such as when satellite links have to be established or power sources installed in remote and deserted areas. The operations planning group must be aware of such relationships when attempting to balance the space factor with information.

A.8. **Information and time**. Today, every action could reach a global audience in near real time. This new quality makes active, transparent and trustworthy information an imperative. Moreover, modern information technology allows for a dramatic reduction in the time required to make decisions and in the time required for planning. Today, an

effective network of sensors, platforms, command and control (C2) and logistics centres allows more tasks to be accomplished faster and more accurately. In principle, the force that is able to generate an information advantage and facilitates quicker reactions, is in a position to surprise the adversary and seize the initiative.

A.9. **Information and force**. Accurate and timely information can enable sound decisions about the forces required for operations. Improved information capabilities increase the commander's ability to know the location and movements of adversaries and relevant actors. In particular, more effective information may improve the phasing, deployment and employment of forces.

Intentionally blank

ANNEX B

Centres of gravity (CoGs)

This annex first presents details on how to identify, analyze and validate CoGs. Then, it offers a method for using CoG analysis in the planning process to link objectives, decisive conditions, effects, and actions and to ensure a logical linkage between the different levels of command.

Section 1 – CoG identification and validation

B.1. A CoG is the primary source of power that provides an actor its strength, freedom of action, or will to fight. It is always a physical entity. At the political strategic level, moral-strength as well as physical-strength CoGs exist. At lower levels of command, only physical-strength CoGs normally exist.

B.2. By affecting an actor's moral strategic CoG, the Alliance aims to influence the actor's will (make the actor accept the Alliance objectives, by persuasion or coercion), while by affecting a physical strategic CoG, the Alliance influences the actor's ability to carry out its overall strategy (so the actor cannot achieve its strategic objectives). By affecting an actor's operational CoGs, the Alliance influences the actor's ability to achieve its operational objectives with its current course of action (COA).

a. **CoGs representing a moral strength** exist at the political-strategic level. An actor's moral strategic CoG is the primary entity that inherently possesses most of the following critical capabilities: determines (and can alter) policy and strategy, commands the resources and means required to achieve the strategic objectives, and inspires and provides moral cohesion and will to fight. In short, it is the actor's political-strategic decision-making entity. Examples of moral strategic CoGs include a strong political leader, a religious leader or organization wielding decisive political power, a ruling elite, and a strong-willed population (or a segment of it) determined to prevail. As a consequence, 'Alliance cohesion' cannot be a moral strategic CoG (it is not an entity); instead, the primary entity that provides Alliance cohesion can be the Alliance's moral strategic CoG. Likewise, elements such as ethnic nationalism or ideology cannot be CoGs (they are not entities); rather, they can be a critical requirement for the political leadership (the real moral CoG) to be able to inspire and provide moral cohesion and the will to fight. Since the will to fight ultimately decides the beginning and end of a conflict, determining desired as well as undesired

conditions of the primary actors' moral strategic CoG and affecting them accordingly is central for achieving Alliance strategic political objectives.

b. **Identifying and validating moral strategic CoGs**. To assist in determining an actor's moral strategic CoG, the following should be considered, using information derived from the JIPOE (which must be refined as required).

(1) Does the actor have a political leader that possesses all the critical capabilities listed above in the moral strategic CoG description? If yes, then this leader is the moral strategic CoG.

(2) If some of the critical capabilities listed above are weak or missing for the actor's political leader, one of the following situations might exist.

(a) The leader is clearly the entity that possesses most of the critical capabilities and is therefore the moral strategic CoG, but support from the primary entity(s) that possesses the weak/missing one(s) becomes a critical requirement for the CoG.

(b) The identified leader is a marionette (possesses few or none of the critical capabilities) for the real moral strategic CoG; instead, the real CoG will be the entity that actually possesses most of the critical capabilities.

(c) The leader shares the critical capabilities listed above with one or more persons, who then, as a group are the moral strategic CoG (provided (a) or (b) does not define the situation better).

(d) Is the strength of will of an actor's population such that it does not matter who is the leader? If the population (or a large proportion of it) feels so strongly about a policy that their leader(s) cannot thwart, deflect or dilute their will, then the population itself is the actor's moral strategic CoG.

c. **CoGs representing a physical strength** exist in principle at each level of command. Thus, it is the entity representing the primary physical strength an actor depends on to carry out its (assumed) intent and achieve its (assumed) objectives at a given level of command. At the political-strategic level, they are called physical strategic CoGs; examples include a coalition or alliance military task force, a particular strong element of national military power, a national security force, a political group's military arm, or even a strong non-military entity in case the main strategic effort is not a military one. At the joint force

command level, they are called operational CoGs; examples include an armoured corps, air component forces, a maritime task force, a national police force, a regional network of insurgent cells. Operational CoGs are normally central elements or constituent parts of the physical strategic CoG; i.e., they should be nested within the strategic CoG. As an example, the national police force (operational CoG) is a constituent part of the national security force (physical strategic CoG). The physical strategic CoG is not necessarily nested within the moral strategic CoG, but it is chosen and controlled by it.

d. **The contextual nature of physical CoGs**. Normally, objectives can be achieved in various ways that potentially use different primary physical strengths (i.e. physical CoGs); consequently, identifying the various ways an actor can achieve its objectives is a critical step in identifying an actor's potential physical CoGs. Defeating an actor's physical CoG at a given level defeats the actor's current strategy/COA at that level. This forces the actor to change to another strategy/COA (that depends on another CoG) if one exists, and it might force the actor to change its objectives (at that level) as well. Accordingly, an actor's CoG might change if the actor changes the primary physical strength used to achieve its objectives. As such, operational CoGs might change from phase to phase of an operation, and consequently, several operational CoGs might exist for an operation, but normally not simultaneously. Still, if an actor pursues two or more strategies simultaneously, each using different physical strengths, and each capable of achieving the actor's objectives by itself, then multiple CoGs can in principle exist simultaneously.

e. **Identifying and validating physical CoGs** at a given level of command requires the commander to identify the actor's (assumed) objectives at that level and the actor's (assumed) strategy/COA for achieving those objectives. Then, the following questions can be used to identify and validate physical CoG candidates; all must be answered yes:

(1) Is the CoG candidate the primary entity (assumed) used by the actor to achieve its (assumed) objectives at the analyzed level of command? If it is an important or even essential entity, but not the primary entity used by the actor to achieve its objectives, then it is a critical requirement for the real CoG. If it is not an entity but rather an important condition that must be present for the actor to achieve its objectives, then it is likewise a critical requirement for the real CoG.

(2) Does the CoG candidate possess the most critical capabilities (abilities) required to achieve the actor's objectives at the analyzed level of command? If some critical capabilities are missing, then support from the entities possessing them becomes critical requirements for the CoG.

(3) If the CoG candidate is defeated, does this defeat the actor's (assumed) COA at that level of command? If not, the candidate might be a CoG for another possible COA for the actor.

Section 2 - Centres of gravity in a complex operating environment

B.3. The CoG concept is not only useful in a classic bipolar interstate military conflict but also in intrastate conflicts (such as counterinsurgencies) or in missions with no adversary.

a. **Centres of gravity in counterinsurgencies**. Counterinsurgencies normally present a very complex and dynamic operating environment, which reflects on the CoG analyses.

(1) The local population often is referred to as the CoG in counterinsurgencies; however, only if it makes the strategic decisions for an actor, can it be the moral strategic CoG for that actor. As an example, a part of the population, like a large ethnic group, might be the moral strategic CoG for an insurgency that has the character of a popular uprising of that ethnic group (i.e. not leader-driven). However, support from the local population is often a critical requirement for the CoGs of all the actors involved in this type of conflict.

(2) A key actor might be a relatively small political grouping. In such a case, it might not make sense to talk about strategic as well as operational level physical CoGs for the actor, in which case the two levels merge.

(3) An actor (like an insurgent group) might not have a single, integrated strategy, but rather a large number of parallel yet uncoordinated efforts. Such a situation raises the question of whether to identify physical CoGs for each effort or a single physical CoG representing the combined (but physically scattered) entities. An example could be a political group's military arm that operates through a large number of decentralized, largely autonomous cells, each with their own independent effort.

(4) Strengthening the local allied government's strategic and operational CoGs by addressing their critical vulnerabilities are often key NATO objectives. Thus, the ally's moral strategic CoG most likely will have weak or missing critical capabilities (e.g. a weak ability to "inspire and provide moral cohesion for all ethnic groups in the population"), with related critical vulnerabilities. Likewise, the local ally's physical strategic CoG could be the national security forces. These security forces may have weak or (partially) missing critical capabilities, e.g. defeats the insurgent network, protects the population, protects the government and government services. Critical requirements could be an effective national army, effective national police forces, international funding and NATO training support. Since an insurgency exists, the two first critical requirements are likely deficient. As such, some of the critical vulnerabilities for the strategic CoG could be "a weak national army" and "ineffective police forces." Breaking this down in more detail happens at the operational level. Thus, operational CoGs for the ally would then be the national army and/or the national police force (nested in the strategic CoG) and some of their critical vulnerabilities could be corruption and nepotism, high desertion rate, poor training etc. A central part of the NATO commander's mission would then be to address these critical vulnerabilities.

b. **Non-opposing centres of gravity**. In situations where there is no particular adversary, like peacekeeping missions, the CoGs of the key actors should still be identified and analyzed. While an actor might not be an adversary, its (assumed) intent might still present an unacceptable condition for NATO objectives. Knowing the critical capabilities, requirements and vulnerabilities of the actor's CoGs can aid the commander in influencing the actor.

Section 3 - The CoG analysis model.

B.4. The CoG analysis model is used to analyze an actor as a system in order to identify conditions and effects that need to be established to achieve own objectives. The most effective way to affect an actor to meet the required conditions for achieving own objectives is through the actors CoG(s). To assist in finding ways to achieve the required condition of a specific CoG, commanders and their staff should analyze the CoG using the concepts of critical capabilities, critical requirements, and critical vulnerabilities.

a. **Critical capabilities** – What the CoG can do – its primary abilities – in relation to achieving the actor's objectives at the given level in the context of a given environment. The critical capability concept is useful to identify and validate CoGs, as it expresses how an actor can use a particular strength (the CoG candidate) to achieve the actor's objectives at the analyzed level of command. If, for example, a specific joint task force is identified as a CoG, its critical capabilities could be (the ability to…) "defend area A against Alliance forces and counterattack and cut off Alliance forces". However, if the actor's mission changes, the same military task force could still be the CoG, but possess different critical capabilities. As such, critical capabilities are always contextual – as is the CoG itself. In some cases, one or more of the critical capabilities required to achieve the actor's objectives might only be a weak ability for a particular CoG candidate; in this case, it will have associated critical vulnerabilities (see below). In other cases, a CoG might be missing an ability deemed critical for achieving the actor's objectives; in that case, support from an entity that possesses the missing ability becomes a critical requirement for the CoG.

b. **Critical requirements** – are specific conditions, resources, and/or means that are essential for a CoG to perform its critical capabilities. If a joint task force has critical capabilities as in the example above, examples of means that could be critical requirements are a command and control (C2) system, armoured land forces, or offensive air forces. Examples of conditions that could be critical requirements are air superiority, good weather, high tide, secure lines of communication, local popular support, and terrain and infrastructure that favour defence as well as counterattack. Each of the CoG's critical capabilities must be considered in relation to what the critical requirements are for the CoG to perform it. There will normally be an overlap of requirements to perform the various critical capabilities, but it is useful noting to which critical capability each requirement relates. Critical requirements at one level may be CoGs or closely related to CoGs at the next lower level; i.e., lower level CoGs should be nested within a CoG at the next-higher level. For example, the armoured land forces mentioned above as a critical requirement might be a CoG at the next lower level of command.

c. **Critical vulnerabilities** – are those critical requirements, or components thereof, that are deficient, missing, or vulnerable to influence in a way that will contribute to a CoG failing to perform one or more of its critical capabilities. The lesser the risk and cost, the better. If a military task force is identified as the CoG, the ability to defend a certain area is identified as one of its critical

capabilities, and an effective C2 system is identified as one of the critical requirements to do so, then if the C2 system (or components of it) is vulnerable to jamming, cyberattack, or physical destruction, it could be a critical vulnerability. If such a critical vulnerability is exploited, the CoG will be weakened or will cease to function, in general or at a specific time and/or space. Consequently, critical vulnerabilities represent risks associated with the analyzed actor's (assumed) course of action, whether obvious to the actor or not. Each critical requirement must be analyzed for vulnerabilities. While some requirements might be deficient or missing already, others need to be affected to become so. For these to be actual critical vulnerabilities, other actors must have the ability to influence them sufficiently to weaken one or more of the critical capabilities. Some critical requirements might only be vulnerable at a specific time and/or space. Similarly, there might be critical requirements that are potentially vulnerable, but the available or allocated means might not be sufficient to exploit the weakness, or the political will to do so might be lacking. Such potential vulnerabilities should be noted, along with potential events that could alter their degree of vulnerability.

d. **The CoG analysis matrix**. The table below provides one method for using the CoG analysis model to analyze an actor's physical CoG at a generic level of command; other methods may be used. Moral strategic CoGs are analyzed in a similar way. Some analysts might prefer first to identify the critical capabilities (abilities) the actor requires to achieve its (assumed) objectives, and then identify the primary entity that possesses the most of those critical capabilities. Others might identify the CoG first, as part of the process that determines how the actor (assumable) will achieve its objectives. However, since CoG analysis is a continuous, iterative process, the order is not important.

<table>
<tr><th colspan="2">Centre of gravity analysis matrix</th></tr>
<tr><td colspan="2">Assessed objectives and potential COAs (note actor and level of command)

The actor's (assumed) main objectives and potential COAs for achieving them, at the analyzed command level. For an adversary, assess as a minimum most likely and most dangerous COAs.</td></tr>
<tr><td>Centre of gravity

Identify the CoG for each COA (validate as per B.2; analyze each according to this table.

Determine the condition of the CoG that must exist as well as conditions that must be avoided, in order to achieve NATO objectives at the analyzed command level. Example: entity destroyed vs. entity isolated (post-war combat effective entity needed for stabilization).

The required condition should be reflected in own objectives; if not, revise as required.

Conditions to be avoided must be reflected in rules of engagement (ROE) and other restraints.</td><td>Critical capabilities

Identifying the CoG's critical capabilities serves as a validation of the CoG – does it possess the primary abilities required to achieve the objectives for the actor?

Some abilities might be weak, in which case associated critical vulnerabilities must be identified.

A critical capability deemed essential to achieve the actor's objectives could also be missing, in which case support from an entity that possesses the missing ability becomes a critical requirement for the CoG.</td></tr>
<tr><td>Critical vulnerabilities

For every critical vulnerability (CV) identified, assess the impact on each critical capability and relate to the required condition of the CoG.

<u>For opposing CoGs:</u> For each CV, determine the potential effect(s) that expresses how the CV can be exploited in order to achieve the required condition of the CoG. Is NATO able to achieve each potential effect – with what combination(s) of actions? What are the risks associated? Are there undesired effects? What combination(s) of effects can achieve the required condition of the CoG? Those effects deemed decisive for achieving the required condition are designated decisive conditions. Different COAs might select different combinations of effects and thus DCs.

<u>For friendly CoGs:</u> (How) can an opponent cause and exploit a vulnerability (effects and actions)? Which effect(s) achieved by NATO could protect/prevent the vulnerability in order to satisfy the critical requirement (to maintain/achieve the req. condition of the CoG) – with what combination of actions?</td><td>Critical requirements

Each of the CoG's critical capabilities must be considered in regard to what the critical requirements (conditions, resources, and/or means) are for the CoG to perform it.

There will normally be an overlap of requirements to perform the various critical capabilities but it is useful to note which critical capability each requirement relates to.</td></tr>
<tr><td colspan="2">Conclusions

The deductions should be formulated as elements for further planning, e.g. objectives, DCs, effects, actions, ROE, CCIR, etc.</td></tr>
</table>

Table B.1 - The CoG analysis matrix

B.5. **Applying CoG analysis in the planning process**. The following describes a method for how CoG analysis can be used in the planning process; other methods may be used. Although CoG analysis is initiated in mission analysis, it is not related (limited) to a specific planning activity. Rather, it is a continuous, iterative process that must continue throughout planning and conduct of the operation, as collaborative planning by multiple levels of command. For simplification purposes, only two actors are included: NATO and a single adversary.

a. **Applying strategic CoG analysis in the planning process.** If higher-level CoGs are not already identified, the commander should start with identifying and analysing higher level CoGs, including both moral and physical strategic CoGs. Already identified CoGs should still be validated and the analyses refined, since CoGs and their critical capabilities, requirements and vulnerabilities may change as the situation changes. The following describes a method that uses CoG analysis to ensure a logical linkage between the Alliance political-strategic objectives and the military strategic objectives. As such, the method can be used at the political-strategic level to develop the military strategic objectives, and it can be used at lower levels to validate the military strategic objectives; other methods may be used.

(1) Identify the NATO moral strategic CoG (the strategic decision-making entity in the current strategic context) and analyze it using the CoG analysis model.

(2) Identify the adversary's moral strategic CoG. Identify likely successors and assess the potential influence on the NATO mission for each one to replace the current leadership.

(3) Analyze the adversary's moral strategic CoG using the CoG analysis model. Missing information must be provided through the commander's critical information requirement (CCIR) process (valid for all steps).

(4) Identify the adversary's (assumed) political-strategic objectives and the motives driving them.

(5) Determine the adversary's policy change(s) required to attain the end state and the Alliance strategic-political objectives, like 'no longer supports insurgents financially' or 'withdraws its forces and accepts NATO peace terms.'

(6) Determine NATO's required condition of the adversary's moral strategic CoG and its critical capabilities; the condition must support the desired policy change and should be reflected in the Alliance strategic-political objectives. If the Alliance objectives do not reflect such considerations, they should be revised (by the Alliance political leadership). An example could be "Country X has a stable, representative government." Conditions to be avoided should be determined as well; these must be reflected in rules of engagement (ROE) and other restraints (for all diplomatic, information, military, economic (DIME) instruments of power). A condition to be avoided could be a leadership change to someone undesired by NATO.

(7) Determine possible combinations of strategic effects in the CoG's critical vulnerabilities that could lead to the required condition of the adversary's moral strategic CoG, as well as central undesired effects that could lead to the conditions to be avoided (ROE and other restraints).

(8) Determine possible strategic actions of the DIME instruments of power that could lead to each identified strategic effect. One action can in principle support several effects.

(9) Identify the various ways the adversary can achieve its political-strategic objectives, using its available means. The primary entity used to achieve the objectives in each potential strategy is the physical strategic CoG. CoGs should be identified as a minimum for the adversary's assumed most likely as well as the most dangerous strategic COA (as seen through the eyes of the adversary); the CoGs could be the same for several COAs. The adversary's strategic COAs should aim at affecting NATO strategic CoGs and their critical vulnerabilities, which means this step must be revisited once NATO CoGs are identified (and every time they are refined or changed). See also step 1 above and 14 below.

(10) Establish NATO's required condition of the identified adversary physical strategic CoGs and their critical capabilities (related to each adversary strategic COA); each condition must directly support the Alliance strategic-political objectives. If the Alliance objectives do not reflect such considerations, they should be revised (by the Alliance political leadership). An example could be "The weapons of mass destruction (WMD) are destroyed." Conditions to be avoided should be determined as well; these must be reflected in ROE and other restraints (as in step

5). An example could be “The army’s armour and artillery units must not be reduced by more than 50°% [for post-conflict regional stability purposes]”.

(11) Determine possible strategic effects in each CoG’s critical vulnerabilities that could lead to the required condition(s) of the adversary’s physical strategic CoG(s), as well as undesired effects that could lead to the conditions to be avoided (like step 7).

(12) Determine possible combinations of strategic actions of the DIME instruments of power that could lead to each identified strategic effect (like step 8).

(13) The different combinations of strategic effects and actions determined above are core elements of NATO strategic design. Different combinations form the core ingredients of different potential strategic options (along with strategic effects and actions identified elsewhere in the planning process). Each strategic option must be able to attain the end state and the required DIME means to realize the strategy must be available. This might lead to a requirement for revising the end state and the Alliance political strategic objectives.

(14) For each NATO strategic option, validate and refine the strategic CoG as required (the primary entity used in the strategy) and analyze it using the CoG analysis model. Determine strategic effects and associated actions required to protect the critical vulnerabilities. Do this as well for the NATO moral strategic CoG analyzed in step 1. Incorporate this in the NATO strategic options and use it to update step 9 (adversary’s COAs). The CoG analyses of the NATO physical strategic CoGs (related to different strategy candidates) will contribute to strategic option development and selection by highlighting critical vulnerabilities and thus central risks associated with each strategy candidate. This is also an illustration of the continuous, iterative nature of CoG analysis.

(15) From the effects in the selected NATO strategic option, objectives for the DIME instruments of power are developed, including military strategic objectives.

(16) From the military strategic objectives, operational objectives are developed; normally, the military-strategic effects form the basis for the formulation of the operational objectives. If the only means available to

the military-strategic command is a single operational-level command, the operational objectives should closely reflect the military-strategic objectives deduced in step 15 above. If more means are available (e.g. more than one subordinate command), the same method as described below can be used for military-strategic level planning to insure a logical linkage between the military strategic objectives and the operational objectives.

b. **Applying CoG analysis for operational-level planning**. The following describes a method for using CoG analysis for operational-level planning; other methods may be used. For simplicity, the following assumes that the operational objectives closely reflect the military strategic objectives deduced in step 15 above. Overall, the logic is the same as the political-strategic level method described above.

(1) Identify the adversary's (assumed) operational objectives. For simplicity, the following assumes the adversary's operational objectives are the same as its military strategic objectives (the adversary's military strategic and operational level merged); these can be deduced from the adversary's strategic COAs (step 9 above). Quite possibly, each identified adversary strategic COA (with associated adversary effects and actions) leads to a different set of the adversary's operational objectives (but likely overlapping). For simplicity, the following assumes the same set of the adversary's operational objectives of most likely and most dangerous adversary's strategic COA.

(2) Identify the various ways the adversary can achieve its operational objectives, using its available operational means. The primary entity used to achieve the objectives in each potential adversary operational COA is the adversary's operational CoG. CoGs should be identified as a minimum for the adversary's assumed most likely as well as the most dangerous operational COA (as seen through the eyes of the adversary); the CoG could be the same for several COAs. An adversary's operational CoG should either be a critical requirement (i.e. a mean) for the adversary's physical strategic CoG or be able to achieve a critical requirement (i.e. a condition); if it is not, the physical strategic CoG analysis should be refined to ensure the operational CoG is nested in the strategic CoG. The adversary's operational COAs should be assumed to exploit critical vulnerabilities of NATO operational CoG(s), which means this step must be revisited every time NATO operational CoG(s) are

refined or changed. This step (first performed in mission analysis) initially uses an interim NATO operational CoG, based on commander's initial planning guidance. See also step 7 below.

(3) Establish the commander's required condition of each adversary's operational CoG and its critical capabilities; each condition must directly support the commander's operational objectives. If the operational objectives do not reflect such considerations, they should be revised. Conditions to be avoided should be determined as well; these must be reflected in ROE and other restraints.

(4) Determine possible effects in each CoG's critical vulnerabilities that could lead to the required condition(s) of the adversary's operational CoG(s), as well as undesired effects that could lead to the conditions to be avoided (to be reflected in ROE and other restraints). Those effects that are deemed decisive for achieving the required condition of the related CoG are designated decisive conditions (DCs) (see step 6 below); sometimes a DC might also describe the required condition of a CoG.

(5) Determine possible combinations of actions across the joint functions that could lead to each identified effect. One action can in principle support several effects. The effects and associated combinations of actions must be developed through collaborative planning with the components to ensure they are creatable.

(6) The different combinations of effects and related combinations of actions determined above are core elements of the operations design. Different combinations form the core ingredients of different potential NATO operational COAs (along with DCs, effects, and actions identified elsewhere in the planning process); those effects in the adversary's critical vulnerabilities, which are selected for a specific COA and are deemed decisive for achieving the required condition of the related CoG, are designated DCs in that COA. Each COA must be able to achieve the operational objectives and the required joint means to carry out the COA must be available. This might lead to a requirement for revising the operational objectives and possibly also the Alliance strategic-political objectives and the end state, in dialogue with higher headquarters.

(7) For each NATO operational COA, validate and refine the NATO operational CoG as required and analyze it using the CoG analysis

model. Determine effects and associated actions required to protect the critical vulnerabilities; DCs are designated as in step 6 above. Incorporate this in the NATO operational COAs, and use it to update step 2 (adversary's operational COAs). The CoG analyses of the NATO operational CoGs (related to different COAs candidates) will contribute to COA development and selection by highlighting critical vulnerabilities and thus central risks associated with the COA candidate. This is also an illustration of the continuous, iterative nature of CoG identification and analysis.

(8) From the DCs and effects in the selected operational COA, objectives for the components are defined (i.e. the subordinate commands). This happens through collaborative planning with the components to ensure the related actions are realistic and the objectives are achievable. Component-level planning will refine and revise as required, just as described here for operational- level planning.

(9) For each branch and sequel developed, each step must be revisited, as yet another illustration of the continuous, iterative nature of CoG identification and analysis.

(10) In sum, key insights from the analysis of CoGs should contribute to the development of the main ideas for the operation and should be captured as key deductions; they should be formulated as elements for further planning, e.g. objectives, decisive conditions, effects, actions, ROE (to prevent undesired states and effects), CCIR, etc.

LEXICON

PART 1 – ACRONYMS AND ABBREVIATIONS

ACTWARN	activation warning
AJP	Allied joint publication
AOO	area of operations
C2	command and control
CAT	Campaign Assessment Tool
CCT	cross-cutting topics
CBRN	chemical, biological, radiological and nuclear
CCIR	commander's critical information requirement
C-IED	countering improvised explosive devices
CIMIC	civil-military cooperation
CIS	communication and information systems
CJSOR	combined joint statement of requirements
CMI	civil-military interaction
COA	course of action
CoG	centre of gravity
CONOPS	concept of operations
COP	contingency plan
COPD	Comprehensive Operations Planning Directive
CPOE	comprehensive preparation of the operating environment
CRD	commander's required date
CRM	crisis response measure
CSO	contractor support to operations
CV	critical vulnerability
DC	decisive condition
DIME	diplomatic, information, military, economic
EEFI	essential elements of friendly information
FAD	Force Activation Directive
FFG	Follow-on Forces Group
FFIR	friendly force information requirement
FOF	Follow-on Forces
FP	force protection
FPG	functional planning guide
GRP	graduated response plan
HN	host nation

HNS	host-nation support
HQ	headquarters
IFFG	Initial Follow-on Forces Group
Info Ops	information operations
ISR	intelligence, surveillance and reconnaissance
JIPOE	joint intelligence preparation of the operating environment
JISR	joint intelligence, surveillance and reconnaissance
JLRT	joint logistic reconnaissance team
JLSG	joint logistic support group
JOA	joint operations area
LO	liaison officer
LOC	lines of communications
LoO	line of operation
MAB	mission analysis briefing
MC	Military Committee
MEDINT	medical intelligence
MILENG	military engineering
MOE	measure of effectiveness
MOP	measure of performance
MP	military police
MSO	military strategic objective
MTF	medical treatment facility
NAC	North Atlantic Council
NATO	North Atlantic Treaty Organization
NCRP	NATO Crisis Response Process
NCRS	NATO Crisis Response System
NCRSM	NATO Crisis Response System Manual
NCS	NATO Command Structure
NID	North Atlantic Council initiating directive
NSO	NATO Standardization Office
OA	operational analysis
OLRT	operational liaison and reconnaissance team
OMT	ORBAT Management Tool
OPD	operational planning directive
OPFOR	opposing forces
OPG	operations planning group
OPLAN	operation plan
OPP	operations planning process
OPSEC	operations security

OPT	Operations Planning Tool
PE	peacetime establishment
PMESII	political, military, economic, social, infrastructure and information
RFI	request for information
ROE	rules of engagement
ROEREQ	rule-of-engagement request
RSOM	reception, staging and onward movement
RSOMI	reception, staging, onward movement and integration
SACEUR	Supreme Allied Commander Europe
SAT	Systems Analysis Tool
SDP	standing defence plan
SHAPE	Supreme Headquarters Allied Powers Europe
StratCom	strategic communications
SUPPLAN	support plan
TBMD	theatre ballistic missile defence
TCN	troop-contributing nation
TCSOR	theatre capability statement of requirements
TOA	transfer of authority
TOO	theatre of operations
TOPFAS	tool for operations planning functional area services.
TWP	TOPFAS Web Portal
UMT	User Management Tool
WMD	weapons of mass destruction

Intentionally blank

PART 2 – TERMS AND DEFINITIONS

adversary
A party acknowledged as potentially hostile and against which the legal use of force may be envisaged. (NATO agreed)

aeromedical evacuation
AE
The movement of patients under medical supervision by air transport to and between medical treatment facilities as an integral part of the treatment continuum.(NATO agreed)

area of operations
AOO
An area within a joint operations area defined by the joint force commander for conducting tactical level operations. (NATO agreed)

area of responsibility
AOR
For a given level of command, an area assigned to a commander to plan and conduct operations. (This term and definition modifies an existing NATO agreed term and/or definition and will be processed for NATO agreed status)

assessment
The process of estimating the capabilities and performance of organizations, individuals, materiel or systems.
Note: In the context of military forces, the hierarchical relationship in logical sequence is: assessment, analysis, evaluation, validation and certification. (NATO agreed)

centre of gravity
CoG
The primary source of power that provides an actor its strength, freedom of action, or will to fight. (NATO agreed)

civil-military cooperation
CIMIC
A joint function comprising a set of capabilities integral to supporting the achievement of mission objectives and enabling NATO commands to participate effectively in a broad spectrum of civil-military interaction with diverse non-military actors. (NATO agreed)

civil-military interaction
CMI
A group of activities, founded on communication, planning and coordination, that NATO military bodies share and conduct with international and local non-military actors, both during NATO operations and in preparation for them, thereby mutually increasing the effectiveness and efficiency of their respective actions in response to crises. (NATO agreed)

command
1. The authority vested in an individual of the armed forces for the direction, coordination, and control of military forces.
2. An order given by a commander; that is, the will of the commander expressed for the purpose of bringing about a particular action.
3. A unit, group of units, organization or area under the authority of a single individual.
4. To dominate an area or situation.
5. To exercise command. (NATO agreed)

commander's required date
CRD
The latest date, calculated from G-day, established by the theatre commander, on which forces are required to be complete in their final destination and organized to meet the commander's operational requirement. (NATO agreed)

communication and information systems
CIS
Collective term for communication systems and information systems. (NATO agreed)

concept of operations
CONOPS
A clear and concise statement of the line of action chosen by a commander in order to accomplish his given mission. (NATO agreed)

conduct of operations
The art of directing, coordinating, controlling and adjusting the actions of forces to achieve specific objectives. (NATO agreed)

contingency plan
COP
A plan which is developed for possible operations where the planning factors have been identified or can be assumed. This plan is produced in as much detail as possible, including the resources needed and deployment options, as a basis for subsequent planning. (NATO agreed)

control
The authority exercised by a commander over part of the activities of subordinate organizations, or other organizations not normally under his command, that encompasses the responsibility for implementing orders or directives. (NATO agreed)

countering improvised explosive devices
C-IED
The collective efforts to defeat an improvised explosive device system by attacking networks, defeating devices and preparing a force. (NATO agreed)

course of action
COA
In the estimate process, an option that will accomplish or contribute to the accomplishment of a mission or task, and from which a detailed plan is developed. (NATO agreed)

decision point
A point in space and time, identified during the planning process, where it is anticipated that the commander must make a decision concerning a specific course of action.

decisive condition
A combination of circumstances, effects, or a specific key event, critical factor, or function that, when achieved, allows commanders to gain a marked advantage over an opponent or contribute materially to achieving an objective. (NATO agreed)

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

electronic warfare
EW
Military action that exploits the electromagnetic energy to provide situational awareness and achieve offensive and defensive effects. (NATO agreed)

end state[30]
The political and/or military situation to be attained at the end of an operation, which indicates that the objective has been achieved. (NATO agreed)

[30] MCM-0041-2010, Annex B defines 'end state' as 'the NAC approved set of required conditions within the engagement space that defines an acceptable concluding situation to be attained at the end of a strategic engagement'.
AJP-5, also referencing AJP-01, consequently understands 'end state' as a political strategic statement by the North Atlantic Council which may include but is not limited to military aspects.

force protection
FP
All measures and means to minimize the vulnerability of personnel, facilities, equipment and operations to any threat and in all situations, to preserve freedom of action and the operational effectiveness of the force. (NATO agreed)

health and medical support
A set of actions which contribute to the preparation and preservation of the human potential by full and coherent care. (NATO agreed)

host nation
HN
A nation which, by agreement:
a. receives forces and materiel of NATO or other nations operating on/from or transiting through its territory;
b. allows materiel and/or NATO organizations to be located on its territory; and/or
c. provides support for these purposes. (NATO agreed)

host-nation support
HNS
Civil and military assistance rendered in peace, crisis or war by a host nation to NATO and/or other forces and NATO organizations that are located on, operating on/from, or in transit through the host nation's territory. (NATO agreed)

improvised explosive device
IED
A device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic or incendiary chemicals and designed to destroy, incapacitate, harass or distract.
Note: It may incorporate military stores, but is normally devised from non-military components. (NATO agreed

information requirement
IR
In intelligence usage, information regarding an adversary or potentially hostile actors and other relevant aspects of the operational environment that needs to be collected and processed to meet the intelligence requirements of a commander. (NATO agreed)

information system
IS
An assembly of equipment, methods and procedures and, if necessary, personnel, organized to accomplish information processing functions. (NATO agreed)

intelligence
INT
The product resulting from the directed collection and processing of information regarding the environment and the capabilities and intentions of actors, in order to identify threats and offer opportunities for exploitation by decision-makers. (NATO agreed)

international organization
IO
An intergovernmental, regional or global organization governed by international law and established by a group of states, with international juridical personality given by international agreement, however characterized, creating enforceable rights and obligations for the purpose of fulfilling a given function and pursuing common aims.
Note: Exceptionally, the International Committee of the Red Cross, although a non governmental organization formed under the Swiss Civil Code, is mandated by the international community of states and is founded on international law, specifically the Geneva Conventions, has an international legal personality or status on its own, and enjoys some immunities and privileges for the fulfilment of its humanitarian mandate.
(NATO agreed)

interoperability
The ability to act together coherently, effectively and efficiently to achieve Allied tactical, operational and strategic objectives. (NATO agreed)

joint
Adjective used to describe activities, operations and organizations in which elements of at least two services participate. (NATO agreed)

joint logistic support group
JLSG
A logistics-centric, force-generated, deployed, component-like joint organization, discharging operational-level responsibilities, through joint operational and tactical-level activities. (NATO agreed)

joint operations area
JOA
A temporary area within a theatre of operations, defined by the Supreme Allied Commander Europe, in which a designated joint force commander plans and executes a specific mission at the operational level. (NATO agreed)

liaison
The contact, intercommunication and coordination maintained between elements of the military and/or other non-military actors to ensure mutual understanding and unity of purpose and action. (NATO agreed)

line of operation
LoO
A path linking decisive conditions to achieve an objective. (NATO agreed)

lines of communications
LOC
All the land, water, and air routes that connect an operating military force with one or more bases of operations, and along which supplies and reinforcements move. (NATO agreed)

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 non-combat attrition of equipment in order to maintain the force's combat power for the duration required to meet its objectives. (NATO Agreed)

logistics
Log
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:
a. design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposal of materiel;
b. transport of personnel;
c. acquisition or construction, maintenance, operation, and disposition of facilities;
d. acquisition or furnishing of services; and
e. medical and health service support. (NATO agreed[31])

measure of effectiveness
MOE
A criterion used to assess changes in system behavior, capability, or operational environment, tied to measuring the attainment of an end state, achievement of an objective, or creation of an effect. (This term and definition modifies an existing NATO agreed term and/or definition and will be processed for NATO agreed status)

military assistance
MA
A broad range of activities that support and influence critical friendly assets through training, advising, mentoring or the conduct of combined operations.
Note: The range of military assistance is considerable and includes, but is not limited to: capability building of friendly security forces; engagement with local, regional, and national leadership or organizations; and civic actions supporting and influencing the local population. (NATO agreed)
military engineering

[31] Belgium, Czech Republic, Germany, Hungary, Slovakia and the United States do not consider medical support to be a logistic function (see MC 0319/3, footnote 5).

MILENG
A function in support of operations to shape the physical operating environment. (This term and definition modifies an existing NATO agreed term and/or definition and will be processed for NATO agreed status)

mission
Msn
A clear, concise statement of the task of the command and its purpose. (NATO agreed)

multinational
MN
Adjective used to describe activities, operations and organizations, in which elements of more than one nation participate. (NATO agreed)

multinational operation
An operation conducted by forces of two or more nations acting together. (NATO agreed)

non-governmental organization
NGO
A private, not for profit, voluntary organization with no governmental or intergovernmental affiliation, established for the purpose of fulfilling a range of activities, in particular development-related projects or the promotion of a specific cause, and organized at local, national, regional or international level.
Notes:
1. A non governmental organization does not necessarily have an official status or mandate for its existence or activities.
2. NATO may or may not support or cooperate with a given non governmental organization. (NATO agreed)

objective
Obj
A clearly defined and attainable goal for a military operation, for example seizing a terrain feature, neutralizing an adversary's force or capability or achieving some other desired outcome that is essential to a commander's plan and towards which the operation is directed. (NATO agreed)

operating environment
OE
A composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. (NATO agreed)

operation
Op
A sequence of coordinated actions with a defined purpose.
Notes:
1. NATO operations are military.
2. NATO operations contribute to a wider approach including non-military actions.
(NATO agreed)

operation plan
OPLAN
A plan for a single or series of connected operations to be carried out simultaneously or in succession.
Notes:
1. It is the form of directive employed by higher authority to permit subordinate commanders to prepare supporting plans and orders.
2. The designation ‘plan’ is usually used instead of ’order’ in preparing for operations well in advance.
3. An operation plan may be put into effect at a prescribed time, or on signal, and then becomes the operation order. (NATO agreed)

operational art
The employment of forces to attain strategic and/or operational objectives through the design, organization, integration and conduct of strategies, campaigns, major operations and battles. (NATO agreed)

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

operational pause
A temporary and deliberate cessation of certain activities during the course of an operation to avoid reaching the culminating point and to be able to regenerate the combat power required to proceed with the next stage of the operation. (NATO agreed)

operations planning
The planning of military operations at the strategic, operational or tactical levels.
Notes:
1. The preferred English term to designate the planning of military operations at all levels is ”operations planning”.
2. The term ”operational planning” is not to be used so as to prevent confusion with operational-level planning. (NATO agreed)

opposing forces
OPFOR
Those forces used in an enemy role during NATO exercises. (NATO agreed)

peace support
Efforts conducted impartially to restore or maintain peace.
Note: Peace support efforts can include conflict prevention, peacemaking, peace enforcement, peacekeeping and peacebuilding. (NATO agreed)

rules of engagement
ROE
Directives issued by competent military authority which specify the circumstances and limitations under which forces will initiate and/or continue combat engagement with other forces encountered. (NATO agreed)

security force assistance (SFA)
All NATO activities that develop and improve, or directly support, the development of local forces and their associated institutions in crisis zones. Local forces comprise indigenous, non-NATO military security forces and will be defined by the North Atlantic Council. (AJP-3.16)

Supreme Allied Commander Europe
SACEUR
The NATO strategic commander commanding Allied Command Operations and responsible for the planning and execution of NATO operations. (NATO agreed)

special operations
Military activities conducted by specially designated, organized, selected, trained and equipped forces using unconventional techniques and modes of employment. (NATO agreed)

strategic communications
StratCom
In the NATO military context, the integration of communication capabilities and information staff function with other military activities, in order to understand and shape the information environment, in support of NATO strategic aims and objectives. (NATO agreed)

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

supported commander
A commander having primary responsibility for all aspects of a task assigned by a higher NATO military authority and who receives forces or other support from one or more supporting commanders. (NATO agreed)

tactical level
The level at which activities, battles and engagements are planned and executed to accomplish military objectives assigned to tactical formations and units. (NATO agreed)

targeting
The process of selecting and prioritizing targets and matching the appropriate response to them, taking into account operational requirements and capabilities. (NATO agreed)

theatre of operations
TOO
A designated area, which may include one or more joint operations areas.
Note: A theatre of operations may include land, air, space and sea outside a joint operations area. (This term and definition modifies an existing NATO agreed term and/or definition and will be processed for NATO agreed status)

transfer of authority
TOA
Within NATO, an action by which a member nation or NATO Command gives operational command or control of designated forces to a NATO Command. (NATO agreed)

Intentionally blank

AJP-5(A)(2)