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CBRN DEFENCE STANDARDS ON EDUCATION, TRAINING, EXERCISE AND EVALUATION

Edition A, Version 1

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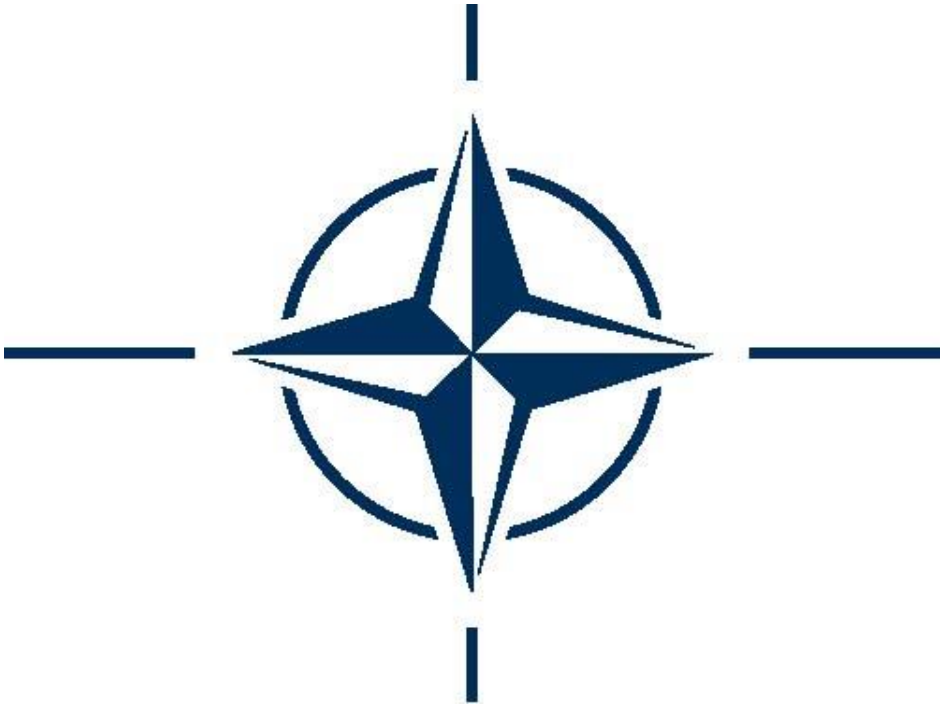

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NATO LETTER OF PROMULGATION

10 May 2023

1. The enclosed Allied Tactical Publication ATP-3.8.1 Volume III, Edition A, Version 1, CBRN DEFENCE STANDARDS ON EDUCATION, TRAINING, EXERCISE AND EVALUATION, 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 2520.

2. ATP-3.8.1 Volume III, Edition A, Version 1, is effective upon receipt and supersedes ATP-3.8.1 Volume III, which shall be destroyed in accordance with the local procedure for the destruction of documents.

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Dimitrios SIGOULAKIS
Lieutenant General, GRC (A)
Director, NATO Standardization Office

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
BGR	1. STANAG 2520 will not be implemented in the part related to detection and identification of biological agents and sampling of biological contamination. The CBRN units from the declared forces will perform only fast manual antibodybased analysis concerning the detection of biological agents. 2. The Bulgarian Armed Forces (BAF) will not conduct CBRN education and training of civilians. 3. Due to lack of capabilities and necessary special equipment the following activities will not be performed: - the education and training of CBRN EOD teams; - the using of CBRN COLPRO; - the evaluation of the Deployable CBRN Analytical Laboratory; 4. There is not CBRN-MERT in BAF and requirements related to these activities will not be implemented.
CZE	CZE will not implement: • Chapter 3 “CBRN defence training support”; • Appendix 6 to Annex H “CBRN multirole exploitation and reconnaissance team (CBRN-MERT) & it’s evaluation”; • Subchapter 2.2 “Maritime domain” and appropriate Annex F as an inland country. Biological contamination detection in CZE Armed Forces is provided only by trained and equipped specialists not by all service personnel as required in subchapter 1.2 (Annex A).
ESP	- The Navy will not implement the requirement that special defence CBRN units have to carry out training with live CBRN agents, until there is a national CBRN training center. - The Air Forces will implement this STANAG when the flight individual protection equipment acquisition processes are completed and the training plans for its operational use have been developed.
HRV	CBRN (Chemical, Biological, Radiological and Nuclear) defence standards on Education, training, Exercise and Evaluation described in this publication are only applicable for Croatian Ground Forces, Croatian Military Academy and Special Force Command. Due to missing prerequisites for fulfillment these standards, related to lack of the equipment for CBRN defence, established procedures for pre

	- during, and post- incident actions and warning and reporting requirements and specialized personnel fully assigned for CBRN defence, standards described in this publication are not applicable for the other components of Croatian Armed Forces (Navy, Air Force and Logistic Command). Reservations concerning Croatian Army Forces are: - there is no opportunity in Republic of Croatia to conduct Live Agent Training. This training is conducted in JCBRND (Joint Chemical, Biological, Radiological and Nuclear Defence) CoE (Center of Excellence) Vyskov, Czech Republic, - there are limited capacities to conduct training with CBR substances and simulants, - climatic conditions in Republic of Croatia are not suitable to conduct CBRN training in extreme cold and extreme hot/dry weather, - there is no EOD (Explosive Ordnance Disposal) education and training for CBRN personnel.
LVA	1. Requirements of STANAG 2520 will be adopted to structure, tasks, available personnel resources and CBRN equipment of Latvian National armed forces (LNAF); 2. LNAF will not provide special CBRN training for medical personnel and EOD specialists; 3. Live agent training for CBRN specialists will be conducted in other NATO countries due to the fact, that Latvia has not appropriate training facilities; this training can be limited or denied by Latvian law.
MNE	According to Armed Forces of Montenegro formation structure, available equipment and materials, units tactics and procedures and members job descriptions, implementation of standard will be focusing mainly on Land Forces. Navy and Air Forces will not be involved in implementation of this publication, in CBRN reconnaissance and CBRN control part (Chapter 2 and Chapter 4, Annexes: D,F,G and H).
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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PREFACE

General

North Atlantic Treaty Organization (NATO) commanders have the responsibility to ensure that the forces under their command are capable of surviving and continuing operations, when faced with weapons of mass destruction (WMD) respectively chemical, biological, radiological and nuclear (CBRN) hazards; this is to include hazards caused by the accidental release or deliberate misuse of Toxic Industrial Materials (TIMs).

Successful CBRN defence depends on a strong, up-to-date education, training and exercise programme for individuals (all arms basic skills), and additionally trained CBRN defence specialists and non-specialists (enhanced capability), allowing a detailed assessment of standards and proficiencies. The programme should allow confirmation through certification and verification that troop formations are able to establish and sustain coherent CBRN defence plans and operations.

It is essential that CBRN defence education, training, exercises and evaluation are included in all levels of command to include multinational Corps, Combined Joint Task Forces (CJTFs), NATO Response Force (NRF) and NATO Command Structure (NCS). It is also valuable, as the Alliance undergoes transformation, to include participation by Partners and Non-NATO Entities (NNE) into the training and exercise activities in accordance with the established procedures in the NATO ETEE Policy (MC 0458).

Optimum performance and confidence in CBRN defence throughout NATO forces can best be achieved by knowledge and experience gained through training and exercising. Complementary activities to CBRN defence, such as logistic support, environmental protection impacts, and engineering requirements should be considered in unit and staff training.

Aim

The purpose of this publication is to provide standards and complete lists of mandatory requirements, to guide NATO forces on CBRN defence education, training, exercises and evaluation and give them ultimately the capability to survive and operate in a CBRN environment.

The aim of the lists of requirements is to allow the evaluators to have suitable documents, easily usable on the field, for the evaluation of Joint CBRN capabilities.

That Joint CBRN lists are the synthesis of other evaluation documents from NATO like JOINTEVAL, CREVAL, MAREVAL, TACEVAL, SOFEVAL and MEDEVAL.

Objectives

According to the NATO Training spectrum (MC 458/31), to gain proficiency at the collective level, joint and/or combined forces should have the ability to engage as one force quickly to integrate their capabilities across domains, echelons, geographic boundaries and other organizational affiliations.

Since the individual's preparation contributes directly to collective effectiveness, individual training and collective training should be viewed as closely connected. As such, the NATO Training Spectrum is defined as having an individual focus connected to collective proficiency.

The individual focus is described in two elements: education and individual training. The collective side encompasses collective training and exercises.

Education provides a base of knowledge and intellectual development which can be used to interpret information reasonably and exercise sound judgement. National commanders select subordinates to undergo individual training and education. Once skills and knowledge are acquired, commanders should then employ training, exercises and evaluation to verify and strengthen this learning through experience.

According to Military Committee (MC) 458/3 providing the commanders, staffs and units the essential guidance for the preparation of the forces, education is the systematic instruction of individuals that will enhance their knowledge and skills, and develop competencies. It is the developmental activity that enables the individuals to make a reasonable response to an unpredictable situation.

Training is command driven. Therefore, commanders should be actively involved in training, and ensure that its focus is correct and that it is adequately resourced, well organized and skilfully conducted. Training, as the generic term, involves preserving and improving the ability of military individuals, staffs and forces to perform sound military operations (MC 458/3).

Individual training. Individual training prepares an individual military member to perform specified military tasks either in a centralized military training organization or in a military unit/HQ. It encompasses procedural drills and repeated practical application of tactics, techniques, and procedures (TTPs) to ensure that the individual acquires and maintains the required skills.

It consists in the development of skills and knowledge necessary to perform specific duties and tasks. Individual training is learned response to predictable situations (MC 458/3).

[1] MC 458/3 “NATO Education, Training, Exercise and Evaluation (ETEE) Policy”

The Military Committee (MC) 458/1[2] provides the following definitions still valid:

Basic Training: Basic training is carried out to achieve and maintain a minimum level of knowledge and skills that enables individuals/units to accomplish a limited spectrum of assigned tasks/missions.

Advanced Training: Advanced training is performed to achieve and maintain a higher level of knowledge and skills to enable individuals/units to accomplish a broader spectrum of assigned tasks/missions within enhanced and specialised CBRN defence capability.

On-the-Job Training: On-the-job training involves training individual members serving in specific positions in military units or staffs to provide them with the skills relevant to those positions.

Modular Training: Modular training is based on the concept of building up skills, knowledge, and attitudes in self-contained blocks as the trainee requires. These blocks should be capable of being taken in any order, although a degree of routing may be imposed where necessary.

Collective training. Collective training is completed to prepare an organizational military team to perform military tasks/missions as a unit in order to ensure that the defined standards are met. It consists of procedural drills and practical application of doctrine, plans and procedures to acquire and maintain collective tactical, operational, and strategic capabilities (MC 458/3).

Exercises prepare commands and forces for operations in peace, crisis and conflict. The aims and objectives of exercises should mirror current and anticipated operational requirements and priorities. These are collective activities where HQs and/or formations are trained to fulfil their missions, driven by external stimuli and typically evaluated for purposes of readiness assessments.

Evaluation. Commanders of units should also be involved in training evaluation to ensure that standards are met, and subordinate commanders clearly understand the higher commander's intent. Nations will only be evaluated based on their declared capabilities.

Evaluation involves the examination of individuals, staffs, units, and force components on their capability to conduct given missions and tasks effectively and efficiently.

The purpose of the NATO Evaluation Programme is to provide assurance that all declared forces and/or capabilities are ready and prepared to meet current and contingent operational priorities in accordance with NATO standards. Evaluation of NATO HQs and forces shall be based upon defined AFS for common NATO tasks, which establish a baseline for training, exercise and employment of forces allocated to

[2] MC 458/1 "NATO Education, Training, Exercise and Evaluation Policy"

NATO. A critical aspect to all NATO ETEE activities is the requirement to capture and incorporate Lessons Identified in order that they become Lessons Learned.

Principles. The MC 458/3 provides the general principles of training policy:

a. The NATO ETEE events will be balanced and address the full range of Alliance missions, including large-scale high-intensity operations.

b. Taking resource considerations into account, sufficient exercises of a high quality and on a broad set of scenarios will be organized and, where mutually beneficial, affordable and agreed, linking of NATO and national exercises will be considered.

c. Exercise requirements derived from the NATO LoA will provide the overarching vision for SACEUR's Annual Guidance on ETEE (SAGE).

d. Major NATO exercises should cover the whole range of NATO missions within a three-year period.

e. NATO ETEE shall be based on NATO standards and prioritized requirements. It shall be focused on current and future operations, based on realistic scenarios, operational conditions.

f. NATO and nations should endeavour to synchronise their ETEE processes in an effort to enhance interoperability.

Limitations

This publication does not question the policy or practice of any specific NATO member state.

Training with CBR substances and simulants is an element of CBRN defence training undertaken and conducted in accordance with national regulations (chapter 3).

This publication is not gender specific and the use of “his” is implied to refer to both males and females.

CHAPTER 1 REQUIREMENTS FOR TRAINING

1.1. GENERAL

This chapter lists, in sequential order, the established capability levels, basic for non-specialists, enhanced for selected personnel and specialized for CBRN defence specialists in line with the table below. It includes civilians, medical personnel, commanders, and their staffs.

Capability levels	Description of capability
Basic capability	To ensure the survivability of the individual.
Enhanced capability	To ensure the continuation of operations under CBRN threat or in a CBRN environment.
Specialized capability	To ensure the qualified accomplishment of CBRN defence missions and tasks by Allied Force Specialist CBRN defence force.

Figure 1: CBRN defence capability levels[3]

The minimum requirements for training and evaluation, including individual, unit and HQ/staff level, IAW national CBRN defence structure, is depicted in the annexes, allowing their use on the field by the control staff.

NATO commanders require certainty that forces under their command are capable both of surviving CBRN incidents and of continuing operations in a CBRN environment. Related guidelines include:

a. Training of individuals in those areas pertinent to personal survival and mission accomplishment. This includes civilian personnel acting in a military organization.

b. Additional training of personnel for CBRN tasks beyond the scope of mere survival should be accomplished speedily and efficiently in order that the unit will be enabled to mitigate as many as possible of the effects of any CBRN release.

c. Training of CBRN specialists whose primary duties are concerned with CBRN defence.

[3] AJP-3.8, Chapter 2, Table 2-2.

d. Commanders' knowledge about the effect of CBRN release on the operational efficiency of the unit; ability to evaluate the consequences and to make decisions as to survival and the maintenance and restoration of operational efficiency.

e. Commanders' awareness about potential environmental impact caused by CBRN activities.

f. Organization of the unit's overall CBRN defence capability to ensure maintenance or rapid restoration of operational efficiency with maximum economy of effort in terms of personnel and material.

g. Specialist training of medical personnel.

h. Proficiencies required to operate in a CBRN environment are the basis for evaluation procedures described in chapter 4.

i. Appropriate physical fitness and acclimatization of the individual are a prerequisite to withstand the challenges in a CBRN environment under different climatic condition.

j. Live agent training is a very important element of specialist CBRN defence training and should be undertaken and conducted in accordance with national regulations (chapter 3).

k. Advanced training to operate in a toxic industrial hazard environment should be done in accordance with national regulations.

1.2. BASIC CAPABILITIES TRAINING REQUIREMENTS - NON-SPECIALISTS

Individual Training. All Service personnel are expected to become proficient in two basic types of CBRN defence skills: basic CBRN survival skills and basic CBRN operating skills. On becoming aware of a CBRN hazard, every individual should be capable of taking those actions essential for immediate survival, known as basic CBRN survival skills. Each individual should master these skills in order to be able to survive any type of CBRN incidents. In contrast, basic CBRN operating standards are those which the individual should master in order to contribute towards the continued operations of the unit as a whole under any CBRN threat conditions. Individuals will normally receive their individual CBRN survival training during their basic training. Thereafter, Service personnel should receive refresher CBRN survival training at regular intervals throughout their career and additional CBRN operating skills will be acquired, either in a formal classroom setting or while on the job. The basic standards within each of these types of CBRN training are provided in the following sections.

a. Basic CBRN Survival Skills – Standards for Non-Specialists. To meet CBRN defence survival standards of proficiency, individuals should satisfy some basic requirements. See that requirements in the Annex A:

"O" in the columns B (basic level) of the categories "individual" and "unit" and "Basic/Surv" in the column "remarks/ref". The requirements are organized to include Command and Control, and the enabling components: DIM (Detection Identification Monitoring), CBRN KM (CBRN Knowledge Management), PP (Physical Protection), HM (Hazard Management), MEDCM (Medical Countermeasures and Casualty Care). This kind of table has to be used by controllers or umpires to control if the individual or unit fulfil the different requirements.

b. Basic CBRN Operating Skills - Standards for Non-Specialists. To meet basic operating standards of proficiency under CBRN conditions, all personnel of the unit should be able to not only perform the survival standards above but also satisfy other requirements. See that requirements in the Annex A : "O" in the columns B (basic level) of the categories "individual" and "unit", and "Basic/Op" in the column "remarks/ref".

Unit basic operating standards

a. In a CBRN environment, units should be able to survive and be able to continue their assigned missions.

b. Each unit should develop and maintain its capability to successfully accomplish its mission in a CBRN environment. Planning and training for this capability will include preparation and periodic review of a unit CBRN defence SOP. The unit standards of proficiency have been divided into "survival" and "basic operating" standards.

c. Unit Survival Standards: allowing to survive CBRN incidents. See the requirements in the Annex A: "O" in the columns B (basic level) of the category "unit", and "Unit/Surv" in the column "remarks/ref".

d. Unit Basic Operating Standards: in order to meet basic operating standards of proficiency, the unit should not only be able to perform the survival standards listed above but also follow other requirements. See in the Annex A: "O" in the columns B (basic level) of the category "unit", and "Unit/Op" in the column "remarks/ref".

1.3. ENHANCED CAPABILITIES TRAINING REQUIREMENTS

Selected Personnel Requiring Additional Training. To accomplish operational tasks, some personnel require additional training beyond individual standards of proficiency but not to the degree required by specialists. That CBRN capability is identified as “enhanced capability level”.

a. Personnel trained in CBRN monitoring, survey, and reconnaissance. See the requirements in the Annex A: “O” mainly in the columns E (enhanced capability level) of the categories “individual” and “unit”, and ”SP/Mon” in the column “remarks/ref”.

b. Personnel trained in hazard management. See the requirements in the Annex A : “O” in the columns E (enhanced capability level) of the categories “individual” and “unit”, and ”SP/HM” in the column “remarks/ref”.

c. Aircrews, rescue and survival personnel as well as ground personnel : see the requirements in the Annex A : “O” in the columns E (enhanced capability level) of the categories “individual” and “unit”, and ”SP/Air Force” in the column “remarks/ref”.

d. In addition to the requirements of Basic Standards of Proficiency - Individual Service Personnel, all officers, NCOs, and enlisted personnel are required to have knowledge appropriate to their rank and/or operational role. See the requirements in the Annex A: “O” in the columns E (enhanced capability level) and ”SP/OFF” in the column “remarks/ref”.

1.4. STANDARDS OF PROFICIENCY- MEDICAL PERSONNEL

Medical personnel should be trained and able to provide CBRN medical support. This includes the provision of CBRN medical advice, support to CBRN defensive operations including medical countermeasures (MEDCM), protecting medical treatment facilities (MTF), medical personnel and patients, CBRN casualty care, and operational and strategic bio-responsiveness including deliberate release. Chapter 7 of AJMedP-7 Allied Joint CBRN Medical Support Doctrine provides an outline of CBRN medical ETEE while AMedP-7.3 (2954) *Training of Medical Personnel for Chemical, Biological, Radiological, and Nuclear (CBRN) Defence* provides the standard for training medical personnel.

In addition to basic CBRN defence training standards discussed previously, which equally apply to medical personnel according to their rank and function, other special skills are mandatory for all medical personnel, mainly at the level of the enhanced capability level. See the Annex A: part MEDCM. CBRN training for Medical personnel is categorized in AMedP-7.3 as follows: Awareness, Basic (Provider), Advanced levels.

As described below, each level of CBRN medical training is similar to the Basic, Enhanced, and Specialized capability levels as described in this chapter.

- **Awareness Level**. This competency level introduces concepts and mandatory knowledge. Medical personnel should be able to describe the CBRN threat, recognise a CBRN incident and carry out immediate actions beyond those taught at generalist (non-medical) level.

- **Basic (Provider) Level**. This level of competency includes knowledge and skills that provide a minimum standard of casualty care within the individual's scope of practice e.g., first responder, medic, nurse or doctor. This level covers the initial stages of the CBRN medical response focusing on the saving of life (enhanced first aid and emergency medical treatment). For deployed medical personnel, this will include the knowledge and skills to manage any casualties in a CBRN environment from point of exposure through to initial hospital resuscitation.

- **Advanced Level**. This level of competency for clinical personnel will support the medical response up to and including a Role 3 MTF. Advanced level includes advanced medical care to continue to treat life-threatening conditions and limit long-term health effects, incident management and command, and initial outbreak investigation, as appropriate to the deployed role.

1.5. STANDARDS OF PROFICIENCY- COMMANDERS AND STAFF

Text In order to maintain or restore the operational readiness of their units, commanders and staff should also obtain additional CBRN defence training. Commanders and staff are required to have knowledge and competence in CBRN defence beyond the scope of that demonstrated by individual personnel but not to the degree required by CBRN defence specialists. Commanders, with the assistance of their CBRN defence specialists, should be aware of hazards arising from CBRN incidents in order to plan and conduct operations under the influence of such hazards. The requirements for Commanders and Staff are detailed in the Annex A: "O" in the columns E (enhanced capability level) and "Comm" in the column "remarks/ref".

1.6. SPECIALIZED CAPABILITIES TRAINING REQUIREMENTS

CBRN defence specialists

a. Officers, NCOs, and other personnel whose primary duties are concerned with CBRN defence are required. These personnel should receive formal training at national CBRN defence training establishments.

b. CBRN defence specialists are:

(1) Command CBRN defence personnel. Personnel that are assigned to full-time duty in CBRN defence. Such personnel will normally be attached to units above the level of company or equivalent.

(2) Unit CBRN defence personnel. Personnel that are assigned on an additional duty basis to form the CBRN control party[4]. These personnel should be at the level of company (or equivalent) but may be assigned at a higher level, depending on the organizational structure of a particular nation's forces.

Requirements for specialists

CBRN defence specialists, in co-operation with others within the functional staff as necessary, should follow the requirements detailed in the Annex A: "O" in the columns S (specialist level) and "Basic/Spe" in the column "remarks/ref".

Unit CBRN defence personnel should follow the requirements detailed in the Annex A: "O" mainly in the columns S (specialist level) and "Unit/Spe" in the column "remarks/ref".

In order to enhance efficiency and effectiveness of the respective national CBRN-system, dedicated requirements are recommended but not mandatory to be fulfilled by CBRN defence officers, warrant officers and senior NCO's, detailed in Annex A: "X" in the columns S (specialist level).

1.7. STANDARDS OF PROFICIENCY – CIVILIANS

There are likely to be increasing numbers of civilians operating in support of the mission, including many who will require basic CBRN defence survival skills and some may require advanced skills. Therefore, NATO member states should identify such personnel and ensure that they are trained and equipped to survive and function in a CBRN environment. NATO member states should specify the level of CBRN defence proficiency necessary for their civilian employees. Suggested standards of proficiency in both areas are listed under "survival" and "basic operating standards". Categories of civilians entitled to CBRN defence equipment and training during a NATO operation include:

[4] Commanders of companies or equivalent sized units which do not have assigned CBRN specialists should appoint on an additional duty basis one CBRN Defence Officer/CBRN Defence senior grade NCO and one enlisted NCO (assisted by one enlisted person). These personnel could form the CBRN control party.

a. Contracted Personnel. Contracted personnel, employed in CBRN threat areas will either be trained and equipped by their parent company as part of the provisions of the contract, or from the national resources. In all cases, the responsibility, and levels of CBRN defence proficiency should be specified in the contract.

b. Locally Hired Personnel. NATO Member states will be responsible for the CBRN defence training and equipment for all locally hired personnel. The standards of CBRN defence proficiency will normally be established by the local commander in accordance with national direction. In all cases, the responsibility, and levels of CBRN defence proficiency should be specified in the contract.

c. National Government Departments. Nations are responsible for equipping and training personnel deploying from their own Governmental Organizations.

d. Members of Non-Government Organizations (NGOs). NATO will not typically provide training or protective equipment for NGOs.

e. Media. Members of the media embedded with operational units should be checked to ensure that they have adequate CBRN protection.

Public Affairs (PA) and media awareness training is paramount for some selected CBRN defence personnel. A CBRN incident involving NATO units will raise interest among members of the media and the general public. Public Information personnel will likely be available to coordinate any PI requirements, however CBRN defence personnel identified as spokespersons may be without PI support in a remote location or be required to deliver an interview. This particular situation requires a closed coordination among CBRN spokesperson and the PA of his unit or higher echelon to figure out all the messages that has to be delivered. It is strongly recommended for CBRN defence spokespersons and CBRN defence commanders starting from battalion level (including CBRN TF and JAT members) to participate in PA and media awareness training in order to familiarize themselves with media practices and messages delivery.

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CHAPTER 2 CONSIDERATIONS FOR CBRN TRAINING UNDER SPECIAL CONDITIONS

NB : Dimension vs Domain : A domain is a geographic area, a dimension is a single aspect of a given thing.

Land domain is considered as the standard domain for CBRN. Air and maritime domains are developing particularities from that standard.

2.1. AIR DOMAIN

Air assets on the ground are particularly vulnerable to CBRN incidents due to the fixed nature of installations and the fragile and complex nature of air platforms: consequently, CBRN training for the air component and in the air domain requires specific considerations. Although air specific CBRN training focuses largely on fixed bases, it should also recognise the different circumstances of tactical and field sites for Tactical Air Transport and Aviation.

As a general principle, non-specialists including C2, Aircrew and all Air Ops supporting functions should, where necessary, be trained to continue to do execute their role, albeit with limitations, in a CBRN threat or hazard environment, including use of IPE and operation from COLPRO were appropriate. Commanders and Command and Control personnel should be trained to be CBRN aware and focussed, in particular understanding avoidance of contamination, dispersal and sheltering as major priorities. Due to the large size of airbases, the rapid identification of contamination through reconnaissance and survey is key and should be trained and practiced thoroughly, integrated with other DIM systems.

Each airfield will have an integral CBRN Sub Collection Centre (SCC), critical to giving the information enabling commanders to make risk management decisions and to warn of CBRN hazards, which should be trained and practiced in conjunction with the CBRN organization as part of the base Force Protection. The provision of COLPRO to allow base C2 and air operations planning to continue in a CBRN threat or hazard should be trained and exercised to enable key functions to continue. The protection of aircraft and aircrew from incident is vital, with the training and exercising of aircrew in the use of any special IPE being important in preventing degradation.

In the Air domain, the avoidance of a hazard is the most vital component of hazard management: Air Commanders at all levels should be trained and exercised in the measures required to keep aircraft out of the hazard including strategic and tactical dispersal but personnel should also be trained to execute decontamination operations of aircraft, equipment, personnel and key terrain where the situation requires.

In addition to the training of individual medical C-CBRN drills, medical personnel should train and exercise the treatment of conventional and CBRN casualties in a CBRN environment from point of injury to aeromedical evacuation, including dealing

with aircrew and passenger casualty handling and the processing of casualties through an Air Point of Disembarkation for repatriation. Annex C of ATP 3.8.1 Vol I explain in detail Air component considerations, ACO Forces Standards Vol VI -SHAPE Tactical Evaluation Manual details the standards expected of Air Forces.

Ground based Air Force air defence units are comparative to Land domain, in both preventive risk assessment prior to engaging TBM´s carrying CBRN warheads should be carried out.

2.2. MARITIME DOMAIN

Naval vessels unique capability makes them less vulnerable to CBRN incidents or impact from TIMs compared to units operating on land. By using their mobility and speed, they are able to avoid CBRN hazards, and their built-in CBRN defence features enable them to operate safely in a CBRN contaminated environment. Although naval vessels are less vulnerable to CBRN incidents than land units, CBRN threats will always pose a danger to their missions, depending on type of vessel, and location in the area of operation. Naval vessels are more likely to be exposed to CBRN hazards in the littoral than at open sea, where they are difficult targets for an adversary. In addition, ships are more exposed at naval bases and ports, which are considered strategic targets due to their role and fixed infrastructure.

Normally there are no CBRN defence specialists serving on board naval vessels and CBRN defence responsibilities are therefore a secondary task. During daily operations, naval units require proficiency and skills in order to be able to maintain safety and operational efficiency during CBRN incidents. Command and control elements along with detection, warning and reporting and effective route planning, are imperative needs to upkeep in order to avoid CBRN hazards. Units therefore needs to have a satisfactory CBRN defence organisation, knowledge and CBRN defence equipment to be able to discover, detect, warn, and protect themselves. Furthermore, it is important that units maintain situational awareness (SA) concerning potential CBRN hazards in their area of responsibility. This will enable them to react quickly in order to implement CBRN defence measures. Regardless of role and size, navy vessels should under all circumstance establish an adequate CBRN situational awareness based on analysis done by command and control personnel in collaboration with Intelligence assets. This will enable them to execute missions in a safe manner well knowing which CBRN defence measures to implement.

In situations where there is a possibility of CBRN or TIM contamination for naval vessels personnel should have advanced proficiency and training. Under such conditions units should have personal and collective CBRN protection in place. They should be able to execute survey and decontamination tasks, and if necessary, be able to conduct medical treatment of CBRN contaminated patients.

MIO (maritime interdiction operations) and amphibious operations need close cooperation at the command level to risk assess potential CBRN threats that may affect

these types of operations. MIO personnel should have advanced training in case they come in contact with CBRN agents during interdiction operations while amphibious operations personnel should have basic training in order to operate in a potential CBRN environment. In addition, it is necessary to make a plan for deployment and recover ops, using the navy vessels own CBRN defence capabilities as support element. Annex C of ATP 3.8.1 Vol. I explain in detail the particularities of the maritime domain.

Air assets on board naval vessels are considered as strategic targets for an opponent and both platform and aircrafts need special consideration. Use part Air domain for further details.

Naval bases and facilities are comparative to land domain and will follow the standards mentioned in Chapter 1.

2.3. CLIMATIC CONDITIONS

Many recommendations have to be underlined below, according to ATP-65 (B) “The effect of wearing CBRN individual protective equipment on individual and unit performance during military operations”.

2.3.1. CBRN training in extreme cold weather

a. The problems that units will experience when operating in extreme cold weather will only be well understood if the units exercise their CBRN defence SOPs in these conditions. For example: the effects of pick-up and carry-through of chemical agents from colder into warmer areas can only be well understood if experienced under actual cold conditions.

b. In cold weather heat stress will not be such a problem, but work/rest cycles and insulation should be adjusted to avoid saturating inner clothing with sweat.

c. Individuals and units whose role may require them to operate in a CBRN environment in extreme cold weather should train and exercise under such conditions. Both CBRN environments and extreme cold environmental constraints require specific skills and the combination of both requires additional attention.

d. When planning CBRN training in extreme cold weather, the following factors should be considered:

(1) Allow more time for each particular action to be completed in an extreme cold weather environment.

(2) Perform extreme cold weather drills, in accordance with the current JMETL.

(3) Chemical detection at low temperature will be more difficult (certain chemicals don't off-gas and produce a vapour at low temperature). Therefore, locating and identifying chemicals will require the use of enhanced TTP to get results, so timely J2 can be passed through the chain of command (CoC).

(4) Procedures should initially be practiced at a reduced rate in extreme cold environments before testing or evaluation is initiated.

(5) Use of a defensive scenario makes effective simulation and the ability to monitor progress easier. It also poses some of the most difficult problems of operating in an extreme cold weather CBRN environment.

(6) Initially main exercise play should take place in daylight to aid in the assessment of the viability of the procedures.

(7) Training in snow conditions should also be attempted if conditions permit.

(8) To maintain proper operational capability, winterizing of equipment prior to training interactions in winter conditions should be ensured.

e. Temperatures below the freezing point can limit measures for decontamination substantially. With the use of water, it is to be made certain, that this can freeze water in lines, hoses and at material surfaces.

(1) The risk of hypothermia and frostbite will force shorter work periods and longer rest periods in proportion to the level of work performed.

(2) Physical fitness and conditioning of personnel to the climate should be taken into account when planning stressful IPE training in extreme cold weather.

(3) Exercise participants, especially those in full IPE, should drink hot water/fluid at regular intervals to avoid hypothermia, dehydration, particularly when participating in strenuous activities.

(4) If possible, exercise participants will be refreshed with use of warm shelters (against the extreme cold) and showers used on the area of exercise.

(5) Procedures should initially be practiced at a reduced rate in extreme cold environments before testing or evaluation is initiated.

2.3.2. CBRN training in extreme hot/dry weather

a. Individuals and units whose role may require them to operate in a CBRN environment in extreme hot weather should train and exercise under such conditions. Both CBRN defence operations and operations conducted in hot environments require specific skills, and the increase in risks that comes from operating in both environments simultaneously requires additional attention. In addition to the principles set out previously in this publication, the following specific considerations apply:

(1) Allow more time than normal to complete even routine actions.

(2) Heat stress will force shorter work periods and longer rest periods in proportion to the level of work performed.

(3) Physical fitness and conditioning of personnel to the climate should be taken into account when planning stressful IPE training in hot weather.

(4) Chemical simulants will evaporate rapidly. Simulants are best employed immediately prior to training and in shaded areas.

(5) CBRN defence drills involving extreme hot weather should be conducted at a reduced pace even when testing or evaluation are conducted.

(6) The use of a defensive scenario makes effective simulation and the ability to monitor progress easier.

(7) Initially, consider staging main exercise play in daylight to aid assessment of the viability of procedures. Consider undertaking subsequent training at night when the temperature will be lower, and the effects of direct sunlight removed.

(8) Exercise participants, especially those in full IPE, should drink water/fluid at regular intervals to avoid dehydration, particularly when participating in strenuous activities.

(9) If possible, exercise participants will be refreshed with use of shelters (against sun) and showers used on the area of exercise.

(10) Individuals exercising in IPE and requiring additional safety and/or medical safeguards may need to have special arrangements made for them (e.g. reduction in IPE worn, a ”safety person” monitoring their actions).

(11) Exercise planners should minimize the requirement for intense physical activity during the early stages of an exercise. Personnel should have acclimatized before being subjected to wearing of IPE.

b. There is always the danger of heat stress occurring among those undergoing strenuous training while wearing full IPE during hot weather. Before an exercise, medical advice should be sought; during an exercise correct and prompt action should be taken at the first signs of heat stress such as: rapid breathing and pulse rate, nausea, dizziness, cramp, or a hot, sweaty, flushed face turning pale and cold. In hot weather these symptoms should be actively looked for, as they are not always apparent to those suffering from them.

c. Heat stress is a significant factor when training in hot climates. Rest cycles for all tasks will be greatly increased when operations are conducted with IPE.

2.4. OTHER CONSIDERATIONS

Cyber dimension. CBRN Warning & Reporting: see information in ATP-45. See ATP-3.8.1 Vol I for information about CBRN Hazard Prediction / Hazard Assessment and for CBRN Knowledge Management.

Special Operations dimension. Prevention and Counter-proliferation. Special Forces which are conducting operations that involve WMD respectively CBRN threats will be supported by specialized CBRN Defence capabilities. Training of specialized CBRN Defence forces is first and foremost a national responsibility. Education and Training provides understanding of CBRN Defence related issues for personnel and supports national capability development, education, and training efforts. Therefore, education and training for preventing the proliferation of WMD and defending against CBRN threats should be as relevant and realistic as possible.

Civilian dimension - CIMIC training aspects. Civil-Military Cooperation (CIMIC) is an integral part of modern multidimensional operations that provides the full spectrum of interaction and cooperation with all influencing actors and the civil environment. Therefore, CIMIC training aspects should be integrated wherever possible. For more detailed information about CIMIC see ATP-3.8.1 Vol I.

2.5. PARTICULAR MISSIONS

CBRN and EOD team missions

a. CBRN devices, including explosive ordnance, regardless of their manufactured or improvised nature, constitute a realistic and permanent threat to NATO-led operations, deployment forces and nearby civilian

populations. Each participating nation should have a clear and common understanding of how to command as well as execute CBRN and EOD tasks if the mutual goal of minimizing or eliminating the threat from CBRN devices and weapons is to be achieved. As a rule, CBRN and EOD activities are complex in nature and require very high levels of co-ordination by all parties involved. Such activities typically require special assignment and safety regulations, additional regulations, additional education, training, and equipment.

b. Minimum standards of proficiency in EOD education and training for CBRN specialists are described in Appendix 1 to Annex B.

c. In order to enhance efficiency and effectiveness of the respective national CBRN-system, dedicated requirements are recommended but not mandatory to be fulfilled: "**X**" in the columns S (specialist level) in EOD education and training.

d. Minimum standards of proficiency in CBRN education and training for **EOD specialists** are summarized in Appendix 2 to Annex B.

2.6. URBAN ENVIRONMENT EFFECTS ON CBRN

To plan CBRN defense activities, commanders should be familiar with how urban terrain will affect their mission in a CBRN environment. ATP 3.8.1 Vol. I explain in details the different cases and how to protect against the threat. As an example, the number of facilities with TIM may be greater in urban areas, and the downwind transportation of aerosols will be influenced by the micrometeorological conditions.

a. Meteorological patterns

(1) Wind direction and speed at ground level may not be indicative of the predominant wind at upper levels because of the complicated wind flow pattern around buildings. So, a wind direction measurement taken near buildings will help only to determine the local transport of CBRN substances.

(2) CBRN substances can build up in lee areas behind buildings and take a long time to dissipate. So, traditional dispersion models that use predominant wind speed would underestimate the time necessary for dilution of a plume to safe levels. CBRN defence personnel should be aware of the possibility that air in these zones could remain contaminated.

(3) For winds parallel to the street, the plume can become contained within the street canyon, but the plume is usually also transported

upside streets. CBRN Defence personnel should never assume that side streets are safe areas.

b. Urban effects

For C, B and N, buildings and other urban structures can provide some immediate protection from direct spray.

Generally, chemical agents tend to stay in low lying areas such as basements, sewers and subway tunnels. Personnel should avoid these low areas.

The stable environment of the urban structures may foster an increased concentration of the biological agents through reproduction. Water and food supplies are prime targets.

Local temperature variations and distortions of airflow caused by the large structures will tend to invalidate generic hazard prediction methodologies, causing local hot spots, erratic vapor travel and re-dispersion via air-conditioning units.

NATO tools for warning/reporting like ATP 45 are to be used with many precautions. CBRN defense personnel should monitor the predominant wind direction constantly, and should never assume that they are safe on one side of a building just because the plume seems to be on the other side.

2.7. INVESTIGATION TRAINING – SENSITIVE SITE RECONNAISSANCE

Sensitive site reconnaissance (SSR) is an investigation of specific locations of interest to the commander (e.g., suspected clandestine chemical or biological storage facility), or where hazards cannot be detected by military capability. The aim of SSR is to gather technical and scientific information concerning the adversary´s offensive CBRN capability as well as intelligence on potential TIH in the JOA, and is part of the overall intelligence collection effort.

Specialized CBRN Defence units together with SOF units are in a supportive role for site characterization of CBRN substances (TIM sites) and CBRN weapon production, research, and storage facilities.

2.8. MEDICAL SUPPORT CONSIDERATIONS FOR CBRN MISSIONS

The medical support requirements for CBRN mission will depend on the level of operational support or operating in an austere environment. CBRN mission planning will need to consider medical support including:

a. The provision of CBRN medical advice on operational or mission-specific risk assessment and management, the impact of other force health protection issues (climatic injuries, endemic disease) and casualty rate estimation.

b. The requirement for pre-exposure MEDCMs including vaccinations or chemoprophylaxis.

c. The deployment and triggers for post-exposure MEDCMs and available DIM capabilities.

d. The provision of immediate and enhanced first aid and medical support to any casualties (CBRN, trauma, environmental) on a CBRN mission including the timelines for casualty evacuation through to handover to medical personnel.

e. The consideration of any health surveillance before, during and after deployment and any mandated quarantine.

The CBRN specialist unit or mission task may require first aid to be provided far forward within a sensitive site. This may require CBRN specialists to be trained to an enhanced level of casualty care provision (enhanced CBRN first aid). This includes first aid for any life-threatening condition including CBRN, heat illness and trauma in a CBRN environment and early casualty decontamination. For some missions where there may be a delay in accessing conventional pre-hospital emergency care, specific medical-administered MedCM or post-deployment medical screening, medical personnel may be embedded in the CBRN specialist unit and forward deployed, as required.

Collective training and exercise should evaluate interoperability at the unit level between CBRN specialists including enhanced CBRN first providers, and medical personnel. This should be extended to wider HQ interoperability if part of a joint exercise.

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CHAPTER 3 CBRN DEFENCE TRAINING SUPPORT

3.1. CBRN DEFENCE TRAINING FACILITIES

NATO member states should have training facilities available to conduct training to build confidence in using CBRN defence equipment.

These facilities can be:

a. Outdoor areas allowing to train with simulants or real agents (live agents) as well as decontaminants, according to the national laws.

b. Indoor facilities, mainly computers web, to train W/R activities, as well as indoor scenario displays and indoor simulants or real agent (live agent) training opportunities.

One part of this chapter highlights environmental protection considerations IAW STANAG 7141[5].

3.2. LIVE AGENT TRAINING (LAT) – ANNEX C

According to NATO Defence Planning Process, all special CBRN Defence units are required to conduct LAT.

That particular training is developed in the Annex C.

3.3. CBRN DEFENCE DEVICES AND SIMULATION

At present there are few training aids that replicate the effects of CBRN weapons and devices other than in a very limited manner. Radiological training traditionally has depended on the utilization of radioactive sources. Pyrotechnics and chemically based simulants are used to depict chemical agents. Simulation of biological agents is not easily achieved. Restrictions on the use of traditional methods are likely to increase due to environmental and safety considerations. Such concerns may also apply to some chemically based, in-service CBRN defence equipment, for example decontaminants. As a consequence, the effectiveness of CBRN defence training will suffer, particularly within field exercises, unless new, safe and environmentally acceptable simulations are devised.

[5] STANAG 7141 “Joint NATO Doctrine for Environmental Protection during NATO led Military Activities”. AJEPP-4 Ed A V1

3.3.1. Simulation Conditions.

The advantage of simulating CBRN effects is:

a. Threat. Accurately portrays the threat, both general and specific, including accidental release. The threat manifests in both on and off target effects caused by weapon delivery systems, in releases caused by collateral damage to weapons or storage areas or from the deliberate or accidental release of TIM.

b. Operations. Allow rehearsal of all operational tasks in simulated CBRN conditions without degrading broader training objectives.

c. Equipment. Allows use of in-service CBRN defence equipment or training equivalents that closely replicate them. Any training equivalents should clearly mimic the actual responses of the equipment.

Canisters used in peacetime for riot control and for training are not used in wartime and/or LAT, unless it has been proved by testing that they are still effective. Following marking on canisters used for riot control and training should be applied: a cardinal red identification band, painted on – or attached to the shoulder of the canister bowl, below the treaded section.

d. Terrain and Climate. Can be adapted to varieties of terrain and meteorological conditions.

e. Environment and Safety. Conforms to international and national environmental and safety regulations.

f. Personnel and resources. Strive to training managed by the lowest number of directing staff utilizing a minimum of training resources.

g. Assessment. Provide tools to facilitate a comprehensive assessment of training competence.

3.3.2. Methods, equipment and procedures

Methods, equipment and procedures should allow depiction of the following threat situations:

a. Chemical. The following are required:

(1) Simulation which portrays a variety of chemical agents to prompt appropriate responses.

(2) On target incidents with non-persistent agents producing a vapour hazard.

(3) On target incidents with persistent, thickened or unthickened liquid agents. These may be portrayed as having been delivered by an aircraft or by any indirect fire delivery system, which results in realistic contamination of personnel, equipment and terrain.

(4) Off target, persistent chemical incidents, resulting in a downwind vapour hazard and the requirement to practice the handling of contaminated personnel, vehicles and equipment arising from the target area.

(5) The release, or risk of release, of toxic industrial chemical into the environment.

b. Biological. The following are required:

(1) Simulation which portrays a variety of biological agents to prompt appropriate response.

(2) On target incidents in aerosol form. These may be portrayed as having been delivered by an aircraft or any other aerosol releasing mechanism that results in realistic contamination of personnel, equipment, terrain, food and drinking water.

(3) Off target resulting in a downwind hazard and the requirement to practice the handling of contaminated personnel, vehicles and equipment arising from the target area.

c. Radiological/Nuclear.

Depiction of the immediate and persistent effects, radiation and fallout.

3.3.3. Training Tasks

Simulations should provide training to individuals, units and staffs on tactics techniques and procedures for:

a. Assessing immediate reactions.

b. Integration of sensors and warning and reporting systems.

c. Command decision making, staff procedures (including CBRN Reachback) and risk management.

d. Casualty management.

e. Monitoring for the presence of CBRN threats (this includes other possible hazards).

f. Reconnaissance, detection and sampling of CBRN threats.

g. Identification of CBRN threats (to include use of external laboratory capabilities).

h. Prosecution of military objectives despite the presence of contamination.

i. Testing the integrity of individual and collective protection.

j. Mitigation of CBRN hazards.

k. Individual, organizational material and unit decontamination.

3.3.4. Types of simulations

The following types of simulation should be considered:

a. Point. Point simulation to allow the training of individuals in CBRN defence survival measures, to practice basic specialist skills, and to test the integrity of individual protection and COLPRO.

b. Area. Area simulation to allow full rehearsal of specialist skills, to complement collective training, and to provide command and staff training. Area simulation should allow for the depiction of either transient, non-persistent characteristics or persistent effects.

3.3.5. Location

Simulation can be provided:

a. Inside barracks or staging areas using training rooms to describe and rehearse individual skills.

b. On small outdoor training areas to consolidate individual training and practice specialist training.

c. Within large training areas of varying terrain where CBRN defence can be integrated into field exercises.

d. At special-to-role locations such as ships and airfields.

3.3.6. Operational Conditions

CBRN simulation should allow individuals and teams to have the opportunity to rehearse all operational tasks that may need to be carried out in a CBRN environment. Simulation should be realistic in portraying differing CBRN situations without requiring high levels of direction from staff or the utilization of artificial equipment and procedures that detract from realism. In addition, CBRN training simulation should not inhibit the attainment of broader training objectives. Whilst there are many preparatory steps, the

ultimate CBRN training goal is to be able to train to conduct sustained operations in a contaminated environment in accordance with safety and environmental national and international laws.

3.4. REAL CONDITIONS TRAINING

3.4.1. Gas hut training

The use of Gas hut training (or CTF - Confidence Testing Facility for UK) for CBRN defence training facilitates the building of confidence in the use of CBRN IPE. Gas hut training also provides the opportunity to confirm an individual's ability to perform the immediate action, immediate decontamination and dehydration prevention drills.

3.4.2. Training with CBR substances and simulants.

Training with simulants is a less expensive option, and less difficult, to supplement LAT. But, in particular for chemical, it is quite different in terms of psychological impact. Chemical live agent training is a very important element of CBRN defence training and should only be undertaken and conducted in accordance with national special procedures, facilities, and safety measures (see Annex C).

The importance of chemical agent training, simulant of live agent, as part of an overarching CBRN defence training program for CBRN defence specialists cannot be over-emphasized. To enhance national CBRN defence assets and their subsequent interoperability in a NATO context, member states are encouraged to take advantage of the chemical agent training opportunities available in already existing facilities. In doing so, not only will member states enhance their abilities to operate in a CBRN environment, but they will also improve upon their ability to contribute towards subsequent participation in NATO's combined joint CBRN defence task force.

The benefits of chemical agent training include:

a. Realism: detectors will react in a completely realistic manner. The added pressure of dealing with real agents and reliance on IPE to prevent injury further increases the realism of the exercise.

b. Effectiveness: the effectiveness of simulants when used in training scenarios may be reduced when the training audience knows that the agent is only a simulant.

c. Increases in skill acquisition.

d. Realistic testing of stress management.

e. Improved confidence on CBRN equipment.

f. The possibility to test the effectiveness of CBRN defence procedures.

3.5. ENVIRONMENTAL PROTECTION CONSIDERATIONS

3.5.1. Considerations

CBRN operational imperatives will have priority but should be in accordance with STANAG 7141. During exercises, Environmental Protection clearly has priority.

Key environmental and resource constraints, including health risks, climate change, water scarcity and increasing energy needs, will further shape the future security environment in areas of concern to NATO and have the potential to significantly affect NATO planning and operations (NATO Wales Summit Declaration of September 2014). Therefore, all levels of command need to pay close attention to environmental protection issues in all forms of military activities including operations, exercises and training. Precautionary measures should include regulations to ensure clean air and water, limitation of cross-country movements, handling of hazardous materials, waste reduction/disposal and noise control.

Concerning CBRN Defence related training and exercise activities, the protection of the environment is of higher importance than the achievement of exercise or training objectives. Especially the use of decontamination solutions should be limited to environmentally friendly products. Precious natural resources like water should not be unnecessarily wasted. Emerging technologies, e.g., drones for reconnaissance or decontamination purposes, need to be used carefully to avoid accidents and negative effects on air traffic safety.

3.5.2. CBRN Activities and Environmental Protection

CBRN defence activities clearly generate environmental impact. The key points to be considered are:

a. Contamination spread caused by reconnaissance, decontamination, and sampling tasks.

b. CBRN defence equipment and products storage conditions.

c. Use of CBRN defence products, in particular decontamination solutions.

d. CBR hazardous waste management (including decontamination wastes, chemical and biological field laboratory’s consumables, and reagents).

e. Transportation of CBR hazardous materials and samples.

CBRN defence capacities can support environmental protection action in terms of hazard management, reconnaissance, survey, and sampling.

Main Environmental Procedures in CBRN Area:

a. General. Environmental protection training should be incorporated into CBRN defence training exercises, in particular contaminated waste management and decontamination measures.

b. Contaminated Waste Management. According to STANAG 2521[6], users of CBRN defence equipment and products, and commanders have to know that:

(1) The removal of hazards from contaminated forces or the removal of contaminated covers needs to be contained and marked in accordance with STANAG 2521.

(2) Waste sites need to be restored once operations are completed.

(3) Contaminated waste (clothing, canisters, masks, vehicle filters...) should be disposed in controlled areas in accordance with regulations, knowing that the burning or burial of waste can produce vapour hazard or underground water pollution respectively.

(4) Contaminated waste that should be moved for subsequent disposal should be marked as hazardous waste and sealed in containers and vehicles.

c. Decontamination Precaution Measures. Commanders, planners, and users of CBRN defence decontamination equipment should know that, not all decontamination solutions are non-toxic and neutralizing agents produce effluent run-off that may be hazardous and may only move the contamination from one place to another. In order to avoid a pollution problem, the selection of decontamination sites should be based on the natural drainage and the ability to control the effluent.

3.5.3. Environmental Protection Educational Awareness for CBRN Equipment Users

Environmental awareness is essential to implementing an efficient environmental management system. Commanders should direct integration of environmental protection awareness and CBRN defence training in accordance with the rank and employment of CBRN equipment users. According to CBRN activities potential impact on environment, training should be directed towards raising awareness of the need for:

[6] STANAG 2521- ATP 3.8.1 Vol I - “CBRN Defence on Operations”

Environmental protection:

a. Water resource protection (surface and groundwater).

b. Air and atmosphere quality protection.

c. Vegetation, animals, and soil protection.

d. Correct methods of material and waste management especially of hazardous materials (see STANAG 2521).

e. Pollution prevention.

Resource protection in the context of sustainable development:

Waste minimization and recycling.

Environmental Policy:

f. Host nation's environmental policy and regulations (in particular, transportation and storage of TIM and hazardous waste and samples).

g. NATO environmental policy.

h. International Regulations which could impact CBRN Defence activities in term of Environmental Protection.

i. National caveats/regulations.

3.5.4. CBRN Defence Proficiency Requirement in Environmental Protection

There will be a requirement for coordination of CBRN and environmental protection issues by respective staffs. A basic knowledge of environmental protection should cover:

a. Implementation of environmental protection measures that will minimize the environmental impacts of CBRN activities.

b. Identification of CBRN Defence activities that could induce environmental protection incidents.

c. Relevant environmental protection recommendations in the OPLAN.

CHAPTER 4 EVALUATION OF CBRN DEFENCE CAPABILITIES

4.1. GENERAL

The aim of this Chapter is to prescribe guidelines for the operational evaluation of the CBRN defence capability of NATO forces.

SHAPE J7 has the responsibility of evaluation programs, as indicated in BI-SC 75-003, to reach and maintain ACO Forces Standards for HQs and units, to ensure the required capabilities. They consist of the Joint Evaluation (JOINTEVAL) Programme for Joint HQs and Joint Assets, and the Single Service Programmes, which include Tactical Evaluation (TACEVAL), Combat Readiness Evaluation (CREVAL), Maritime Evaluation (MAREVAL) and the Special Operations Forces Evaluation (SOFEVAL).

For the NRF, SHAPE J7 provides training coordination and certification/evaluation support to the operational commanders. The evaluation report for NRF is used as a tool for certification.

4.2. PURPOSE

The guidelines below will be materialized as lists of requirements adapted to the different capabilities of the CBRN domain, even for non-specialists.

The guidelines prescribed shall be used to evaluate the CBRN defence capability of NATO Forces and may also be applied to national forces. CBRN defence provisions may vary with national concepts and with the type and role of the forces concerned.

About generic capabilities, CBRN defence evaluation requirements in annexes will concern (Annexes D to G):

a. Mobile and deployable HQ,

b. Land force mobile units,

c. Naval forces surface vessels and submarines,

d. Static land, naval, air and joint installations

About specialized capabilities, CBRN defence evaluation requirements in annexes below will concern CBRN specialist organization and NATO Combined Joint CBRN Defence Task Force - CJ-CBRND-TF (Annex H).

4.3. ASSESSMENT

Application. National concepts of operation, organization, roles, and operating environment of NATO forces vary, and intangible human factors affect performance. Therefore, evaluators should use their experience and judgment when applying standardized requirements during evaluations of CBRN defence capabilities. The tables (Annexes D to H) found in the Volume III should be used as exhaustive requirements lists.

Assessment. CBRN defence capability should be assessed in the light of organization, equipment, instruction and training requirements.

4.4. ASSESSMENT METHOD

Conduct of CBRN Defence Evaluation. In principle, evaluation of CBRN defence capability should be conducted as part of a comprehensive tactical evaluation or operational readiness inspection/exercise by qualified CBRN officers and NCOs. CBRN defence situations developed during the evaluation should call for prompt and correct decisions, proper sequence of actions, effective reaction by the whole unit and, above all, emphasize the necessity of continuing the unit's mission. Standards of proficiency in CBRN defence, as outlined in this chapter, should be evaluated by requiring:

a. All personnel to demonstrate their individual proficiency.

b. Members of CBRN teams to demonstrate their additional proficiency both as individuals and as team members.

c. Command and/or unit CBRN defence officers and NCOs to demonstrate their proficiency.

d. The unit and each of its sub-units to demonstrate adequate "survival" and "basic operating" standards.

Classification. A Headquarters/Unit/Installation/Ship and each of its sub-units should be evaluated in the following areas of CBRN defence:

a. CBRN defence organization.

b. CBRN defence equipment.

c. CBRN defence training.

4.5. EVALUATION PROGRAMME AND FREQUENCY

Evaluation Programme. SACEUR is the ultimate authority for accepting the adherence of forces to NATO operational capability and performance standards. Commanders are responsible for ensuring that the capabilities of their units/HQs (where declared in case of national forces) meet NATO standards. Allies are responsible for ensuring their units meet the required NATO standards in accordance with their declared Readiness Category (RC). Additionally, Allies are responsible for ensuring their personnel assigned to NATO HQs are fully qualified.

Frequency of Evaluations.The frequency of CBRN evaluations will normally be dictated by the national programme for readiness inspections/exercises or NATO Tactical Evaluations. However, as a guide, it should take place once a year especially after turnover of key personnel. Less frequent inspections may be considered as justified in the case of a highly rated unit.

Relationships with the ACO Tactical Evaluation Programme. As regards the units which participate in the ACO tactical evaluation programme, the tactical evaluation team "TACEVAL" should use the corresponding sections of the present publication for evaluating the CBRN defence capability of the unit as stated in AFS Vol VII CREVAL, ACO Forces Standards Vol III, Chapter 6 and Vol VI, Chapter 7. A separate evaluation of the CBRN defence of these units by a national or NATO agency is not necessary unless required by national regulations.

4.6. REQUIREMENTS FOR GENERIC CAPABILITIES

Requirements are detailed in Annexes D to G.

They are related to CBRN defence evaluation for:

a. Mobile and deployable HQ,

b. Land force mobile units,

c. Naval forces surface vessels and submarines,

d. Static land, naval, air and joint installations.

4.7. REQUIREMENTS FOR SPECIALIZED CAPABILITIES

Requirements are detailed in Annex H.

They are related to:

a. CBRN Reconnaissance Capabilities,

b. Biological Detection Capabilities,

c. Specialist Decontamination Capabilities,

d. CBRN Joint Assessment Team (JAT),

e. Deployable CBRN Analytical Laboratory (DCBRN-AL),

f. CBRN Multirole Exploitation and Reconnaissance Team (CBRN-MERT).

4.8. REQUIREMENTS FOR MEDICAL CAPABILITIES

Requirements are detailed in the Collective Training Objective in AJMedP-7 and the support evaluation guidance (SRD AJMedP-7-1).

The key requirements for CBRN defensive operations are:

a. The provision of CBRN medical advice to support Command, CBRN specialists and medical planning,

b. The provision of medical support to CBRN DIM, KM, PP and HM capabilities as well as MEDCM,

c. The provision of CBRN casualty care,

d. The operational and strategic response to a suspected or confirmed biological incident (part of a wider NATO Bio-Responsiveness capability).

ANNEX A REQUIREMENTS FOR TRAINING AND EVALUATION

According to the enabling components: DIM (Detection Identification Monitoring), CBRN KM (CBRN Knowledge Management), PP (Physical Protection), HM (Hazard Management), MEDCM (Medical Countermeasures and Casualty Care).

3 capability levels (basic, enhanced, and specialized) inside 3 types (individual, unit[7], and HQ/staff).

	COMMAND AND CONTROL / ORGANIZATION	INDIVIDUAL			UNIT			HQ/STAFF			Remarks/Ref.
		B	E	S	B	E	S	B	E	S	
1	The commander directs and coordinates CBRN Defence measures in his area of responsibility and for forces under his command (before, during and after a CBRN incident). Mission command policy applies for CBRN defence measures.					O	X		O	X	
2	The commander, in the command post or operations centre, benefits of appropriate level of advice in CBRN defence domain.					O				X	
3	The commander exercises the authority in CBRN defence domain using proper advice of his CBRN staff and when available other CBRN defence authorised bodies like NATO CBRN Reachback, CBRN JAT and the commander of the CJ-CBRND-TF.					O			O	X	

[7] Unit size up to battalion/ naval unit/ wing.

4	Commanders are responsible for CBRN defence within their units and area of responsibility. They are assisted by CBRN specialists from their staff, (officers or NCOs) or on request by the higher echelons. Cooperation and coordination between different echelons on CBRN Defence domain is essential.					**o**			**o**	**x**	
5	CBRN Defence staff assists the commander in providing guidance to lower echelons in all matters pertaining to CBRN defence support to operations and planning for consequence management of possible risks in area of responsibility.					**o**	**x**		**o**	**x**	Basic/Spe
6	CBRN Defence staff plans, conducts and supervises CBRN defence training within the command.					**o**			**o**	**x**	Basic/Spe
7	CBRN Defence staff acts as an adviser to the commander on all matters pertaining to co-operation in CBRN defence domain.					**o**			**o**	**x**	Basic/Spe
8	CBRN Defence staff acts as the focal point for coordination when specialist CBRN defence assets are located to the unit or operating within the unit's area of responsibility.					**o**			**o**	**x**	Basic/Spe
9	CBRN Defence staff plans and supervises CBRN defence training within the unit exercise programme.					**o**			**o**	**x**	Unit/Spe
10	Existence of a predetermined CBRN defence procedure integrated into SOP and a CBRN defence organization integrated into the functional structure of the unit/HQ. CBRN Defence staff is responsible for the preparation of unit CBRN defence SOPs and their adaptation to existing plans of other units (national/ international) as required.					**o**			**o**	**x**	Unit/Spe
11	CBRN Defence staff evaluates individual/unit competence in CBRN defence and advise the commander on the unit's ability to survive and continue operations in a CBRN environment.					**o**			**o**	**x**	Unit/Spe

	DIM	INDIVIDUAL			UNIT			HQ/STAFF			Remarks/Ref.
		B	E	S	B	E	S	B	E	S	
1	Recognize all standard marking signs that indicate areas with chemical, biological or radiological contamination	O									Basic/Op
2	Understand the use of various unit CBRN detection and monitoring equipment at the appropriate level	O	O	X	O	O					Basic/ Op
3	Operate and maintain CBRN equipment applicable to the task		O	X		O					SP/Mon
4	Recognize CBRN incidents and fully understand unit procedures for implementing warnings and providing protection	O	O	X	O	O					SP/Mon
5	Detect and identify CBRN contamination at the appropriate level	O	O	X	O	O					SP/Mon
6	Monitor personnel, food, drinking water and equipment for CBRN contamination and effectiveness of decontamination measures							O		X	SP/Mon
7	Collect samples of suspected radiological and biological contamination, collect samples of liquid or solid chemical agents iaw AEP-66 and forward them iaw AEP-66			X			X				
8	Mark CBRN contaminated areas, equipment, supplies and facilities with standard marking signs at the appropriate level	O			O	O	X				SP/Mon
9	Perform the duties of a CBRN sentry/observer		O	X		O					SP/Mon

10	Deployment of CBRN sentries/observers and detection devices					o			o	x	SP/OFF
11	Be able to carry out periodic and continuous control with regards to CBRN contamination (survey)		o			o	x				
12	CBRN monitoring, survey and reconnaissance procedures		o			o	x		o	x	SP/OFF
13	Under a high nuclear threat, RAD equipment (stationary/portable) should be activated to detect and indicate the arrival of fallout.		o			o	x			x	
14	Radiation dose control, exposure rules and record keeping. Determine total dose by dosimeter or calculation, maximum time of stay in, and/or transit through radiological contaminated areas to avoid exceeding command exposure guidance.					o			o	x	SP/OFF
15	Maintain records of unit CBRN exposure.					o				x	
16	Plan CBRN reconnaissance and advise commanders on best routes to cross or by-pass a CBRN contaminated area.					o	x			x	Unit/Spe
17	Recognize indications of CBRN hazards, detect CBRN agent contamination.	o			o						Basic/Surv

18	CBRN defence officers, warrant officers and senior NCO's must coordinate tasks with specialist CBRN units such as: - Reconnaissance and Survey units and Light Role Teams. - Decontamination Units (HM). - Sampling and identification of biological, chemical and radiological agents (SIBCRA) teams. - Deployed CBRN (analytical) laboratories. - The CBRN Joint Assessment Team (CBRN-JAT) of the NATO Response Force.					O	X		O	X	
19	Maintain record of potential confirmed exposure to CBRN substance or other hazards in individual's health record.	O			O			O			
20	Inform medical chain if suspected CBRN release.							O		X	

	CBRN KM	INDIVIDUAL			UNIT			HQ/STAFF			Remarks/Ref.
		B	E	S	B	E	S	B	E	S	
1	Commander should execute situational awareness (SA) brief according to CBRN threat.					O			O		
2	Quick and effective means of sounding emergency alarms in the event of CBRN incidents.				O			O			
3	CBRN observation and/or monitoring, and detection by selected elements		O			O					
4	CBRN observation posts should be capable of detecting, reporting and monitoring CBRN incidents in accordance with ATP-45					O					
5	Deployment of an effective communication network of defence					O			O		

6	Recognize, communicate, and use CBRN alarms and signals.	o			o						Basic/Surv
7	Know the action to be taken in response to warnings and emergency alarms.	o									
8	Be capable of giving the emergency alarms (by siren or public address equipment) in the event of hazards or incidents	o			o						
9	Operate and use, where appropriate, automated, and manual systems for CBRN defence warning and reporting calculations and data processing.		o	x		o	x		o	x	Basic/Spe Unit/Spe
10	Act as adviser to the commander on all matters pertaining to CBRN defence of subordinate units. In addition, be responsible for all CBRN warning and reporting activities and organisation.		o	x		o	x		o	x	Basic/Spe
11	Report CBRN incidents and associated hazards and hazard areas in accordance with ATP-45 and directives from higher headquarters and national authorities					o			o	x	
12	Perform hazard area prediction calculations and perform the tasks of CBRN warning and reporting					o	x		o	x	Unit/Spe
13	Provide data for compilation of CBRN reports in accordance with ATP-45		o			o				x	SP/Mon
14	Estimate downwind hazard from CBRN incident		o			o				x	SP/OFF
15	Collect and use appropriate weather data for CBRN hazard prediction and warning and reporting					o				x	

16	Organize and conduct CBRN monitoring and survey operations					O				X	SP/OFF
17	Collect and distribute CBRN medical knowledge management, information, and intelligence					O			O	X	

	PP	INDIVIDUAL			UNIT			HQ/STAFF			Remarks/Ref.
		B	E	S	B	E	S	B	E	S	
1	Properly don CBRN mask and hood: properly don, seal, clear and check protective mask within 9 seconds and complete the adjustment/attachment of the hood, if available, within 6 seconds for a total of a 15 seconds maximum response time following an alarm or the recognition of a CBRN incident.	O									Basic/Surv
2	Properly don all protective clothing as directed: the individual must be able to relate the use of each item of protective clothing to the graduated levels of CBRN and related toxic industrial material (TIM) threats described in AJP-3.8, know how to don all such items, and be able to properly perform assigned missions while in IPE.	O									Basic/Surv
3	Follow prescribed procedures and implement them for the removal of contaminated CBRN Individual Protective Equipment (IPE).	O									Basic/Surv
4	Take appropriate protective measures against nuclear hazards to include thermal radiation (light, flash, and heat), blast wave and nuclear radiation effects of nuclear explosions.	O									Basic/Surv
5	Take appropriate protective measures against radiological hazards.	O									Basic/Surv
6	Employ unit CBRN equipment and supplies and maintain them in a high state of serviceability and readiness.					O					

7	Maintain CBRN IPE at a high state of serviceability at all times.	o			o						Basic/Op Unit/Surv
8	Be familiar with the principles of collective protection (COLPRO), including: - correct procedures for passage through contamination control areas (CCAs - for detailed application refer to ATP-70), - shelter organization and operation, - vehicles and mobile CPs.	o									Basic/Op
9	Practice a degree of protection appropriate to the given risk while continuing to conduct the primary mission of the unit.				o						Unit/Op
10	Aircrews, rescue and survival personnel as well as ground personnel are required to have knowledge about the correct use of their CBRN ensemble, CBRN protection for air personnel, and the donning and doffing of this equipment as outlined in STANAG 3497 and STANAG 2515.		o								SP/Air Force
11	Commanders/staff: understand and estimate the debilitating effects of wearing CBRN IPE on operations for prolonged periods and understand how effects can be mitigated.					o			o		Comm
12	Support the establishment and operation of medical COLPRO.					o			o		

	HM	INDIVIDUAL			UNIT			HQ/STAFF			Remarks/Ref.
		B	E	S	B	E	S	B	E	S	
1	Carry out an immediate individual decontamination drill.	O									Basic/Surv
2	Perform immediate personal decontamination of skin.	O									Basic/Op
3	Perform operational decontamination of clothing, personal equipment, individual weapon and position, vehicles and crew-served equipment.	O			O						Basic/Op
4	Cross, or by-pass, marked CBRN contaminated areas with minimum danger to themselves or others.	O			O						Basic/Op
5	Perform primary military duty, to include the use of crew/personal weapon(s), while wearing IPE for extended periods.	O									Basic/Op
6	Be familiar with basic procedures to be followed at decontamination facilities.	O									Basic/Op
7	Perform about procedures to be followed at decontamination facilities.		O								
8	Be proficient in taking specific actions required to maintain operating efficiency before, during, and after CBRN incidents in order to mitigate the effects of CBRN releases	O			O						Basic/Op
9	Take immediate action on being warned of an imminent CBRN incident.				O						Unit/Surv
10	Determine the presence and nature of CBRN hazards, in accordance with the TTPs of STANAG 2521 as appropriate, in the unit's area and take effective measures to mitigate the effects of CBRN incidents.				O						Unit/Surv
11	Perform Immediate decontamination of supplies, equipment and areas for which they are responsible in the performance of their primary duties.	O			O						Unit/Op

12	Perform Operational and Thorough operational decontamination of supplies, equipment and areas for which they are responsible in the performance of their primary duties.		o			o					SP/HM
13	Operate and maintain assigned decontamination equipment.		o			o					SP/HM
14	Establish and operate a personnel decontamination station.					o	x				SP/HM
15	Take measures before an incident to prevent contamination and after an incident to avoid the spread of contamination.		o			o			o		SP/HM
16	Conduct Survival procedures before, during and after a CBRN incident.	o			o	o		o	o		SP/OFF
17	Provide advice on protective values (shielding) of material against radiation, including the selection of buildings and the construction of shelters.					o			o		SP/OFF
18	Provide advice following a CBRN incident, involving the role of the military to support other authorities and assist in managing the consequences of such an incident.					o			o		SP/OFF
19	Evaluate the capability of lower echelons to survive CBRN incidents and continue operations in a CBRN environment.					o	x		o	x	Basic/Spe
20	Plan, coordinate and provide command advice on all aspects of decontamination within the unit.					o	x		o	x	Unit/Spe
21	Commanders/staff must advise their command using the principles of the CBRN risk management and environmental impacts.					o			o	x	Comm
22	Plan and implement radiation dose control, exposure rules and record keeping					o			o	x	
23	Take appropriate protective action in accordance with their unit's standing operating procedures (SOP).	o									Basic/Surv
24	Support the establishment and operation of casualty decontamination areas (CDA) iaw AMedP-7.1 Chapter 5.					o			o	x	

	MEDCM	INDIVIDUAL			UNIT			HQ/STAFF			Remarks/Ref.
		B	E	S	B	E	S	B	E	S	
1	Collect and distribute CBRN medical knowledge management, information, and intelligence.					O			O		
2	Familiar with issued CBRN medical countermeasures (MEDCM) including when and how to take.	O									Med. personnel only
3	Familiar with all deployed CBRN medical countermeasures (MEDCM) including trigger to use, frequency and route of administration.		O								
4	Recognise and triage the adverse effects of exposure to CBRN substances.		O	X							
5	Perform immediate decontamination procedures for contaminated casualties.	O									
6	Support casualty decontamination at the forward casualty collection point (CCP).		O			O	X				Enhanced CBRN first aid / Med. personnel
7	Perform basic CBRN first aid (use of CBRN immediate therapy MEDCM).		O			O					
8	Perform enhanced CBRN first aid iaw AMedP-7.2.		O			O	X		O	X	Enhanced CBRN first aid / Med. personnel
9	Perform self-isolation / quarantine for personnel suspected of being unwell with an infectious disease including wider restriction of movement.		O			O	X				
10	Record the use of any MEDCM use in the individual's health record. * For CBRN medical support functions – see Annex 3 and SRD AJMedP-7-1		O			O	X		O	X	Individual / unit / Med. personnel

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ANNEX B MINIMUM STANDARDS OF PROFICIENCY

This annex consists of a series of appendices giving templates for various administrative documents used in the Allied joint doctrine development process. These appendices include the following.

- Minimum Standards of Proficiency in EOD education, training, and evaluation for CBRN specialists.
- Minimum Standards of Proficiency in CBRN education, training, and evaluation for EOD specialists.

3 capability levels are considered (basic, enhanced, and specialized) inside 3 types (individual, unit[8], and HQ/staff).

[8] Unit size up to battalion/ naval unit/ wing.

APPENDIX 1 TO ANNEX B - MINIMUM STANDARDS OF PROFICIENCY IN EOD EDUCATION, TRAINING AND EVALUATION FOR CBRN SPECIALISTS

	TA : CBRN specialists	INDIVIDUAL			UNIT			HQ/STAFF			Remarks/Ref.
		B	E	S	B	E	S	B	E	S	
1	Terrorist Course of Action using improvised explosive device (initiating devices) Awareness of the effects of explosives Unexploded Explosive Ordnance (UXO) awareness training Basic knowledge in explosive ordnance (EO) evacuation, safety distance and protection	o				o			o		Risk knowledge
2	Marking of an unexploded or exploded device and of the initial hazard area		o	x		o	x		o		Detection
3	Knowledge of EOD Warning and Reporting system (Describe and Report of the discovery of UXOs)	o			o			o			Warning and Reporting
4	Basic knowledge of EOD specialist methods of work: • Modus operandi • Location • Neutralization Basic knowledge of EOD equipment and their use Coordination with EOD in a CBRN/EOD incident	o				o			o	x	Intervention
5	Submit a 10-Liner EOD report					o					

APPENDIX 2 TO ANNEX B - MINIMUM STANDARDS OF PROFICIENCY IN CBRN EDUCATION, TRAINING, AND EVALUATION FOR EOD SPECIALISTS

	TA : EOD specialists			INDIVIDUAL			UNIT			HQ/STAFF			Remarks/Ref.
				B	E	S	B	E	S	B	E	S	
	Chemical	**Biological**	**Radiological**										
1	Properties and effects of chemical agents and TICs (general information: lethal agents, damaging agents, incapacitating agents, influence of weather and terrain conditions). General information concerning handling of dangerous materials. Notion of toxicology (first effects). Likely terrorist action using chemical materials. Basic knowledge on safety operating within chemical hazard areas. Be able to identify chemical munitions.	Properties and effects of biological agents (general information: viruses, bacteria, toxins, influence of weather and terrain conditions). Means of dissemination including arthropod and human vectors. Likely terrorist action using biological materials. General information concerning handling of biological materials. Notion of toxicology (first effects from biological agents). Basic knowledge concerning working in biological hazard areas.	Properties and effects of radioactive basic elements and their isotopes and associated risks. Various radioactive sources. Likely terrorist action involving radioactive materials. General information concerning handling of radioactive sources. Basic knowledge on techniques and limits of operating within radioactive hazard areas.	**O**			**O**			**O**			**Risk knowledge**

		Basic ability to identify biological munitions.												
2	Carry out chemical, biological and radiation detection employing available equipment as a user Collect information if possible			**O**			**O**			**O**			**Detection**	
			Means of measuring doses rate (without results interpretation)	**O**			**O**			**O**				
3	Knowledge of CBRN Warning and Reporting System			**O**			**O**			**O**			**W/R**	
4	Carry out all self and combined team protection procedures (wear IPE, dressing and undressing, mask, avoidance of contamination)				**O**			**O**			**O**			**PP**
5	Understand the theory of decontamination and apply selected decontamination procedures (e.g., immediate decontamination of EOD personnel and equipment, isolation of suspected contaminated assets). Basic knowledge of and ability to support on the setting up of an emergency personnel decontamination station.				**O**			**O**			**O**			**Decon**

6	Be able to provide specialist CBRN EOD technical advice for a higher command and to advise on the local impact of CBRN EOD on operations. Define and mark an initial hazardous chemical, biological or radiological area. Knowledge of CBRN specialist methods of work. Operation methodology. Location. Neutralization. Management of a contaminated operator. Coordination with CBRN specialists in a CBRN/EOD incident.				o			o		o			Intervention
	Carry out a chemical munitions' reconnaissance. Carry out all chemical munition disposal procedures wearing (specialist) protective clothing. Carry out leak sealing and packaging procedures. Select a chemical ammunition disposal area and prepare a disposal site. Be able to advise on, rendering safe and safe disposal of limited quantities of chemical munitions by venting, neutralization, burning or detonation, acting within prevailing environmental regulations and theatre SOPs (does not refer to bulk disposal of large quantities of chemical munitions).	Carry out all biological ammunition disposal procedures wearing (specialist) protective clothing. Carry out leak sealing and packaging procedures. Select a biological disposal area and prepare a disposal site. Be able to advise on, rendering safe and safe disposal of limited quantities of biological munitions, acting within prevailing environmental regulations and theatre SOPs (does not refer to bulk disposal of large quantities of biological munitions).			o			o		o			

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ANNEX C REQUIREMENTS FOR CBRN LIVE AGENT TRAINING

Definition of LAT

Live agent training is training that makes use of hazardous chemical, biological or radiological agents including the use of TIMs. By design, the training should be challenging and conducted in a hazardous environment, within real-world scenarios and in various levels of individual protective equipment, but under safe and controlled conditions.

Purpose

The purpose of LAT is gain confidence in the effectiveness and use of individual protective equipment, detection and identification equipment, decontamination equipment, and in the performance of individual and collective CBRN defence skills under live, toxic agent conditions. All such training is beneficial to the achievement of unit warfighting proficiency on unit mission essential task lists.

Chemical LAT should be conducted with CWA listed in Table 2A1 ATP-3.8.1 Vol I-2 (with the exemption of incapacitation agents) and supplemented with the use of precursors as required.

Radiological LAT: different types (radiation emitter and activity) of sealed and unsealed sources can be used. The selection of the type of source is dependent unit training objectives. Although NATO countries may have radiological training capabilities, such training is rather unrestricted and is easily accomplished at home station.

Biological LAT: true biological live agent training is conducted using agents and toxins from a select list which have been determined to have the potential to pose a severe threat to public health and safety. This biological LAT should be conducted within the safe environment of a laboratory.

Training conducted with inactivated biological agents or non-pathogenic organisms does not meet the definition for LAT. The sole usage of simulants and simulation does not constitute LAT.

Role of NATO

Multi-National Interoperability: The primary role of NATO is in generating multi-national interoperability for the common defence of NATO member states. Ideally, LAT events are designed to be focused on mission sets based upon likely and most dangerous CBRN threat scenarios and, if possible, multi-national. Additionally, this inter-operability can be used in response to assist state parties during a crisis whether it be an industrial accident or a terror event.

Support to NATO-Country Events: Providing an immediate response capability in support of NATO country events requires NATO member states to have trained and ready response forces which can be prepositioned in advance of, during and through conclusion of such events.

Aim of LAT

The aim of LAT is:

a. To improve operator's confidence in IPE under CBRN conditions,

b. To confirm TTPs under CBRN conditions,

c. To develop participants' knowledge and skills when applying practical CBRN defence measures in an environment approaching realistic conditions,

d. To promote participants' reliance to safety measures and TTPs,

e. To build up participants' self/team confidence, while experiencing environmental conditions fostering physical and psychological degradation.

Training Audience

LAT is the prescribe type of training for, but not limited to, CBRN defence specialists.

Organization of LAT

LAT shall follow national regulations. A mandatory safety organization shall oversee all aspects of training and be charged with handling any potential emergencies (e.g., IPE breaches or medical issues). In parallel, it is recommended to stand up a training evaluation organization to document training results, provide feedback and contribute to quality management systems like lesson-identified processes.

Trainees shall meet NATO standards for IPE protection while conducting LAT at a NATO training facility.

NATO training facilities shall follow NATO standards regarding the equipment clearance certification.

Training Requirements

The following LAT categories relate to the level of proficiency and evolves from individual basic training up to highly specialized scenario for team trainings including interoperability challenges. Basic level LAT is recommended upon completion of basic CBRN training and should be prerequisite to all other advanced forms of LAT.

Basic level LAT

The training requirements of the basic level LAT focuses on the survivability in a CBRN environment. The entire list of related requirements can be found at Annex A and Appendix 5 to Annex H.

Following is the recommended minimal content for basic level LAT:

a. Safe usage of IPE,

b. Handling of CBRN detection equipment,

c. Individual decontamination procedures,

d. Proper handling of medical countermeasures.

Advanced level LAT

The training requirements for the advanced level LAT focuses on team tasks and procedures (e.g., decontamination procedures for decon elements or sampling tasks for SIBCRA teams).

The entire list of related requirements can be found at Annex A and Appendix 5 to Annex H.

Following is the recommended minimal content for advanced level LAT:

a. Specialized tasks (Recce, Decon, SIBCRA, etc.),

b. Advanced procedures (tasks such as required hand over between Recce and SIBCRA, operational/thorough/clearance decon),

c. Interoperability challenges due to integration of different elements into the scenario (e.g., EOD, WIT, MP-Teams).

Advanced level LAT should also be conducted under realistic conditions involving time pressure, confined spaces, darkness, low visibility, and precarious tactical environment.

LAT scenarios in exercises

LAT experienced teams should challenge their capabilities in live agent scenarios embedded within a larger exercise context. To accomplish this scenario focused training, different elements are required to interact in and out of the hot zone. This type of training environment requires a high level of coordination and interoperability. Therefore, this level of LAT is best suited to be integrated in the « mission/combat/ready » certification process. Basic and advanced levels of LAT are recommended as prerequisites.

Specific LAT

The specific LAT is a non-standardized training or usage of agents for a certain purpose in a LAT facility, which is not covered by the basic and the advanced levels nor within the context of larger exercises. This could be used to test new TTPs or for the preparation of a non-standardized mission.

ANNEX D MOBILE AND DEPLOYABLE HEADQUARTERS AND SUPPORTING UNITS

This annex contains an appendix:

- Appendix 1 - Requirements for Training and Evaluation of Mobile and Deployable Headquarters and supporting units

Introduction

This annex prescribes requirements for evaluating the CBRN defence capability of mobile and deployable HQ and provides guidance for the conduct of these evaluations.

a. These requirements support ACO force standard criteria.

b. The requirements prescribed in this annex will be used to assess and evaluate the CBRN defence capability of mobile and deployable HQ and may also be applied to the HQ of national forces within the framework of the NATO area defence.

c. The term mobile and deployable HQ is used to denote a complex, either at a single location or deployed at a number of dispersal sites, comprising a command and control element, supporting staff agencies, a communication element, an administrative support element and local defence of personnel.

d. The aim of CBRN defence is to survive, continue to operate and mitigate or neutralize adverse effects on operations and personnel resulting from: the use or threatened use of CBRN weapons and devices; the emergence of secondary hazards arising from counter-force targeting; or the release, or risk of release, of toxic industrial materials into the environment. Achieving the aim will enable NATO and national HQs to operate effectively in a CBRN environment. The evaluation of a deployable HQ defence capability should be assessed in relation to this aim.

e. The minimum requirements of CBRN defence for the capacity “mobile and deployable Headquarters” are detailed below in the Appendix 1 to Annex D. Minimum requirements for people should be added, they are listed in Annex A of Chapter 1.

f. Operational standards, requirements and procedures for forces allocated to NATO are set out in the following documents:

(1) Strategic commands (SCs) forces standards.

(2) SCs general defence and contingency plans.

(3) SCs directives pertaining to CBRN defence.

(4) National plans and directives.

(5) STANAGs listed under related documents of STANAG 2521/ATP-3.8.1 Vol I.

CBRN Defence Organization

The organization of CBRN defence is based on NATO or national directives, as the case may be, and varies with the type, the importance, the organization and the deployment of deployable headquarters. The CBRN plan should provide for staggered assignments of CBRN defence personnel to take the evolving threat into account.

Additional evaluation requirements regarding the organization of CBRN defence in mobile and static HQ are stated in Annexes E and G.

CBRN Defence Equipment

The CBRN protection and detection equipment allocated to NATO international headquarters is described in SC directives.

Deployable HQ should be equipped in accordance with national standards.

Local defence units should be equipped in accordance with national standards. STANAG 2352 provides recommended CBRN defensive equipment levels for NATO forces. This is the minimum level of operational equipment consistent with an appropriate CBRN defence capability. National requirements should strive to equal or better the recommended minimum.

STANAG 2126[9] and STANAG 2358[10] determine the requirements for first-aid medical equipment and supplies. This is the minimum level of operational equipment consistent with an appropriate CBRN defence capability. National requirements should strive to equal or better the recommended minimum.

[9] STANAG 2126 “First-Aid Dressings, First-Aid Kits and Emergency Medical Care Kits”
[10] STANAG 2358 “CBRN First Aid Handbook”

APPENDIX 1 TO ANNEX D - REQUIREMENTS FOR TRAINING AND EVALUATION OF MOBILE AND DEPLOYABLE HEADQUARTERS AND SUPPORTING UNITS

According to the enabling components: DIM (Detection Identification Monitoring), CBRN KM (Knowledge Management), PP (Physical Protection), HM (Hazard Management), MEDCM (Medical Countermeasures and Casualty Care).

3 capability levels (basic, enhanced, and specialized) inside 3 types (individual, unit and HQ/staff)

EC	Requirements Mobile and Deployable Headquarters	INDIVIDUAL			UNIT			HQ/STAFF		
		B	E	S	B	E	S	B	E	S
CC	A predetermined CBRN defence plan integrated into SOP or national equivalent					O			O	
CC	A CBRN defence organization integrated into the functional structure of the unit/HQ				O			O		
CC	Centralized direction and coordination of CBRN defence with delegated responsibility for control of measures to be taken before, during and after an incident.					O			O	
DIM	An effective system for the control of exposure of personnel to CBRN hazards. This system is essential during crisis response operations, because exposure could have political, ethical and legal consequences.					O			O	
KM	Warning and reporting of CBRN hazards or incidents.		O			O			O	
KM	CBRN observation and/or monitoring, and detection by selected elements.		O			O				
KM	Deployment of effective communication networks.					O			O	
PP	Protection of personnel and equipment.	O			O					
PP	Implement COLPRO measures: building appropriate shelters with effective control and administration for all personnel of the unit, equipped with CBRN air filters for both operational and medical installations and to enable personnel to rehabilitate and administrate themselves; and SOPs to enable units to operate from such shelters.					O			O	

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ANNEX E LAND FORCE – MOBILE UNITS

This annex contains an appendix:

- Appendix 1 - Requirements for Training and Evaluation of Land Force - Mobile Units

Introduction

This annex prescribes requirements for evaluating the CBRN defence capability of mobile land forces and provides guidance for the conduct of these evaluations.

a. These requirements support ACO force standard criteria.

b. The requirements prescribed in this annex should be used to assess and evaluate the CBRN defence capability of mobile units of land forces assigned to or earmarked for NATO, and may also be applied to similar national forces for the defence of the NATO area.

c. For the purpose of this annex, the terms "unit" and "sub-unit" will apply to any fully authorized component of the land forces equivalent to an infantry battalion and an infantry company respectively.

d. The aim of CBRN defence is to mitigate or neutralize adverse effects on operations and personnel resulting from: the use or threatened use of CBRN weapons and devices; the emergence of secondary hazards arising from counter-force targeting; or the release, or risk of release, of toxic industrial materials into the environment. Achieving the aim will enable NATO forces to operate effectively in a CBRN contaminated environment. The evaluation of a mobile land unit's CBRN defence capability should be assessed in relation to this aim.

e. The minimum requirements of CBRN defence for mobile land forces may be summarized in the Appendix 1 to Annex E. Requirements for people should be added, they are listed in Annex A of chapter 1.

f. In principle, every mobile unit, and any sub-unit that may be required to function as an independent entity, should have an independent capability, commensurate with its size and role, to meet these requirements.

g. Operational standards, requirements and procedures for the land forces allocated to NATO are set out in the following documents:

(1) ACO Forces Standards.

(2) Supreme Allied Commander Europe's (SACEUR's) general defence plan.

(3) NATO plans and directives pertaining to CBRN defence.

(4) National plans and directives.

(5) STANAGs listed under related documents of STANAG 2521/ATP-3.8.1 Vol I.

CBRN Defence Organization

CBRN defence planning and organization will be based on national directives and should be capable of achieving the aims of CBRN defence. Details of organization, allocation of responsibilities, and CBRN procedures should be clearly defined.

Overall direction and coordination of CBRN defence measures should be exercised by the unit commander based on data supplied by the unit CBRN defence staff. Sub-unit commanders should initiate and control CBRN defence activities within their respective sub-unit. They may be assisted by CBRN specialist NCOs.

a. Detection, Identification and Monitoring. Specially trained and equipped CBRN defence teams should be provided (requirements in Appendix 1 to Annex E).

b. Knowledge management / Warning and Reporting: see requirements in Appendix 1 to Annex E.

c. Protection:

(1) Protection of personnel: requirements in Appendix 1 to Annex E.

(2) Whenever practicable, equipment and supplies should be protected against the effects of CBRN hazards.

d. Hazard Management. CBRN defence within units and sub-units should be organized to ensure the following:

(1) Contamination Control. Contamination control combines contamination avoidance and decontamination measures, underpinned by standard health and CBRN force protection. Contamination control is applied in any operational environment where CBRN threats and hazards exist. It will include procedures for avoiding, reducing, removing, weathering or neutralizing hazards resulting from contamination.

Contamination control aims to prevent secondary transfer of disease, chemical or radiological material, and/or agent aerosolization. In a chemical environment, this involves tactics techniques and procedures (TTPs) that limit the further spread of chemical contamination (e.g., contamination control areas, covering critical equipment, sheltering resources where possible, and developing an asset protection plan to prioritize protection requirements). In a biological environment, this involves TTPs that limit the spread of contagious diseases (e.g., disease containment planning and restriction of movement). In a radiological environment, this involves TTPs that limit the further spread of radiological contamination.

(2) Decontamination. As stated above, decontamination measures support the conceptual principle of contamination control. Decontamination efforts mitigate the effects of CBRN hazards to maintain joint force capabilities. Decontamination also supports the post-incident restoration of forces and operational capability. Decontamination is intended to minimize the time required to return personnel and mission-essential equipment to a mission capable state. Because decontamination may be labour intensive and assets are limited, commanders should prioritize requirements and decontaminate only what is necessary. It should be noted that the weathering process may increase contamination spread and risk to life/health. Additionally, deferring the use of equipment also requires storage areas for contaminated items, monitoring and the guarding of those sites. Hazard's mitigation is detailed in Appendix 1 to Annex E.

(3) Pre-hazard precautions and hazard control. For more detailed information, see Section V of ATP 3.8.1 Vol I.

e. Medical Countermeasures and Support. The medical service organization should be capable of treatment and decontamination of CBRN casualties in a CBRN environment.

CBRN Defence Equipment

Units should be equipped in accordance with national requirements. STANAG 2352 provides recommended CBRN defensive equipment levels for NATO forces. This is the minimum level of operational equipment consistent with an appropriate CBRN defence capability.

STANAG 2126 and 2358 determine the requirements for first-aid medical equipment and supplies. This is the minimum level of operational equipment consistent with an appropriate CBRN defence capability.

National requirements should strive to equal or better the recommended minimum.

APPENDIX 1 TO ANNEX E - REQUIREMENTS FOR TRAINING AND EVALUATION OF LAND FORCE - MOBILE UNITS

According to the enabling components: DIM (Detection Identification Monitoring), CBRN KM (Knowledge Management), PP (Physical Protection), HM (Hazard Management), MEDCM (Medical Countermeasures and Casualty Care).

3 capability levels (basic, enhanced, and specialized) inside 3 types (individual, unit and HQ/staff)

EC	Requirements Land Force - Mobile Units	INDIVIDUAL			UNIT			HQ/STAFF		
		B	E	S	B	E	S	B	E	S
CC	A CBRN defence organization integrated into the functional structure of the unit/HQ				o	o		o	o	
CC	Centralized direction and coordination of CBRN defence with delegated responsibility for control of measures to be taken before, during and after an incident.					o			o	
DIM	An effective system for the control of exposure of personnel to CBRN hazards. This system is essential during crisis response operations, because exposure could have political, ethical and legal consequences.					o			o	
DIM	Planning and conducting CBRN recce and surveys according to STANAG 2521.					o			o	
DIM	Measuring the residual contamination of personnel, equipment, vehicles, aircrafts, boats, buildings and ground.		o			o				
DIM	Marking contaminated areas in accordance with STANAG 2521.	o	o		o	o				
KM	Warning and reporting of CBRN hazards or incidents.		o			o			o	
KM	CBRN observation and/or monitoring, and detection by selected elements.		o			o				
KM	Deployment of effective communication networks about CBRN.					o			o	
KM	CBRN intelligence information gathering and utilization.					o			o	
KM	The unit and sub-unit command post/operations centre should be capable of warning (STANAG 2047), reporting and following the evolution of CBRN incidents (predictions) in accordance with ATP-45					o				
KM	All personnel should know the action to be taken in response to warnings and emergency alarms.	o								
PP	Protection of personnel and equipment.	o			o					

PP	Unit commanders has responsibility on personnel protective measures to take at the individual level; all personnel should be provided with the full range of individual protection clothing, accessories and equipment for individual CBRN protection in accordance with STANAG 2352 and should be aware of the measures to be taken against the various threats.				**o**			**o**		
PP	In case of CBRN threat, units should be capable of setting up temporary COLPRO to enable personnel rehabilitation.								**o**	
PP	Protection of Equipment and Supplies. Whenever possible, aircrafts, vehicles and supplies should be protected from effects of nuclear bursts and from the contamination caused by CBRN hazards.	**o**			**o**					
HM	Immediate decontamination by the individual of his own person, his equipment, and his weapon.	**o**								
HM	Ops decontamination of crew-served weapons, equipment, vehicles, aircraft, boats, and limited areas essential to the operational functions of the unit by the user personnel.	**o**			**o**					
HM	Thorough decontamination of personnel, patients, equipment, vehicles, aircrafts, boats, ships, supplies, buildings, and vital areas, as appropriate, to return to duty.					**o**	**o**			
HM	Plan and execute contamination control after a CBRN incident. Contamination control combines contamination avoidance and decontamination measures, underpinned by standard health and CBRN force protection. Contamination control is applied in any operational environment where CBRN threats and hazards exist. It will include procedures for avoiding, reducing, removing, weathering or neutralizing hazards resulting from contamination. Contamination control aims to prevent secondary transfer of disease, chemical or radiological material, and/or agent aerosolization. In a chemical environment, this involves TTPs that limit the further spread of chemical contamination (e.g., contamination control areas, covering critical equipment, sheltering resources where possible, and developing an asset protection plan to prioritize protection requirements). In a biological environment, this involves TTPs that limit the spread of contagious diseases (e.g., disease containment planning and restriction of movement). In a radiological environment, this involves TTPs that limit the further spread of radiological contamination.								**o**	

HM	Plan for and execute decontamination operations. Decontamination measures support the conceptual principle of contamination control. Decontamination efforts mitigate the effects of CBRN hazards to maintain joint force capabilities, and supports the post-incident restoration of forces and operational capability. Decontamination is intended to minimize the time required to return personnel and mission-essential equipment to a mission capable state. Because decontamination may be labour intensive and assets are limited, commanders should prioritize requirements and decontaminate only what is necessary. Commanders may choose to defer decontamination of some items and, depending on agent type and weather conditions, opt to either defer use of equipment or allow natural weathering effects (temperature, wind, sunlight…) to reduce hazards.								o	
HM	Immediate decontamination of contaminated patients by non-medical personnel until specialised medical help is available.	o								
HM	Thorough decontamination of contaminated patients by medical personnel.					o				
MEDCM	Handling and first aid treatment of casualties in a CBRN environment.	o								

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ANNEX F NAVAL FORCES - SURFACE VESSELS AND SUBMARINES

This annex contains an appendix:

- Appendix 1 - Requirements for Training and Evaluation of Naval Forces - Surface Vessels and Submarines

Introduction

This Annex prescribes requirements for evaluating the CBRN defence capability of naval surface ships and submarines and provides guidance for their applications. These requirements are based primarily on the needs of surface ships but will also apply in varying degrees to submarines.

a. These requirements support ACO force standard criteria.

b. The requirements prescribed in this Annex should be used to assess and evaluate the CBRN defence capability of naval operational forces (except maritime air) assigned to or earmarked for NATO, and may be applied to similar national forces for the defence of the NATO area.

c. The concept of naval forces operating in the open sea under the threat of CBRN incidents implies the employment of dispersed units whenever feasible. Naval forces engaged in operations in coastal waters will be more vulnerable to CBRN incidents and their associated hazards because of the relatively close formations required by such operations and their proximity to areas of land warfare where CBRN releases are more likely to occur.

d. Submarines at sea, given timely warning of incident, may be expected to dive and remain submerged, thereby achieving protection against all CBRN effects except underwater shock. Submarines pier side or in harbour are somewhat less vulnerable to CBR incidents than surface ships due to their limited number of entry / access. They should however take all necessary CBRN contamination prevention measures in port to avoid contamination of interior spaces.

e. The aim of CBRN defence is to mitigate or neutralize adverse effects on operations and personnel resulting from: the use or threatened use of CBRN weapons and devices; the emergence of secondary hazards arising from counter-force targeting; or the release, or risk of release, of toxic industrial materials into the environment. Achieving the aim will enable NATO forces to operate effectively in a CBRN environment. A ship's CBRN defence capability will be assessed in relation to these aims.

f. The minimum requirements of CBRN defence for naval ships and submarines are listed in Appendix 1 to Annex F.

g. Operational standards, requirements and procedures for the naval forces allocated to NATO are set out in the following documents:

(1) SCs forces standards.

(2) SCs general defence and contingency plans.

(3) SCs directives pertaining to CBRN defence.

(4) National plans and directives.

(5) STANAGs listed under related documents of ATP-3.8.1 Vol I.

h. HQ for a ship is considered as the compartment from where all CBRN Defence measures are co-ordinated.

CBRN Defence Organization

Shipboard CBRN defence procedures are essentially an extension of normal damage control methods to deal with the effects of CBRN incidents and their associated hazards. CBRN defence plans, organization and procedures should, therefore, be closely integrated with the ship's damage control arrangements. They also should be based on national directives and may be expected to vary between nations and between types of ships.

a. The ship's assigned "CBRN centre" personnel should be prepared to efficiently collect, evaluate and present information on CBRN hazards to enable quick command decisions to be made on tactical action and/or inboard protective counteraction. There should be centralized direction and control of the ship's CBRN defence resources with delegation of CBRN and damage control responsibilities to specialized teams at suitably equipped stations.

b. Detection, Identification and Monitoring. Specially trained and equipped CBRN teams should be provided for specific actions (see requirements in Appendix 1 to Annex F).

c. Knowledge Management / Warning and Reporting: requirements in Appendix 1 to Annex F.

d. Physical Protection (requirements in Appendix 1 to Annex F). Protection against CBRN incidents and hazards will typically be based primarily on a COLPRO system embracing the maximum number of personnel consistent with the ship's operational efficiency, i.e., the citadel concept. A full individual protection capability should be provided for all personnel

on board to supplement any COLPRO and to ensure against any failure or breaching of the system. Shipboard CBRN defence planners need to take advantage of the shielding provided by the ship's structure and design to best protect personnel and equipment from the effects of nuclear bursts, and to avoid unnecessary contamination by radioactive fallout and chemical agents.

e. Hazard Management: requirements in Appendix 1 to Annex F.

f. Medical Countermeasures and Support: requirements in Appendix 1 to Annex F.

CBRN Defence Equipment

Naval ships and submarines should be equipped in accordance with national requirements. Recommended levels of CBRN defence equipment for NATO naval forces are given in STANAG 2352. This is the minimum level of operational equipment consistent with an appropriate CBRN defence capability.

Guidance on minimum requirements for medical first-aid equipment and supplies is given in STANAG 2126 and STANAG 2358. This is the minimum level of operational equipment consistent with an appropriate CBRN defence capability.

National requirements should strive to equal or better the recommended minimum.

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APPENDIX 1 TO ANNEX F - REQUIREMENTS FOR TRAINING AND EVALUATION OF NAVAL FORCES - SURFACE VESSELS AND SUBMARINES

According to the enabling components: DIM (Detection Identification Monitoring), CBRN KM (Knowledge Management), PP (Physical Protection), HM (Hazard Management), MEDCM (Medical Countermeasures and Casualty Care).

3 capability levels (basic, enhanced, and specialized) inside 3 types (individual, unit and HQ/staff)

EC	Requirements Naval Forces - Surface Vessels and Submarines	INDIVIDUAL			UNIT			HQ/STAFF		
		B	E	S	B	E	S	B	E	S
CC	TTPs are in place to prevent interior CBRN contamination.	o			o	o		o	o	
CC	Ship CBRN defence procedures are closely integrated with arrangements for damage control.	o			o	o		o	o	
CC	Centralized control of the ship's CBRN defence resources with clear delegation of responsibility for CBRN defence and damage control actions.					o			o	
DIM	Measuring personnel, equipment, interior spaces and external surfaces for CBRN residual contamination.		o			o				
DIM	Marking contaminated areas in accordance with STANAG 2521.	o			o					
DIM	When operating under a high nuclear threat, the ship installed radioactivity detection, identification and computation (RADIAC) (alarm) equipment should be activated to detect and indicate the arrival of fallout; alternatively, portable RADIAC instruments should be sited in suitable positions and kept under continuous observation.		o			o				
DIM	For contamination control, there should be an effective system for the control of exposure of personnel to CBRN agents. The ship should have an adequate capability for monitoring for residual radiation and chemical hazards throughout the ship, both inside and outside the citadel for ships so configured.					o				
KM	Appropriate ship personnel are properly trained to carry out CBRN warning and reporting procedures for CBRN hazards or incidents.		o			o				
KM	CBRN observation, monitoring and detection systems are fully functional.		o			o			o	

KM	The ship should be capable of disseminating, receiving and interpreting warnings of CBRN hazards according to ATP-45, of making CBRN area predictions and of taking appropriate actions on receipt of warning or hazard area predictions.					o			o	
KM	There should be quick and effective means of sounding emergency alarms in the event of CBRN incidents. The CBRN alarm signals, and the action to be taken in response to them, should reflect the standards listed in STANAG 2047 and be displayed.	o			o			o		
KM	All naval ships and submarines should be capable of reporting CBRN incidents in accordance with ATP-45.							o		
PP	CBRN protection systems (individual and collective-citadel system) are fully equipped and in working order	o			o			o		
PP	All personnel on board should be provided with the range of individual CBRN protective clothing supplies and equipment as recommended by STANAG 2352 and know what action to take against the various threats.	o								
PP	The COLPRO citadel should encompass all critical operations spaces such as the ship control spaces including the bridge, weapon systems control spaces, manned machinery spaces where applicable, and all living quarters and galleys. It should be designed for intermittent or continuous operation at sea and in harbour. In practice, the nature and extent of the citadel will depend on national concepts and will vary between different types of ships. In the case of submarines, an effective citadel will normally result when the submarine is closed down.				o					
HM	Personnel and material decontamination facilities (cleansing) are fully equipped and in standby mode.				o					
HM	Ability to accomplish their assigned mission in a CBRN environment.	o			o			o		
HM	Protection of Equipment. Whenever practicable, equipment is to be shielded from the electromagnetic pulse (EMP) and transient radiation effects on electronics (TREE) effects of nuclear bursts. Protective covers should be provided for equipment not in use to avoid unnecessary contamination by CBRN hazards.				o					
HM	Execute Decontamination of personnel and their equipment.	o			o	o				

HM	Contamination Control Area (CCA) at the entrance to the citadel where personnel can be decontaminated and monitored to prevent the spread of CBRN contamination into the citadel area.		o		o	o				
HM	A pre-wetting (wash down) system designed to cover all external surfaces with a moving film of water; the pre-wetting system should be put into operation from a central control either remotely or by orders to local operating positions. Not required for submarines.				o					
HM	Manage supplementary equipment and decontaminants for decontaminating the interior of the ship.					o				
MEDCM	Execute handling and treatment of CBRN casualties by medical personnel.		o		o	o		o		
MEDCM	All shipboard personnel should be capable of treating CBRN casualties within the framework of self and buddy-aid.	o								
MEDCM	The medical staff should have the ability to provide quarantine and isolation capabilities if needed for a limited amount of time to prevent the spread of a contagious biological warfare agent should it be discovered within ship's company.		o			o				

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ANNEX G STATIC "LAND/NAVAL/AIR FORCE AND JOINT" INSTALLATIONS

This annex contains an appendix:

- Appendix 1 - Requirements for Training and Evaluation of Static Land/Naval/Air Force and Joint Installations

Introduction

This annex describes requirements for evaluating the CBRN defence capability of static land/naval/air force/joint installations and provides guidance for the conduct of these evaluations.

a. These requirements support ACO force standard criteria.

b. The requirements prescribed in this Annex will be used to assess and evaluate the CBRN defence capability of the following elements of the land/naval/air/joint units assigned to or earmarked for NATO, and may be applied to similar national forces for the defence of the NATO area:

(1) Static army units and military installations.

(2) Maritime air bases and naval operational installations.

(3) Air bases, air defence units, and air force installations.

(4) Joint force installations.

c. For the purpose of this Annex the term "unit" will apply to any duly authorized establishment of the land/naval/air and joint forces, which is required to function as an independent entity, and the term "sub-unit" to the subordinate components of such establishments.

d. The aim of CBRN defence is to mitigate or neutralize adverse effects on operations and personnel resulting from: the use or threatened use of CBRN weapons and devices; the emergence of secondary hazards arising from counter-force targeting; or the release, or risk of release, of toxic industrial materials into the environment. Achieving the aim will enable NATO forces to operate effectively in a contaminated environment. The evaluation of a unit's CBRN defence capability will be assessed in relation to these aims.

e. The minimum requirements of CBRN defence for static units are summarized in the Appendix 1 to Annex G. Requirements for people should be added, they are listed in Annex A of Chapter 1.

f. In principle, every static unit, and any sub-unit that may be required to function as an independent entity, should have an independent capability commensurate with its size and role, to meet these requirements.

g. Unit operational standards, requirements and procedures assigned to or earmarked for NATO are set out in the following documents:

(1) SCs forces standards.

(2) SCs general defence and contingency plans.

(3) SCs directives pertaining to CBRN defence.

(4) National plans and directives.

(5) STANAGs listed under related documents of ATP-3.8.1 Vol I.

CBRN Defence Organization

The unit should have a comprehensive plan based on the CBRN threat, which determines the organization, procedures and allocation of responsibilities for CBRN defence. The plan may be either incorporated into an overall defence plan combining active and passive defence or issued separately. It should be evaluated according to the aims of CBRN defence. The elements not tested during this evaluation should be examined with regard to their possible implementation.

The CBRN defence organization is based on national directives and should be integrated into the normal command and operational structure of the unit. In the case of large and widely dispersed units, it may be preferable to organize CBRN defence into a number of self-contained defence sectors, each including one or more functional elements of the unit. The unit HQ should coordinate all defence measures and retain direct control of organic supporting services to the unit, while each defence sector should have a sector commander and be considered as a composite sub-unit for the purpose of CBRN defence.

a. Command and Control

(1) The commander

(a) directs and coordinates CBRN Defence measures in his area of responsibility and for forces under his command, before, during and after an CBRN incident. Mission command policy applies for CBRN measures;

(b) benefits from appropriate level of advice in CBRN domain;

(c) exercises the authority in CBRN domain using proper advice coming from his CBRN staff and when available other CBRN authorised bodies like NATO CBRN Reachback, CBRN JAT and the commander of the CJ-CBRND-TF.

(2) Subordinate commanders are responsible for CBRN defence within their units and area of responsibility. They are assisted by CBRN specialist from their staff, (officers or NCOs) or on request by the higher echelons. Cooperation and coordination between different echelons on CBRN domain is essential (not only for warning and reporting CBRN incidents).

(3) CBRN defence staff assist the commander in providing guidance to lower echelons in all matters pertaining to CBRN defence support to operations and in advance planning for consequence management of possible risks in area of responsibility. CBRN defence staff is responsible for the preparation of unit CBRN defence SOPs and their adaptation to existing plans of other units (national/ international) as required.

b. Detection, Identification and Monitoring. Specially trained and equipped CBRN detection, monitoring and surveying teams should be available. See requirements in Appendix 1 to Annex G.

c. CBRN Knowledge Management. The CBRN defence organization should be served by effective communication and information systems. The unit's normal communication systems should be supplemented and backed up by field telephones and portable radios as appropriate. Maximum use should be made of any installed public address system, order wire and broadcast system. See requirements in Appendix 1 to Annex G.

d. Physical Protection. Whatever the degree of the CBRN threat, a static unit shall be capable of carrying on its missions and essential tasks, which implies the capability of operating from shelters suitable for housing all personnel with the exception of those engaged in essential tasks in the open. Shelters are likely to be equipped with COLPRO systems. Wherever possible, the aircrafts, vehicles and equipment are to be protected from the effects of CBRN hazards, except when operational requirements dictate otherwise. Wherever protection cannot be guaranteed, planning for rest and relief in a toxic free environment needs to be undertaken. See requirements in Appendix 1 to Annex G.

e. Hazard Management. See requirements in Appendix 1 to Annex G.

f. Medical Countermeasures and Support. Unit medical organization shall be capable of treating and decontaminating CBRN casualties, and operating effectively in a CBRN environment. All personnel should be capable of treating CBRN casualties within the framework of self and buddy-aid.

CBRN Defence Equipment

Units should be equipped in accordance with national requirements. Recommended levels of CBRN defence equipment for NATO forces are given in STANAG 2352. This is the minimum level of operational equipment consistent with an appropriate CBRN defence capability.

Minimum requirements for medical first-aid equipment and supplies are given in STANAG 2126 and STANAG 2358. This is the minimum level of operational equipment consistent with an appropriate CBRN defence capability.

National requirements should strive to equal or better the recommended minimum.

APPENDIX 1 TO ANNEX G - REQUIREMENTS FOR TRAINING AND EVALUATION OF STATIC LAND/NAVAL/AIR FORCE AND JOINT INSTALLATIONS

According to the enabling components: DIM (Detection Identification Monitoring), CBRN KM (Knowledge Management), PP (Physical Protection), HM (Hazard Management), MEDCM (Medical Countermeasures and Casualty Care).

3 capability levels (basic, enhanced, and specialized) inside 3 types (individual, unit and HQ/staff)

EC	Requirements Static Land/Naval/Air Force and Joint Installations	INDIVIDUAL			UNIT			HQ/STAFF		
		B	E	S	B	E	S	B	E	S
CC	A predetermined CBRN defence plan integrated into SOP or national equivalent					o			o	
CC	A CBRN defence organization integrated into the functional structure of the unit/HQ				o	o		o		
CC	Centralized direction and coordination of CBRN defence with delegated responsibility for control of measures to be taken before, during and after an incident.					o			o	
DIM	An effective system for the control of exposure and re-exposure of personnel to CBRN hazards. This system is essential during crisis response operations, because exposure could have political, ethical and legal consequences.					o			o	
DIM	Planning and conducting CBRN recce and surveys according to STANAG 2521.					o			o	
DIM	Measuring the residual contamination of personnel, equipment, vehicles, aircrafts, boats, buildings and ground.		o			o				
DIM	Marking contaminated areas in accordance with STANAG 2521.	o			o					
KM	Plan for mutual exchange of CBRN reports/information with local civil defence agencies.							o		
KM	Warning and reporting of CBRN hazards or incidents.		o			o			o	
KM	CBRN observation and/or monitoring, and detection by selected elements.		o			o				
KM	Deployment of effective communication networks.					o			o	
KM	CBRN intelligence information gathering and utilization.					o			o	

KM	The unit and sub-unit command post/operations centre should be capable of detecting, reporting and monitoring CBRN incidents (predictions) in accordance with ATP-45 and of giving the emergency alarms specified in STANAG 2047 (by siren or public address equipment).					o				
KM	All personnel should know the action to be taken in response to warnings and emergency alarms.	o								
KM	Units should be capable of reporting CBRN incidents in accordance with ATP-45.				o					
KM	Unit CBRN observation posts should be capable of observing and detecting CBRN incidents and of rapidly reporting such occurrences to their respective sub-unit control posts, or to the unit command post or operations centre as appropriate.				o					
PP	Protection of personnel and equipment.	o			o					
PP	Unit commanders should be able to rely on personnel protective measures to take at the individual level; all personnel should be provided with the full range of individual protection clothing, accessories and equipment for individual CBRN protection in accordance with STANAG 2352 and should be aware of the measures to be taken against the various threats.	o			o			o		
PP	Implement COLPRO measures: building appropriate shelters with effective control and administration for all personnel of the unit, equipped with CBRN air filters for both operational and medical installations and to enable personnel to rehabilitate and administrate themselves; and SOPs to enable units to operate from such shelters.					o			o	
PP	Forces without COLPRO will need to plan ahead for necessary rest and relief periods outside the contaminated areas.					o			o	
PP	Protection of Equipment and Supplies. Whenever possible, aircrafts, vehicles and supplies should be protected from effects of nuclear bursts and from the contamination caused by CBRN hazards.	o			o					
HM	Decontamination by the individual of his own person, his equipment and his weapon.	o								
HM	Ops decontamination of crew-served weapons, equipment, vehicles, aircraft, boats and limited areas essential to the operational functions of the unit by the user personnel.	o			o					
HM	Thorough decontamination of personnel, equipment, vehicles, supplies, buildings and vital areas, as appropriate, to return to duty.						o			

HM	Commanders shall be aware of the guidance specified in STANAG 2461.Sub-units need to be capable of monitoring both residual radiation and chemical hazards.				o	o		o		
HM	Ability to accomplish their assigned mission in a CBRN environment.	o								
MEDCM	Handling and first aid treatment of casualties in a CBRN environment.	o								

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ANNEX H CBRN DEFENCE EVALUATION REQUIREMENTS OF SPECIALIST CAPABILITIES

This annex contains six appendices:

- Appendix 1 – Specialist Chemical, Biological, Radiological and Nuclear Reconnaissance Capabilities & it's Evaluation
- Appendix 2 – Specialist Biological Detection Capabilities & it's Evaluation
- Appendix 3 – Specialist Decontamination Capabilities & it's Evaluation
- Appendix 4 – CBRN Joint Assessment Team (JAT) / NATO Combined Joint CBRN Defence Task Force & it's Evaluation
- Appendix 5 – CBRN Deployable Analytical Laboratory including SIBCRA capability & it's Evaluation
- Appendix 6 – CBRN Multirole Exploitation and Reconnaissance Team & it's Evaluation

Purpose

STANAG 2451/AJP-3.8 Allied Joint Doctrine for CBRN Defence provides guidance for CBRN defence capabilities that are integral to units and HQs. However, some functions will necessarily have to be performed by specialist troops using dedicated equipment. This annex details requirements for the evaluation and subsequent certification of specialist CBRN defence capabilities and provides guidance for the conduct of these evaluations.

These requirements support ACO force standard criteria.

Scope

The requirements presented in this annex will be used to assess and evaluate the CBRN defence capability of specialist CBRN defence units or teams assigned to or earmarked for NATO and may also be applied to similar national forces for the defence of the NATO area.

Definitions

For the purpose of this annex, the terms “unit” and “sub-unit” will apply to specialist CBRN defence capabilities equivalent to the company and platoon level respectively.

General

The aim of specialist CBRN defence capabilities is to enable friendly forces to operate effectively in a CBRN environment, thereby retaining freedom of movement as well as freedom of action. The evaluation of specialist CBRN defence units and sub-units should be assessed in relation to these aims.

The minimum requirements of specialist CBRN defence capabilities may be summarized as follows:

a. Plan and conduct timely deployment of required capabilities.

b. Provide robust command and control and communication capabilities tailored to the mission.

c. Fulfil designated tasks and missions.

d. Plan and conduct sustainment operations.

Every specialist CBRN defence unit and sub-unit should have an independent capability commensurate with its size and role, to meet these requirements.

Operational standards, requirements, and procedures for specialist CBRN defence capabilities assigned to or earmarked for NATO are set out in the following documents:

a. MC 511 “Military Committee Guidance for CBRN Defence”.

b. ACO Forces Standards respective Volumes.

c. SACEUR’s general defence plan.

d. NATO Strategic Command plans and directives pertaining to CBRN defence.

e. National plans and directives.

f. STANAG listed under related documents of STANAG 2521/ATP-3.8.1 Vol I.

The evaluation requirements and guidance for assessment for this annex are given in the attached Appendices.

Evaluation items (IAW CREVAL)

a. Specialist Chemical, Radiological and Nuclear Reconnaissance Capabilities (Appendix 1 to Annex H).

b. Specialist Biological Detection Capabilities (Appendix 2 to Annex H).

c. Specialist Decontamination Capabilities (Appendix 3 to Annex H).

d. CBRN Joint Assessment Team (JAT) / NATO Combined Joint CBRN Defence Task Force (Appendix 4 to Annex H).

e. CBRN Deployable Analytical Laboratory including SIBCRA capability (Appendix 5 to Annex H).

f. CBRN Multirole Exploitation and Reconnaissance Team (CBRN-MERT) (Appendix 6 to Annex H).

In addition to the evaluation requirements detailed in these appendices, the evaluation requirements prescribed at Annexes D to G are to be considered as appropriate.

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APPENDIX 1 TO ANNEX H – SPECIALIST CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR RECONNAISSANCE CAPABILITIES & IT'S EVALUATION

Definitions according to AAP-06[11].

CBRN reconnaissance: a mission undertaken to obtain information, by visual observation or other detection methods, in order to confirm or deny the presence of a chemical, biological, radiological or nuclear incident or hazard.

Note: this reconnaissance may include gathering information on enemy use of CBRN weapons or devices or on associated hazards, or meteorological data for CBRN hazard prediction.

CBRN survey: the collection of detailed information on

a. the type of chemical, biological, radiological, and nuclear substance,

b. the spatial extent of the contamination, and

c. the quantity and/or intensity of the contamination, in order to characterize the contaminated areas.

Note: such a survey may include monitoring the presence of a chemical hazard or the degree of radiation and the sampling of items suspected of contamination. Related term: radiological survey.

CBRN surveillance: the systematic observation of aerospace, surface areas, places, persons, or things by all available means for the purpose of determining the presence or absence of CBRN hazards

[11] AAP-06 "NATO Glossary of Terms and Definitions".

APPENDIX 1 of
ANNEX H to
ATP-3.8.1, Vol. III

Evaluation of Specialist Chemical, Biological, Radiological and Nuclear Reconnaissance Capabilities

MAIN REQUIREMENTS	REMARKS/COMMENTS	EVAL	
CBRN RECCE UNITS / SUB-UNITS	*For CBRN reconnaissance companies, the evaluation teams should select the HQ section and a representative sample of CRN reconnaissance teams. The evaluation should utilize wherever possible a unit CBRN Defence Standard Training Exercise (STX).*	**YES/NO**	
Serial 1.1	*Assessment based on training plans, exercise reports, recent operations, recent evaluations etc.*	**YES**	**NO**
The unit is proficient in the preparation and conduct of detection, identification and monitoring of CBRN agents IAW STANAG 2451 / AJP-3.8. As a minimum, the following tasks are to be evaluated:			
(a) Plan and prepare for CBRN Reconnaissance, survey and surveillance operations			
(b) Conduct chemical and radiological/nuclear route/zone/area reconnaissance missions			
(c) Conduct a chemical and radiological/nuclear surveillance mission			
(d) Locate, determine and mark bypass routes around CBRN contaminated areas			

(e) Conduct a chemical and nuclear/radiological ground route, point pre-selected dose rate (only radiological) and area survey mission			
(f) Take environmental samples of materiel according to AEP 66			
Serial 1.2		**YES**	**NO**
IAW STANAG 2451, CBRN Reconnaissance teams are capable of:			
(a) Detecting previously reported C, B, R or N incidents			
(b) Identify the agents and hazards			
(c) Delineating areas of contamination			
(d) Monitoring the changes			
(e) Conducting TIMs detection and surveillance operations.			
Serial 1.3		**YES**	**NO**

The CBRN reconnaissance unit and sub-unit command and control elements are to be proficient in collecting and processing information IAW ATP-45. This includes: rapid collection, evaluation and dissemination of data concerning CBRN incidents and hazards, including the prediction of hazard areas.			
(a) Minimum level: manual processing/evaluation. Dissemination utilizing standardized CBRN message formats.			
(b) Desired level: automated processing/evaluation/dissemination utilizing CBRN W&R Software/Modelling Software.			
Serial 1.4	*Only for units with aerial radiological survey capability.*	**YES**	**NO**
(a) The CBRN reconnaissance unit is proficient in the conduct of aerial radiological survey**.**			
Serial 1.5		**YES**	**NO**
(a) The unit is able to collect meteorological data as required in CBRN 1 & CBRN 4 report. Minimum requirement: Downwind direction, downwind speed, cloud coverage, significant weather phenomena, relative humidity range, surface air temperature, air stability category.			

APPENDIX 2 TO ANNEX H – SPECIALIST BIOLOGICAL DETECTION CAPABILITIES & IT'S EVALUATION

Definition according to AAP-06 where applicable:

Biological agent: A micro-organism, or a toxin produced by a living organism, which causes disease or incapacitation in man, plants or animals or which causes the deterioration of material.

Biological detection: The discovery by any means of the presence of a biological agent of potential military significance.

Biological surveillance: The systematic observation of aerospace, surface areas, places, persons, or things by all available means for determining the presence or absence of biological hazards.

Biological monitoring: A continuous or periodic process of determining the presence or absence of biological hazards that may or may not include quantification.

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Evaluation of Specialist Biological Detection Capabilities

MAIN REQUIREMENTS	REMARKS/COMMENTS	EVAL	
BIOLOGICAL DETECTION UNITS / SUB-UNITS	*For biological agent detection companies, the evaluation teams should select the HQ section and a representative sample of biological detection teams. The evaluation should utilize wherever possible a unit CBRN defence standard training exercise.*	**YES/NO**	
Serial 2.1	*Assessment based on training plans, exercise reports, recent operations, recent evaluations etc.*	**YES**	**NO**
The unit is proficient in the preparation and conduct of detection and monitoring of biological agents. As a minimum, the following tasks are to be evaluated			
(a) Plan the deployment of biological detection units, sub-units and biological monitoring and detection missions			
(b) Identify biological monitoring sites			
(c) Conduct biological monitoring missions			
(d) Take appropriate actions on positive provisional identification of biological agents			

(e) Take appropriate actions to achieve confirmed identification of biological agents			
Serial 2.2		**YES**	**NO**
IAW STANAG 2451, the detection teams are capable of:			
(a) Detecting and characterizing biological incidents			
(b) Identify the agents and hazards			
(c) Delineating areas of contamination			
(d) Monitoring the changes			
(e) Conducting monitoring operations.			

Serial 2.3		**YES**	**NO**
The command and control elements are proficient in collecting and processing biological information IAW ATP-45. This includes: rapid collection, evaluation and dissemination of data concerning biological incidents and hazards, including the prediction of hazard areas.			
(a) Minimum level: manual processing/evaluation. Dissemination utilizing standardized CBRN message formats.			
(b) Desired level: automated processing/evaluation/dissemination utilizing CBRN W&R Software/Modelling Software.			
Serial 2.4		**YES**	**NO**
The unit is able to collect meteorological data as required in CBRN 1 & CBRN 4 reports			
(a) Minimum requirements: Downwind direction, downwind speed, cloud coverage, significant weather phenomena, relative humidity range, surface air temperature, air stability category			

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APPENDIX 3 TO ANNEX H – SPECIALIST DECONTAMINATION CAPABILITIES & IT'S EVALUATION

Definition according to AAP-06.

Operational decontamination: Decontamination restricted to specific parts of operationally essential assets and/or working areas, carried out in order to sustain operations.

Note: Operational decontamination may include decontamination of the individual beyond the scope of immediate decontamination, as well as decontamination of mission-essential spares and limited terrain decontamination.

Thorough decontamination: Decontamination carried out in order to permit the partial or total removal of individual protective equipment, with the aim of restoring operational tempo.

Note: Thorough decontamination may include terrain decontamination beyond the scope of operational decontamination.

Clearance decontamination: Decontamination of materiel to a standard sufficient to allow unrestricted transportation, maintenance, employment or disposal.

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Evaluation of Specialist Decontamination Capabilities

MAIN REQUIREMENTS	REMARKS/COMMENTS	EVAL	
DECONTAMINATION UNITS / SUB-UNITS	*For decontamination companies, the evaluation teams should select the HQ section and a representative sample of personnel, materiel, terrain and fixed site decontamination platoons or equivalent. The evaluation should utilize wherever possible a unit CBRN defence standard training exercise.*	**YES/NO**	
Serial 3.1	*Assessment based on training plans, exercise reports, recent operations, recent evaluations etc.*	**YES**	**NO**
The unit / sub-unit is proficient in assessing, preparing and executing appropriate hazard management measures IAW STANAG 2521. The unit / sub-unit is proficient in the preparation and conduct of operational and thorough CBRN decontamination operations IAW STANAG 2471. As a minimum the following tasks are to be evaluated:			
(a) Plan and prepare decontamination operations			
(b) Conduct decontamination site selection and coordination with the contaminated unit			
(c) Prepare for personnel and materiel decontamination operations			
(d) Conduct tasks to sustain continuous decontamination operations (min. 24 hrs)			
(e) Perform thorough/operational personnel and materiel decontamination missions by day and night to include:			

(1) Overgarments		
(2) IPE		
(3) Battlefield dress and individual combat equipment (helmets, weapons, ammunition etc.)		
(4) Vehicles, including interiors		
(5) Weapon systems		
(6) Sensitive optical/electrical materiel		
(f) Conduct fixed-site decontamination missions, either at seaport or airport or both by day and night		
(g) Conduct terrain / road decontamination missions		
(h) Conduct thorough aircraft decontamination missions by day and nigh		

APPENDIX 4 TO ANNEX H – CBRN JOINT ASSESSMENT TEAM (JAT) / NATO COMBINED JOINT CBRN DEFENCE TASK FORCE & IT'S EVALUATION

The concept of operations of the CJ-CBRND-TF provides greater details that will emphasize the evaluation requirements.

These requirements are in line with ACO force standard criteria.

The CBRN-JAT is a very high readiness (5 days) multinational, multifunctional, interdisciplinary pool of experts, formed using force generation procedures, capable of deploying as a mission tailored specific team for a limited period. Due to its specific mission, the CBRN-JAT is a separate, but complementary capability to the CBRN defence battalion. The CBRN-JAT will deploy independently of, but with support from, the CBRN defence battalion. The CBRN-JAT is able to operate across the full range of land, air and maritime operations. On orders, the CBRN-JAT is to deploy rapidly in response to a CBRN threat to provide NATO commanders and their staff with timely scientific and operational advice and assessment, in order to enable operations to continue in a CBRN threat environment.

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Evaluation of the CBRN-JAT

MAIN REQUIREMENTS	REMARKS/COMMENTS	EVAL	
CBRN JOINT ASSESSMENT TEAM	*The evaluation should utilize a joint level CPX. Assessment based on training plans, exercise reports, recent operations, recent evaluations, SOP, etc.*	**YES/NO**	
The team is proficient in the application of CBRN doctrine IAW STANAG 2451/AJP 3.8 and has the appropriate plans and procedures in place to meet the requirements of providing timely and accurate assessments and advice. As a minimum the following tasks are to be evaluated:		**YES**	**NO**
(a) Provide expert CBRN advice to the command group, information operations and media operations staff, to inform the information and media strategy to counter the threat from state and/or non-state actors of CBRN incidents and assist in the development of public information “lines to take”.			
(b) Advise and assist in assessing CBRN defence requirements of a deployed force; recommend allocation of scarce CBRN defence resources			
(c) Advise and assist in preparations and actions necessary to minimize the impact of TIH on operations including environmental health hazards			
(d) Advise and assist assigned CBRN defence staffs to develop or review operational CBRN defence plans for operations in a CBRN environment, including asymmetrical/terrorist CBRN threats			
(e) Advise and assist peace time establishment/crisis establishment CBRN staff, and if requested civilian authorities, on post incident hazard management operations, to mitigate the effects of contamination			

(f) Conduct alert, activation, assembly, preparation and deployment activities and coordinate support requirements of the CBRN-JAT IAW the required readiness levels		
(g) The CBRN-JAT's CBRN Warning & Reporting cell is proficient in collecting and processing information iaw ATP-45. This includes rapid collection, evaluation and dissemination of data concerning CBRN incidents and hazards, including the prediction of hazards areas		
h) The CBRN-JAT is able to demonstrate its ability to (upon activation) successfully establish a link to the CBRN Reachback Coordination Centre (which will be set up by the respective CBRN-JAT's Lead Nation). Credible and appropriate plans and procedures are in place as well as required points of contact information (phone/fax numbers, e-mail addresses) from various scientific institutions and other sources of expertise		

APPENDIX 5 TO ANNEX H – DEPLOYABLE CBRN ANALYTICAL LABORATORY (DCBRN-AL) & IT'S EVALUATION

Deployable CBRN analytical laboratory will enhance situational awareness by providing expert sampling and confirmatory identification of CBR agents within the Joint Operations Area. This will assist the NATO commander in achieving timely decisions on the appropriate course of action. The deployable CBRN analytical laboratory is able to operate across the full spectrum of land, air and maritime operations.

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APPENDIX 5 of
ANNEX H to
ATP-3.8.1, Vol. III

Evaluation of the deployable CBRN analytical laboratory

MAIN REQUIREMENTS	REMARKS/COMMENTS	EVAL	
DEPLOYABLE CBRN ANALYTICAL LABORATORY (DCBRN-AL)	*The evaluation should utilize wherever possible a unit CBRN defence standard training exercise, preferably using CBRN live agents/substances.*	**YES/NO**	
Serial 5.1	*The evaluation should take in consideration the operating procedures of the deployable CBRN analytical laboratory and include all assigned CBRN EOD, Sampling, Decontamination and Laboratory teams.*	**YES**	**NO**
The deployable CBRN analytical laboratory is proficient in the and analysis of CBR substances and providing data-driven scientific advice, in order to assist in theatre-level health threat surveillance of CBR threats and ultimately enable NATO operational commanders to make timely decisions on the appropriate courses of action. As a minimum, the following tasks[12] are to be evaluated:			
(a) Conduct laboratory analysis necessary to provide confirmed identification of suspected CBR hazards from environmental samples from NATO area of operations (Field confirmatory level), IAW STANAG 4632			

[12] See STANAG 4632 “Deployable NBC Analytical Laboratory”

(b) Conduct data processing and analysis and provide results to a nominated operational interface as a basis for operational decisions		
(c) Conduct command and control of deployable CBRN analytical laboratory sub-components		
(d) Deploy personnel and equipment to joint operations area		
(e) Maintain deployable CBRN analytical laboratory equipment and personnel safety and readiness		
(f) Conduct CBRN EOD/ tasks prior to execution of deployable CBRN analytical laboratory missions		
(g) Provide appropriate environmental control and containment of samples potentially containing CBR hazards		
(h) Ensure decontamination of samples, personnel and equipment used in CBR EOD and sampling operations IAW AEP-66		

(i) The deployable CBRN analytical laboratory proofs its ability to prepare samples for cross-border shipment iaw AEP-66 and IATA regulations. Cross-border shipment of samples will be required to enable unambiguous identification of samples at static reference laboratories			
Serial 5.2		**YES**	**NO**
Sampling teams are proficient in conducting procedures			
Serial 5.3		**YES**	**NO**
CBRN EOD teams are proficient in procedures.			
Serial 5.4		**YES**	**NO**
Decontamination teams are proficient in decontamination procedures.			

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APPENDIX 6 TO ANNEX H – CBRN MULTIROLE EXPLOITATION AND RECONNAISSANCE TEAM (CBRN-MERT) & IT'S EVALUATION

CBRN Multirole Exploitation and Reconnaissance Team (CBRN-MERT) will carry out tasks related to CBRN defence, with high readiness and technical specialization. The CBRN-MERT is able to guarantee the CBRN function advice, reconnaissance, collection of CBRN or TIM (Toxic Industrial Materials) contaminated samples, evidence, devices, materials, artefacts and traces (DMAT), biometric data in a CBRN environment. It has to be capable of characterisation of CBRN material/facilities in support of technical exploitation in hostile/non-permissive environments. The Team is able to operate in support of other units, including Special Operations Forces (SOF). This will assist the NATO commander in achieving timely decisions on the appropriate course of action. CBRN-MERT is capable to operate across the full spectrum of land, air and maritime operations.

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Evaluation of the CBRN-MERT

MAIN REQUIREMENTS	REMARKS/COMMENTS	EVAL	
CBRN MULTIROLE EXPLOITATION AND RECONNAISSANCE TEAM (CBRN-MERT)	*The evaluation of CBRN-MERT should be conducted especially during exercises (e.g., LIVEX / LAT).*	**YES/NO**	
Serial 6.1	*The evaluation should take in consideration the operating procedures of the deployable CBRN analytical laboratory and include all assigned CBRN EOD, Sampling, Decontamination and Laboratory teams.*	**YES**	**NO**
(a) Capable of providing CBRN advice, reconnaissance and collection capability in a non-permissive environment, including in support of SOF			
Serial 6.2		**YES**	**NO**
(a) Capable of conducting collection and recovery of devices, materials, artefacts and traces (DMAT) in a CBRN environment iaw STANAG 2298			
(b) Capable of collecting and handling suspected CBRN substances			

(c) Capable of providing CBRN assessment and technical expertise		
(d) Capable of characterisation of CBRN material / facilities in support of technical exploitation and CBRN analysis in a non-permissive environment		
(e) Capable of collecting biometric data in a CBRN environment		
(f) Capable of conducting one mission per day		
(g) Capable of conducting CBRN site identification, characterisation, monitoring and survey		
(h) Capable of conducting provisional identification of CBRN and hazardous materials		
(i) Capable of performing, to a limited extent, immediate containment of CBRN materials or neutralisation of CBRN hazards		
(j) Capable of supporting military search tasks in accordance with ATP-3.12		

(k) Capable of integrating with and contributing to CBRN Knowledge Management.			
Serial 6.3		**YES**	**NO**
(a) Capable of rapid deployment into and intra-theatre.			
(b) Capable of fulfilling the legal requirements for enabling the shipment of dangerous goods IAW international standards and national laws.			
(c) Capable of maintaining the integrity of the samples by documenting their control, transport and transfer.			
(d) Capable of independent relocation by road and being deployed via tactical airlift.			
(e) Capable of operating in cold or extreme hot weather conditions (see AECTP-230), and under austere conditions.			
(f) Capable of operating in a maritime environment and from helicopters.			

(g) Capable of providing an appropriate capability level of CBRN Defence in accordance with ATP-3.8.1 in order to be able to operate in a CBRN environment.		
(h) Capable of deploying to theatre with a minimum of three days of supply.		
(i) Capable of establishing long range, secure and unsecure communications (to include real time full motion video) with superior headquarters.		
(j) Capable of integrating within the overall theatre JISR capability to enable effective collection tasking, cross-cueing of other collection capabilities and dissemination of collected information to users.		
(k) Capable of an appropriate level of IED awareness in accordance with ACIEDP-01.		
(l) Capable of operating with NATO Special Operations Forces.		

ANNEX I REFERENCES

AAP-06: NATO Glossary of Terms and Definitions – English and French

ACIEDP-01: Countering Improvised Explosive Devices Training Requirements

AECTP-230: Climatic Conditions

AJMedP-7: Allied Joint CBRN Medical Support Doctrine

Allied Command Operations (ACO) Forces Standard Volume VII – Combat Readiness Evaluation of Land HQs and Units (CREVAL) dated 20 January 2020

AMedP-7.3: Training of Medical Personnel for Chemical, Biological, Radiological, and Nuclear (CBRN) Defence

BI-SC 075-003: Collective Training and Exercise Directive (CT&ED)

MC 238/3: Individual and Collective Training

MC 458/3 and MC 458/1: NATO Education, Training, Exercise and Evaluation Policy

MC 511: Military Committee Guidance for CBRN Defence

MCM-0087-2007: Combined Joint CBRN Defence Task Force (CJ-CBRND-TF) concept of operations

STANAG 2047: Emergency Alarms of Hazard or Attack (CBRN and Air Attack Only)

STANAG 2083: Commander's Guide on the effects from Nuclear Radiation Exposure during War

STANAG 2103: ATP-45, Reporting Nuclear Detonations, Biological and Chemical Attacks, and Predicting and Warning of Associated Hazards and Hazard Areas (Operators Manual)

STANAG 2126: First-Aid Dressings, First-Aid Kits and Emergency Medical Care Kits

STANAG 2143: Explosive Ordnance Disposal (EOD) Principles and Minimum Standards of Proficiency

STANAG 2221: Explosive Ordnance Disposal Reports and Messages

STANAG 2282: Allied Tactical Publication for Explosive Ordnance Disposal, ATP-3.18.1, Ed A

STANAG 2298: NATO Weapons Intelligence Team (WIT) Capabilities – ACIEDP-02 Edition B

STANAG 2352: Nuclear, Biological and Chemical (NBC) Defence Equipment-Operational Guidelines

STANAG 2358: CBRN First Aid Handbook

STANAG 2377: EOD Roles, Responsibilities, Capabilities and Incident Procedures when Operating with Non EOD Trained Agencies and Personnel

STANAG 2389: Minimum Standards of Proficiency for Trained Explosive Ordnance Disposal Personnel

STANAG 2451: AJP 3.8, Allied Joint Doctrine for CBRN Defence

STANAG 2461: The Medical Management of CBRN Casualties

STANAG 2462: NATO Handbook on the Medical Aspects of NBC Defensive Operations (Biological) - AMedP-6(C) Volume II

STANAG 2463: NATO Handbook on the Medical Aspects of NBC Defensive Operations (Chemical) - AMedP-6(C) Volume III

STANAG 2471: Chemical Contamination Control for Airlift Operations

STANAG 2473: Commander's Guide to Radiation Exposures in non-Article 5 Crisis Response Operations

STANAG 2499: The Effect of Wearing CBRN Individual Protective Equipment (IPE) on Individual and Unit Performance during Military Operations

STANAG 2510: Joint NATO Waste Management Requirements during NATO-Led Military Activities

STANAG 2515: Collective Protection in a Chemical, Biological, Radiological and Nuclear Environment (CBRN COLPRO) – ATP-70

STANAG 2521: ATP-3.8.1 Volume I, CBRN Defence on Operations

STANAG 2522: ATP-3.8.1 Volume II, Specialist CBRN Defence Capabilities

STANAG 2871: First-Aid Material for Chemical Injuries

STANAG 2910: Nuclear Weapons Effects and Responses Casualty and Damage Assessment for Exercises

STANAG 2954: Training of Medical Personnel for CBRN Defence

STANAG 3497: Aeromedical Training of Aircrew in Aircrew CBRN Equipment and Procedures

STANAG 4632: Deployable NBC Analytical Laboratory

STANAG 4701 - AEP-66: NATO Handbook for Sampling and Identification of Biological, Chemical and Radiological Agents (SIBCRA), Edition A Version 1 (April 2015)

STANAG 7141: Joint NATO Doctrine for Environmental Protection during NATO Led Military Activities

STANAG 7149: NATO Message Catalogue

STANREC 4548: Operational Requirements, Technical Specifications and Evaluation Criteria for CBRN Protective Clothing

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ANNEX J ABBREVIATIONS / ACRONYMS

AAP: Allied Administrative Publication

ACO: Allied Command Operations

AEP: Allied Engineering Publication

AJP: Allied Joint Publication

AMedP: Allied Medical Publication

ATP: Allied Tactical Publication

AXP: Allied Exercise Publication

CBRN: chemical, biological, radiological and nuclear

CBRN-JAT: chemical, biological, radiological and nuclear joint assessment team

CCA: contamination control area

CEL: combined events list

CIMIC: civil-military cooperation

CJ: combined joint

CJ-CBRND-TF: NATO's Combined Joint CBRN Defence Task Force; the combination of the CBRN Battalion and the CBRN-JAT

CJTF: combined joint task force

COLPRO: collective protection

CPX: command post exercise

EMP: electromagnetic pulse

EOD: explosive ordnance disposal

ETEE: Education, Training, Exercise and Evaluation

EXCON: exercise control

HPAC: Hazard Prediction and Assessment Capacity

HQ: headquarter

IAW: in accordance with

IEDD: improvised explosive device disposal

IPE: individual protective equipment

JAT: joint assessment team

JISR: Joint Intelligence Surveillance and Reconnaissance

JMETL: joint mission-essential task list

JOA: Joint Operations Area

LIVEX: live exercise

LoA: Level of Ambition

MC: Military Committee

MCM: Military Committee Memorandum

MD: Mediterranean Dialogue

MEL: main events list

NATO: North Atlantic Treaty Organization

NCO: non-commissioned officer

NRBC: nucléaire, radiologique, biologique et chimique (French acronym of CBRN)

NRF: NATO Response Force

OPLAN: operations plan

PfP: Partnership for Peace

PI: public information

RADIAC: radioactivity detection, identification, and computation

SACEUR: Supreme Allied Commander Europe

SAGE: SACEUR's Annual Guidance on ETEE

SC: Strategic command

SHAPE: Supreme Headquarters Allied Powers Europe

SIBCRA: sampling and identification of biological, chemical and radiological agents

SIRA: sampling and identification of radiological agents

SOPs: standing operating procedures

STANAG: NATO standardization agreement

TEED: Training, Exercise and Evaluation Directive

TIC: toxic industrial chemical

TIH: toxic industrial hazard

TIM: toxic industrial material

TREE: transient radiation effect on electronics

UXO: unexploded explosive ordnance

WMD: Weapons of Mass Destruction

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