United Nations Peacekeeping Missions Military EOD Unit Manual

September 2017

Preface

We are delighted to present the United Nations Peacekeeping Missions Military Explosive Ordnance Disposal (EOD) Unit Manual, an essential reference guide for Member States, commanders and staff deployed in peacekeeping operations and the United Nations Headquarters.

Over the past seventy years, UN peacekeeping has evolved significantly in its complexity. Peacekeeping missions are deployed into environments that are hostile and unstable, which perilously have the missions confronting asymmetric conflicts and threats, including *ad hoc* military engagements with non-state armed groups over large swaths of territory. Despite these challenges, UN peacekeeping remains an irreplaceable tool for the international community to manage the multitude of complex crises that pose a threat to international peace and security.

In order to meet the challenges posed by the complexity and scale of Improvised Explosive Device (IED) Threats, the Department of Peacekeeping Operations (DPKO) and the Department of Field Support (DFS); in collaboration with the seminal work of experts from Member States and UNMAS, have produced this manual to contribute towards successful achievement of the mission's goals by providing guidance and recommendations on the employment of UN Military EOD Unit capabilities and functions. In the pursuit of peace, the Department of Peacekeeping Operations and the Department of Field Support will continue to refine and update this manual ensuring its relevance in the ever-changing operational environment, because we have every expectation that this document, especially with the concerted efforts of its intended readers, will contribute immensely to improving and enhancing our collective performance.

In recognition of the work previously done regarding the IED Threat Mitigation, in particular on EOD military units guidance; and in anticipation of creating additional works in the near future, we would like to express our sincere gratitude to the Member States who volunteered and devoted their time, energy and expertise in the creation of this manual.

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Scope

General Description
This Manual describes the United Nations (UN) Military EOD Unit, focusing on Military EOD support to a UN Mission and Force Headquarters (FHQ). Always scalable in size, modular in function and Mission-tailored, the UN Military EOD Unit's size and composition depend on the size, composition, explosive ordnance threat in the area of operations (AO) and requirements of the UN Mission it supports along with the physical characteristics of the Mission area.

Benefit to Troop Contributing Countries
Troop Contributing Countries (TCCs) and their deploying contingents will benefit from this document (as will their national military staffs, schools and units) as they become better able to support the reorientation of their Military EOD Units from national tasks to more fully integrated UN operations. TCCs experienced in peacekeeping operations can use this Manual to supplement and complement their national manuals. TCCs that are new to UN peacekeeping or UN Military EOD Units can use this Manual as a guide to build and field their own UN Military EOD Units. Nonetheless, it is not the intent of this Manual to override the national military doctrine of individual Member States or TCC, nor is it our intent to impose requirements on national training, operations or structures. This Manual does *not* address any military Tactics, Techniques and Procedures (TTPs) that remain the prerogative of individual Member States. For TCCs nominating EOD units, it is a requirement to adhere to the competencies stated in this manual.

Indeed, UN Military EOD Unit structures will be adapted, ultimately, in accordance with a Memorandum of Understanding (MOU) negotiated between the UN and TCC. This Manual serves as a complement to existing or emerging TCCs' military capability and preparation for the *enhanced performance achieved through interoperability* with other TCCs participating in the peacekeeping operation.

Benefit to Commanders
UN Military EOD Unit Commanders and their subordinate leaders will find in this document the guidance they need for planning, preparing and executing their assigned tasks. Chapter 1 explains the concept of employing UN Military EOD Units within the Mission and its military component. Chapter 2 provides greater detail on the capabilities expected of the UN Military EOD Unit. UN Military EOD Unit Commanders and staff can plan and manage their unit support requirements based on the information provided in Chapter 4, while Chapters 5 provides the training and evaluation guidance by which the UN Military EOD Unit can achieve and maintain top operational performance.

Benefit to UN Planners
In addition to being a guide for TCCs and their contingents, this Manual provides standardized guidance and information to UN Headquarters and field Mission planners on the employment of UN Military EOD Unit capabilities and functions. This Manual is designed for use as a reference and initial starting point for UN planners developing the Statement of Unit Requirement that, together with the UN-TCC MOU, will form the basis for a UN Military EOD Unit deployment. UN planners will find most helpful the descriptions of capabilities and organization of a UN Military EOD Unit as they tailor the unit according to Mission requirements and the generic standards described in Chapters 2 and 3.

Benefit to All

This Manual is primarily written at the operational and tactical levels. It is based on UN guidance reflecting lessons learned, feedback from field Missions and input from peacekeeping practitioners experienced in UN Military EOD Unit peacekeeping operations. Workshops conducted by interested Member States and TCC produced the original draft that was finalized after coordination within Department of Peacekeeping Operations (DPKO) and Department of Field Security (DFS). The result is a most comprehensive body of thought on UN Military EOD Units designed to assist contingents in re-orienting their Military EOD Units towards interoperability in UN peacekeeping. This Manual should be read in conjunction with relevant UN policies and other Manuals, especially the UN Infantry Battalion Manual, to gain a more comprehensive understanding of UN standards, policies and procedures related to peacekeeping operations. Moreover, every detail of the Mission framework can be more thoroughly studied in the UN Capstone Doctrine which, along with other important UN policy documents, is available at the following UN links:

“Policy and Practice Database,” accessible only to UN staff on the UN network (including field Missions) at:

http://ppdb.un.org/Nav%20Pages/PolicyFramework_Default.aspx and,

"Resource Hub," recently developed for Member States to access UN documents including the Military Unit Manuals (such as this one) at:

http://research.un.org/en/peacekeeping-community

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Chapter 1

Employment Concept for EOD Units

1.1Aim

This chapter is intended to guide the UN operational command and control staff and describe the role and responsibilities of Explosive Ordnance Disposal (EOD) units within the mission mandate. It also provides the framework and guidance for deployment, assignment and employment of EOD assets and units in the spectrum of various UN missions.

1.2 Terminology

The term EOD is a collective one that includes the procedures of detection, location, access, identification[1], evaluation[1], hazard mitigation, render safe[2], recording and recovery and final disposal used in the disposal of items of Explosive Ordnance (EO) or any hazardous material associated with an EOD incident. The nine EOD procedures that can form part of any EOD incident are defined as:

- *Detection procedures*
  Those actions taken by any means to discover the presence of an item or substance of potential EO significance.
- *Location procedures*
  Those actions within an EOD task which results in determining the presence and position of *an item or EO.*
- *Access procedures*
  Those actions taken to facilitate freedom of movement to the location of an item of EO necessary for subsequent EOD procedures.
- *Identification procedures*
  Those actions taken to establish the make-up and characteristics of an item of EO.
- *Evaluation procedures*
  Those actions taken to analyze the results obtained from EOD identification procedures to assess the likely mode of action it's and associated hazards along with those in the locality.
- *Hazard Mitigation*
  Application of control measures intended to reduce the likelihood of the initiation of an item of EO and / or the consequences of such an initiation.
- *Render-safe procedures (RSP)*
  The actions taken on items of EO which cause such items to be placed in a state of tolerable risk unlikely to cause harm, injury or damage, through the application of special EOD methods and tools to provide for the interruption of functions or separation of essential components thus preventing an unacceptable initiation.
- *Recording and recovery procedures*

[1] Some EOD definitions have identification & evaluation procedures under the combined heading of diagnosis.

[2] The action of placing an item of EO in a state of tolerable risk unlikely to cause harm, injury or damage.

Those actions taken to document and retrieve items of EO or components thereof that are in an acceptable state of safety. These procedures including the reporting of EOD incidents.

- *Final disposal procedures*
  Those actions within EOD which include demolition, neutralization, burning or other appropriate means that result in the elimination (complete destruction) of explosive ordnance hazards. In some cases, the RSP is the final disposal.

Explosive Ordnance[3] (EO) is defined as all munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket and small arms ammunition; all mines, torpedoes and depth charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine[4] and improvised explosive devices (IEDs[5]); and all similar or related items or components explosive in nature.[6]

Conventional Munition Disposal (CMD) refers to any EOD operation conducted on ammunition that is used as a conventional weapon. CMD activities may be undertaken as follows:
a) As part of mine clearance operations, upon discovery of Explosive Remnants of War[7] (ERW);
b) To dispose of ERW discovered outside hazardous areas, (this may be a single item of ERW, or a larger number inside a specific area)[8]; or
c) To dispose of items of conventional EO which has become hazardous by deterioration, damage or attempted destruction.

IED Disposal (IEDD) is the collective term referring to the following EOD procedures, intended to result in the final elimination of an IED; detection, location, access, identification, evaluation, hazard mitigation, rendering safe, component recording and recovery and final disposal.

The term "defeat the device (DtD)" is often used in relation to EOD and in particular IEDD activities. For clarity, it is defined here to avoid misunderstanding. DtD refers to a defensive line of operation undertaken as part of IED threat mitigation activities which include all actions and activities designed to reduce the effects of IED initiations for safe operations, including:

- Search activities;

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[3] *Source: IMAS 04.10, 2nd Ed, 01 Jan 03, Amd 7, Aug 14, Glossary of Mine Action*

[4] Clandestine devices are EO items which are specifically designed for concealed emplacement or appear like an innocuous item which functions when a person carries out an apparently harmless act. They utilize anti-handling devices or other conventional firing mechanisms in conjunction with a conventional initiator and main charge. The term military boobytrap has been used in reference to clandestine devices in the past.
NOTE: They do not refer to anti-handling devices or other firing mechanisms fitted to ERW or other EO being used in a manner not in their intended design role which are considered to be IEDs.

[5] A device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic, or incendiary chemicals and designed to destroy, incapacitate, harass, or distract. It may incorporate military stores, but is normally devised from nonmilitary components.

[6] Other definitions include demolition charges.

[7] Explosive Remnants of War refers to Unexploded Ordnance (UXO) & Abandoned Explosive Ordnance (AXO).

[8] Within such ERW disposal activities individual items can be disposed of as they are found or turned in for disposal, in what may be called spot tasks or the disposal of stray ammunition in some nations. There are also larger scale ERW disposal operations referred to as Battlefield Area Clearance[8] (BAC) which is defined as the systematic and controlled clearance of hazardous areas where the hazards are known not to include mines.

- CMD activities;
- IEDD activities;
- Support to mission partners.

Of the four named activities and actions within DtD, CMD activities, IEDD activities and Support to Mission Partners are EOD core capabilities.

Since many nations use the term EOD, this manual will use the terms CMD and IEDD to refer to different activities and capabilities; then use the term EOD as the overarching term.
An understanding by Mission Planners and Commanders of the distinction between CMD and IEDD capabilities will allow the UN system to allocate resources more efficiently to mitigate explosive threats. Requesting IEDD units where CMD would suffice is not efficient, requesting a CMD unit where IEDD is needed, is dangerous. Expectations of an IEDD capability should not be placed on TCC CMD units unless this requirement has been clearly identified in the planning process. Statements of Unit Requirements must clearly articulate the explosive mitigation capability desired for the mission.

In addition to the two branches of EOD referred to (i.e. CMD and IEDD), a third branch of Chemical, Biological, Radiological and Nuclear (CBRN) EOD[9] also exists. This manual will not refer to the CBRN specialized capabilities nor any UN mission in which CBRN threats, either conventional or improvised, are assessed as possible. Instead the Organization for the Prohibition of Chemical Weapons (OPCW) should be referred to[10].

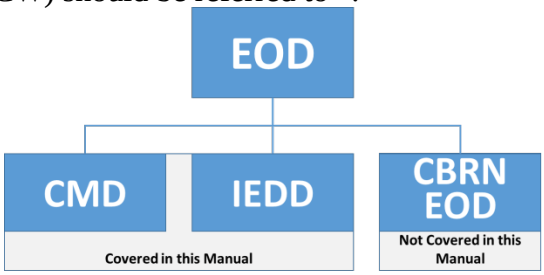


Figure 1-1Three branches of EOD

[9] CBRN EOD is the term that refers to both Biological and Chemical Munitions Disposal (BCMD) and CBRN Weapon Disposal. BCMD is defined as any EOD operation conducted on conventional munitions containing either biological or chemical agents or the recovery of other containers containing toxic substances. CBRN Weapon Disposal is a specialization within CBRN EOD in which EOD techniques are applied to render safe an improvised device containing a CBRN payload.
[10] The latest version of IMAS Test and Evaluation Protocol 09.30/01/2014, for Explosive Ordnance Disposal (EOD) Competency Standards provides information on BCMD operator competencies.

1.3 Role of EOD Units

As an integral part of a UN force, the fundamental role of EOD units is to counter EO threats in support of peacekeeping operations. Four interrelated Lines Of Operation (LOO) provide a framework for EOD units, which provides enduring capabilities to the mission:

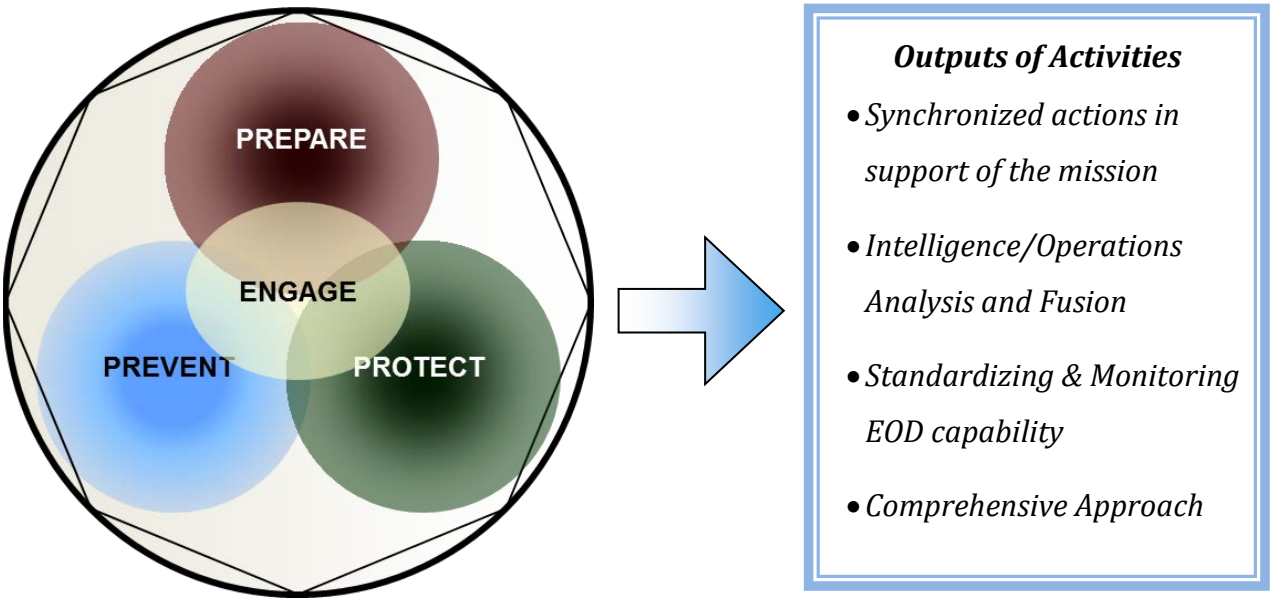


Figure 1-2: The Output activities for UN EOD units from their four interrelated LOO

- **PREPARE** UN civilian and military personnel to operate in explosive threat environments. General awareness will help identify and communicate visible indicators, enhance the early detection of devices, minimize exposing personnel to the threat, and guide actions which will render safe or mitigate the effects of initiation at the point of impact.
- **PREVENT** the use of these EO by facilitating the disruption of threat networks and the ability to construct and employ explosive devices. Recording and recovery of EO components and the technical information to provide situational awareness on the aggressor's[11] capabilities and trends, thus assisting future operational planning and resource allocation. Full coordination with civilian authorities, police forces and Host Nation (HN) intelligence agencies may be beneficial.
- **PROTECT** by detecting and rendering safe EO threats and mitigate their effects. This line requires optimization and integration of suitable technology solutions. This includes:
    - Surveillance assets for information collection;
    - Technical information resources to enable trend and pattern analysis;
    - Qualified and well equipped search and disposal teams;
    - Support elements such as Force Protection (FP) and medical assets.

[11] Aggressor is the term used to describe any person or group of persons or organization that has the intent and capacity to inflict physical violence.

- **ENGAGE** with stakeholders and partners in a comprehensive approach to develop their counter explosive threat capabilities. Close coordination with HN security forces is essential to raise their level of expertise, in line with mandated mission. Within the general scope of UN peacekeeping missions, the HN must be able to take responsibility for countering this threat, upon mission closure.

Deployment of EOD units on peacekeeping missions aims to defeat or to mitigate the effects of EO, in order to:

- Contribute to the FP of UN personnel and partner agency personnel;
- Protect civilians;
- Allow freedom of action and movement in the Area of Operations (AO);
- Increase the UN troops confidence and effectiveness;
- Contribute to stabilization initiatives as part of post conflict or emerging societies through the removal of EO threats which can impact economic development and act as source of energetic material for use in IEDs;
- Contribute to the degradation of IED networks by recording and recovery of EO components.

EOD and in particular IEDD are important functions contributing to these goals. EOD activities are in direct support to enhance operational effectiveness[12] and efficiency[13], and improve peacekeeper safety and security in the field in support of the UN mission mandate.

The requirement for deploying this capability depends on the threat assessment for the specific mission environment. The level of threat must be considered both in terms of EO that is assessed to have been utilized in a given AO and / or a potential or actual aggressor's IED capability. Force generation EOD activities within a peacekeeping mission where applicable should be coordinated with the Mission's UN Mine Action Service (UNMAS) office, who have expertise in relation to EO threats. The unit structure, strength and equipment along with the EOD operator's education and competencies required will depend on the mission mandate, tasks and Rules of Engagement (ROE). These criteria directly influence the force configuration.

[12] A quality of a system, process of action that achieves a desired outcome or end state.

[13] A quality of a system, process of action that achieves a desired outcome or end state within acceptable time, financial, personnel and other resource constraints.

1.4 EOD Philosophy and Principles

Commanders and planners involved in the force generation and utilization of EOD units and teams, should be aware of the EOD philosophy that guides EOD operators in the planning and execution of EOD tasks and plans. The UN EOD philosophy is:

- **Save Life**. The safeguarding of human life takes precedence over all else. While this includes the lives of EOD personnel, there will be incidences where the safety of other UN personnel and civilians must take precedence over the safety of EOD personnel.
- **Preservation of Property**. Property preservation is in keeping with the aim of preventing an item of EO causing damage or aggressor utilized IEDs from achieving their aim.
- **Removal of the Threat.** The removal of the threat posed by an item of EO is central to the raison d'être of EOD. Two specific circumstances where removal of the threat is a high priority is in a high tempo operational environment in which the higher commander's intent in line with the mission mandate requires the clearance of an IED to allow operations to continue. Similarly, for IEDs with a chemical payload the removal that chemical threat is a high priority.
- **Recording and Recovery of EO Components**. EO components are to be recorded and recovered, in support of improving the situational awareness as to the threat in the mission area, as far as possible, and consistent with this philosophy**.**
- **Return to Normality**. All EOD TTPs must restore the situation to normality as soon as possible, commensurate with safety. This must be achieved where possible using TTPs which cause minimal damage. In unusual circumstances, it may be necessary to use TTPs which quickly clear the threat, but which cause significant damage, e.g. in periods of prolonged or intense IED activity. In such circumstances a rapid clearance may cause damage to property, but these are offset by a reduced disruption in UN operations due to EO.

The prioritization of the five parts of the EOD philosophy depends of the key operational actions defined by the UN force commander. In every case, ***preservation of life*** is always the priority in all EOD activities. Further information on how IEDD can contribute to IED threat mitigation in a mission is contained in the UN IED threat mitigation handbook.

In addition to the EOD philosophy mentioned previously, all EOD tasks and operations should be conducted with the following EOD principles applied. These EOD principles have been devised from the EOD philosophy and are to be observed in all EOD operations and tasks. These EOD principles are:

- The preferred Render Safe Procedure (RSP) should utilize remote means;
- Manual render-safe actions shall be carried out only as a last resort;
- The operator shall be exposed to an EO item for the minimum time;
- Mandatory safe waiting periods[14] shall be observed;
- Operations shall be planned;
- In IEDD, the preferred RSP should utilize remote neutralization through disruption;
- The operator shall revert to remote means whenever possible.

[14] Safe waiting periods are waiting times which an EOD operator must allow to elapse following positive EOD action, prior to making a manual approach. The times are mandatory and cover both the primary and secondary safe waiting periods. Note: the term soak times is used in some TCC EOD communities to refer to same things as safe waiting periods.

1.5 EOD Tactics Techniques Procedures

Since the TTPs of EOD units are of sensitive security classification, the details of such TTPs are not provided in this manual. Such information can be utilized by those who utilize IEDs to counter these techniques and procedures and exploit this knowledge to design IEDs that will target EOD personnel. TCC should not be required to alter / amend their EOD TTPs for UN missions from what they train their personnel whilst in their own respective countries. For these reasons, exact EOD TTPs to be used are at the discretion of TCC providing EOD capabilities to UN missions with the caveat that they must be:

- Effective, efficient and safe leading to the rendering safe of items of EO or disposal of an IED;
- In line with the mission mandate;
- In line with EOD philosophy and principles.

While EOD TTPs are a national responsibility EOD TCC with in a UN mission are encouraged to share EOD TTP best practices and EOD lessons learned to the benefit of all mission EOD personnel.

1.6 EOD Unit Tasks

The lack of common use of the terms EOD, CMD and IEDD between nations can prove problematic on multinational missions as different TCC can have different definitions and understanding as to what a given term references. This lack of a common operating language can be particularly problematic when determining the level of capability required for a given EOD task. For this reason, it is often best practice to determine the IED threat that needs to be mitigated and the nature of the EOD activity i.e. IED neutralization or CMD, and utilize an EOD activities spectrum to define the EOD capability required. Annex A of this manual presents an example of such an EOD capability spectrum.

EOD is an operational enabler contributing to Freedom of Movement (FoM) and FP. In order to support and advise the commander on EOD related matters (including the rendering safe of IEDs) EOD structures will be integral to a formation. EOD elements are always in high demand and there is nearly always a shortage of trained personnel. Additionally, there is a high level of risk to these personnel. Consequently, they are normally controlled directly by the formation HQ and work prioritized accordingly. EOD units (whether deployed as a separate team, or as an element within a composite unit) are in direct support of military operations and thus come under the direct tasking authority of the force commander / Head of Military Component (HoMC).

EOD units require the capability to deploy military personnel and equipment on short notice or immediate notice to move into what may be hostile and dangerous environments for example semi-[15] and non-permissive environments[16]. EOD units must have dedicated FP allocated to them, including the use of personal and crew-served weapons such as pistols, rifles and machine guns. The provision of these FP capabilities must be determined in the planning phase for the force

[15] *Semi-permissive* refers to operations in a potentially hostile environment where the support from the local population cannot be depended upon. More information on the use of such terminology is provided in the glossary of terms.

[16] *Non-Permissive* refers to a hostile environment where both adversaries and unsupportive local population pose a continuous threat.

generation of EOD units. There are two options for the provision of this FP capability in that the EOD unit can have a dedicated organic FP element in its unit establishment or it can have a named parent unit charged with the provision of this FP element for the duration of the mission. EOD units must have the capability to communicate via VHF and HF communications, and have logistical and medical support provided to them once deployed. Again, the provision of these communications logistical and medical support capabilities needs to be determined in the planning phase of a mission and a unit tasked with such provision. Further consideration on support for UN military EOD units is provided in Chapter 4 of this manual.

The core capabilities of an EOD unit are explained in Chapter 2 of this manual, however; in general EOD units, can be tasked to undertake the following:

- Holding, maintaining and operating EOD equipment;
- Executing EOD activity as directed, by the appropriate tasking authority;
- Carrying out reconnaissance, identification, field evaluation, rendering safe, neutralization, recovery and disposal of explosive ordnance including IEDs;
- Respond to, identify, render safe and dispose of EO[17] that threaten or impede FoM. This also includes destroying captured EO and assisting in the disposal of unserviceable EO. This is a highly hazardous type of operation and one that must be considered carefully during the mission planning phase as the generation of this capability is not one that can be done easily owing to specialized nature of the capability.
- Supporting the recording and collection of EO components;
- Providing immediate EOD reports to the EOD Coordination Cell (EODCC)[18] after a completed operation or task, and preparing a complete report including pictures/sketches and location with accurate grid coordinates;
- Assist commanders with FP planning and execution; reviewing FP plans and EO threat / military search procedures, assist in facility site surveys; and develop / implement emergency response plans and FP plans;
- Provide technical advice and assistance for route clearance, military search, deliberate area clearance, and minefield activities involving a known / probable threat of Unexploded Ordnance (UXO), Abandoned Explosive Ordnance (AXO) & mines;
- Support mortuary services activities in planning and conducting recovery and processing of remains contaminated by EO;
- Conduct and / or support EO accident or incident investigations;

[17] The need to be able to do so in relation to conventional and/or improvised Chemical, Biological, Radiological and Nuclear (CBRN) devices needs to be identified early in the mission planning phase and OPCW conferred with as to identify the required capability requirements. Where such a threat is suspected either as in the form of conventional or improvised chemical or biological weapons, the OPCW should be consulted for advice on the requirements for the assessed threat being prepared for.

[18] A designated entity which provides operational control, planning, and administrative services related to EOD operations for assigned EOD units in a designated geographical area of responsibility. These cells receive notification of an EOD incident and completed incident reports from subordinate units and provide scheduling and control of disposal operations.

- Conduct and / or support Explosive Site Investigation (ESI) or post-blast analysis / investigation;
- Recording and recovery of EO components in support of enhancing situational awareness.
- Provide, exchange and evaluate information between agencies, in line with the mission mandate, involved in mitigating the threat posed by EO;
- Educate UN personnel on EO identification, hazards, and protective measures; military search / EO threat management; IED threats, hazards, and response procedures; and explosive hazard marking, reporting and/or evacuation as part of Pre-Deployment Training (PDT) and in theatre awareness training;
- Conducting explosive hazard education in support of the local population, if authorized by the mission and force leadership.

1.7Command and Control

Agreeing on the importance of efficient and effective Command and Control (C2) structures prior to deployment of EOD units to a UN mission is essential. This ensures timely and swift actions are taken to minimize disruptive effects that EO can have in on operations. Based on the mission analysis the force commander defines the best C2 necessary for mission operational success. Furthermore, the force / sector commander must nominate a suitably qualified focal point[19] to oversee and coordinate all EOD activities and act as the commander's technical advisor and support for related EO issues. The focal point tasks include the following:

- Provide the leadership, direction and coordination for EOD related activities within all staff branches;
- Coordinate EOD related input into routine reporting;
- Contribute to planning and mission orders as required;
- Establish and manage guidelines on pre-initiation and blowing in place of EO;
- Support the planning of operations to deny aggressors the freedom to utilize EO to affect the UN Mission;
- Assess and evaluate friendly forces and HN movement TTPs in support of friendly forces FoM;
- Provide general directions for the prioritization of EO related information gathering opportunities with tactical operations;
- Provide recommendations to the commander to address EOD issues.

1.7.1 Command and Control Overview

At the tactical level, unit commanders confirm what C2 approach their EOD teams and support elements will adopt to maximize efficiency and effectiveness of this limited and valuable force

[19] May be an individual who is part of an EOD coordination cell or a standalone focal point. In either case, they may be responsible for EOD and / or EO / IED threat mitigation.

asset. C2 of EOD units when deployed in a UN mission is best outlined on three different levels namely force level, tactical level and support level:

Force level – refers to the C2 relationship between the Mission HQ and the deployed EOD elements at the following levels:

- Mission, force commanders / FHQ
- Sector commanders / sector HQ
- Unit commander / battalion or regiment or squadron HQ

It is necessary to clearly delineate who exercises C2 over the unit. For example, issues, such as the following need to be considered:

- *Is the EOD unit in a sector with units / personnel from their own TCC and if so, do commanders from their TCC have any C2 over the EOD unit?*
- *Is the unit specifically an organic asset of a TCC infantry battalion's or engineer squadron capability and if so is it only for that specific commander's use?*

The C2 that is to be implemented in relation to an UN EOD unit, needs to be articulated in the TCC Status Of Forces Agreement (SOFA), signed by the UN, and in line with the mission mandate. The following C2 relationships can be utilized:

- United Nations Command. The authority vested in a military commander for the direction, coordination and control of military forces / personnel. Operational command has a legal status and denotes functional and knowledgeable exercise of military authority to attain military objectives or goals.
- United Nations Operational Control. The authority granted to a military commander in a United Nations peacekeeping operation to direct forces assigned so that the commander may accomplish specific missions or tasks which are usually limited by function, time, or location (or a combination), to deploy units concerned and / or military personnel, and to retain or assign tactical command or control of those units / personnel. Operational control includes the authority to assign separate tasks to sub-units of a contingent, as required by operational necessities, within the mission area of responsibility, in consultation with the contingent commander and as approved by the UN HQ.
- United Nations Tactical Command. The authority delegated to a military or police commander in a United Nations peacekeeping operation to assign tasks to forces under their command for the accomplishment of the mission assigned by higher authority.
- United Nations Tactical Control. The detailed and local direction and control of movement, or manoeuvre, necessary to accomplish assigned missions or tasks. As required by operational necessities the HoMC may delegate the tactical control of assigned military forces personnel to the subordinate sector and or unit commanders.
- Administrative Control. The authority over subordinate or other organizations within national contingents for administrative matters such as personnel management, supply, services and other non-operational missions of the subordinate or other organizations.

Tactical level – When EOD teams[20] are tasked, it is likely that it is in conjunction with other UN assets such as FP cordon and security assets or search assets. Each TCC deploying EOD assets on a UN mission must give special consideration to the tactical C2 of the EOD team commander and their relationship to other units and subunits on scene and their respective command elements. TCC commanders must appraise themselves of the technical expertise of the EOD commander and take due cognizance of his recommendations. While EOD units may in some occasions have Counter Radio[21]-controlled Warfare (CREW)[22] assets and even search assets organic to them with established C2, in situations where this is not the case, the C2 between these assets needs to be clearly outlined[23]. In the case where an EOD unit is working with a search unit, it is essential to establish who has C2 during various phases of the operation and how C2 is handed over. In the wider picture, the C2 between the FP cordon and security assets, and the EOD unit need to be addressed. In the case that the local infantry commander has C2 of the operation, does this extend inside the cordon and evacuation, or is this under the C2 of the EOD unit commander? A common approach to these C2 issues during an EOD task is that an Incident Control Point (ICP) is established by the Incident Commander (IC) in a location that makes the best tactical sense. Typically, the tactical commander of the unit providing local security is the IC and has C2 of the overall IED incident. The IC will coordinate the operation with advice from the EOD operator and other supporting capabilities. The EOD operator will advise the IC and is best practice to have C2 within the EOD cordon. At the completion of the task, full incident reporting is submitted to the EODCC and the Force HQ in accordance with mission Standard Operating Procedures (SOPs).

Support level - C2 within the EOD unit needs to be addressed and in particular the C2 relationship between the EOD unit and any attached assets need to be considered e.g. CREW operator or signalers, FP assets, communications specialists and medics. This is particularly important considering that EOD capabilities need to be scalable i.e. have the flexibility to be increased in size and personnel have the adaptability to do so seamlessly to achieve the capability to defeat the threat faced. Another example of C2 considerations with support elements and an EOD unit is when deployed by non-standard vehicle means e.g. by helicopter or boat. In such a case, what is the C2 between the EOD unit commander and /or the EOD TL and the relevant support element commander in terms of the planning for the proposed landing and recovery sites? Such C2 relationships need to be explicitly articulated in an appropriate orders group.

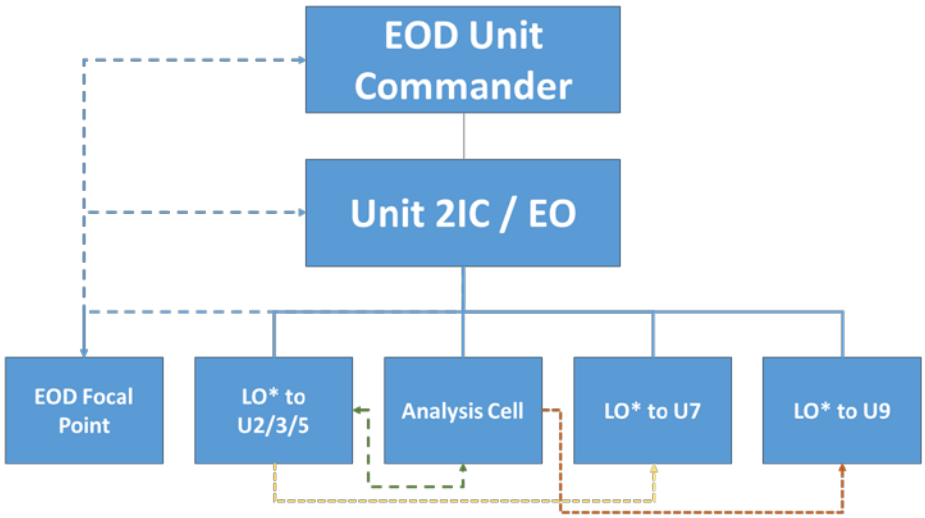
1.7.2 EOD Unit Integration into UN Headquarters

Several possibilities exist for integrating EOD units into the UN FHQ. The following are some examples of possible structures, which may be utilized in full or modified as best suits the mission requirements. Whichever structure is adopted, it is necessary to designate who or what element of

[20] Either CMD or IEDD team
[21] Some references utilize the term remote-control in place of radio-control.
[22] Often referred to as Electronic Counter Measure (ECM) assets also.
[23] It is possible that in cases were CREW and search assets are not organic to an EOD unit that such assets can attached and in such cases, they would be considered to be in support of EOD units and the C2 relationship must be clearly outlined.

the structure will fill the role of the EODCC for EOD tasking purposes and the relationship this cell has with the associated U3 branch of the HQ.

Model A – Complete and independent EOD branch within force HQ. This model requires many positions which can be very demanding on human resources. An illustrative example of such an independent branch is provided below with each position potentially one person or several people or alternatively some of the named positions combined. Such structures are scalable to the requirements of the mission's EOD requirements and the resources available.



Possible Relationships in an EOD Unit HQ	
*	All Liaison Officers (LO) in an EOD unit need to be appropriately EOD qualified and experienced
- - - - - - - -	An EOD Focal Point can act as an EOD advisor in a Mission / Sector / Unit HQ. Depending on the Mission / Sector / Unit size this can be a stand alone position, the 2IC/EO or the EOD unit commander.
- - - - - - - -	An analysis cell can be a single individual or a number of analysts who undertake technical and tactical analysis of explosive ordnance including weapons technical intelligence as well as trend and pattern analysis. It needs to work intimately with the wider U2 situational awareness elements in the Mission / Sector. The LO to U2/3/5 can be one or more persons and must work closely with the analysis cell. In smaller Missions / Sectors one person can fill the role of analysis cell and LO to U2/3/5. In larger Missions / Sectors when more than one person fill the role of LO to U2/3/5 there needs to be a very close working relationship in order to ensure planning and resulting operations that are situationally EO threat driven.
- - - - - - - -	Just as important as EO threat situationally aware driven operations and planning is, training must be operations driven in relation to filling capability requirements in line with the threat faced. In this regard the LO U2/3/5 needs to work closely with the LO U7 so the appropriate training packages are developed and delivered which will need to be amended as the threat evolves.
- - - - - - - -	Any Mission / Sector which has a LO to U9 needs to work closely with the analysis cell in order to ensure the appropriate risk education is delivered to the local populace that will result in support from the local populace to the mission thus fostering the conditions for a permissive environment for the Mission to operate in. Such an LO may also, mandate dependant be involved in advocacy, victim assistance and weapon and ammunition management (WAM) / Physical Stockpile Security Management (PSSM) initiatives, possibly as part of wider Security Sector Reform (SSR) projects.

Figure 1-3 Model A of EOD Unit Integration into UN Headquarters

Model B – Smaller element supported by existing HQ branches. This model may be more appropriate when manning is limited. The structure shown is illustrative with individual positions possibly not included or combined as required. All personnel must be appropriately qualified and experienced in EOD. Where such a reduced EOD HQ element resides within a UN FHQ is a decision during the mission planning stage; however, as the work of an EOD HQ element is cross functional between several HQ branches it is best practice to establish an EOD fusion and coordination cell. Such an EOD fusion and coordination cell will operate between the U2, U3, U5, U7 and possibly even the U9 branches. Alternatively, such a reduced EOD HQ element can be situated within the U3/U5 branch.

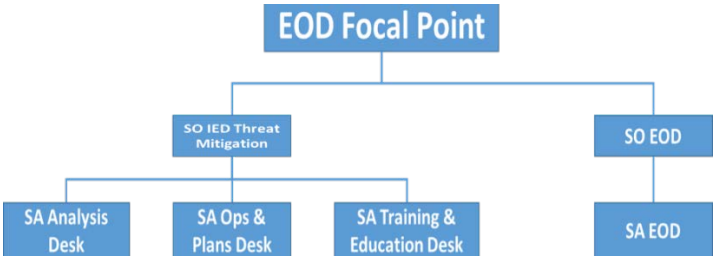


Figure 1-4 Model B of EOD Unit Integration into UN Headquarters

In this reduced EOD HQ element, all combinations of senior positions are possible, including:

- Separate EOD Focal Point, SO IED Threat Mitigation (IEDTM) and SO EOD;
- Separate EOD Focal Point and combined SO IEDTM and EOD;
- Combined EOD Focal Point and SO IEDTM with a separate SO EOD;
- Combined EOD Focal Point and SO EOD with a separate SO IEDTM;
- Combined EOD Focal Point, SO IEDTM and SO EOD.

The requirements for the named Staff Assistants[24] (SA) will be mission dependent and can be combined and / or done by the SO. Within such a reduced EOD HQ element, a liaison officer(s) (LO) for the U2, U3/U5, U7 and possibly even the U9 branches needs to be identified.

Model C – In several nations, EOD capabilities fall under the engineer function. EOD assets are limited in a theatre of operation, especially in large AO, where EOD activities cannot be disconnected. Such TCC should reference the UN Peacekeeping Military Engineering Unit Manual. This model can be designed so that at each level of command, a senior military engineer officer with his mission-tailored branch will serve as the EOD focal point and advisor to the UN commander. Both technical and tactical commanders involved in EOD operations all share a collective responsibility regarding EOD planning and execution. They should be integrated in cross-functional teams and should participate in appropriate planning groups. The senior military engineer officer should ensure that the EOD assets and capabilities are recognised and properly employed in accordance with the risk, threat assessment and mission mandate.

Figure 1-5 Model C of EOD Unit Integration into UN Headquarters

From U-engineering there is an option of model A or B or a hybrid of the both as best suits the EOD requirements of the mission in line with the mandate.

[24] Staff Assistant is a generic term for any person who facilitates the work of their designated staff officer.

1.8 EOD Unit Employment

The decision to deploy UN EOD assets are typically based on, but not limited to, the following conditions:

- There is a direct and imminent threat to life of UN personnel or to UN installations;
- There is a direct and imminent threat to civilians;
- The threat may hinder the accomplishment of any current or future UN task, or limit the FoM of UN personnel;
- As directed by higher command.

1.9 Tasking Authority

The UN military EODCC is the force tasking authority for all EOD tasks. It provides operational control, planning, and administrative services related to EOD operations for assigned EOD units in a designated geographical area of responsibility. It serves as the principal authority directing, controlling and coordinating tasks to UN EOD teams. The EODCC receives notification of an EOD incident and completed incident reports from subordinate units and provides scheduling and control of disposal operations. The location and relationship between the EODCC and the U3 branch needs to be determined as part of the mission planning.

An EODCC may be integrated as a branch within the UN mission headquarters, be constituent within one of the UN force military units (e.g. combat engineers), or even operate as a distinct force component. Whether the coordination cell is a branch within the mission HQ, or as a cross functional coordination and fusion cell or as an integral element of the UN Military Engineer unit, it is a force asset that needs to link with the other HQ functions and particularly in close cooperation with the U3 branch. Therefore, an EODCC should ideally be co-located with the operations centre. In any case, the operations branch (U3) should play an active role in coordinating with the EODCC the management of EOD tasks, informed by intelligence (U2), and directed in accordance with the Force Commander's intent and priorities. Capabilities must be controlled at the highest level and coordinated at the lowest practical level. Initiative is encouraged at every level to create and maintain an EOD capability that can quickly adapt to the threat situation and can deter the aggressor wherever possible.

Tasking may originate with other members of the UN force, the mission's civilian component or local authorities who submit their requests for EOD assistance to the UN mission. The chain of command is responsible for ensuring that EOD teams are tasked in accordance with UN mission SOPs. Operations should be reassessed if the required tactical support is unavailable or cannot be provided.

1.10 Component Recording & Recovery

Following clearance of IEDs or IED post blast investigation there should be a requirement for reports to gain information on the tactical and technical construction of IEDs, or investigate IED incidents. There should also be a requirement for the collection of evidence, either for technical situational awareness or to aid investigations. Clear policy should exist between local security services regarding the ownership of any evidence collected from IED sites to preserve UN impartiality and provide the ability to collect technical evidence. Evidence collected should be recorded in the report and evidential logs should be maintained.

1.11 Reporting Procedures

Reporting is one of the key EOD post task activities and is vital in efforts to achieve an accurate understanding of the IED EO threat in an AO. Reporting is typically the final phase in any EOD task or operation; however initial EOD reports can be generated prior to all the information in relation to an EOD task being assembled, for example in the case of an IED incident which involved the recovery of components which are then to undergo examination and exploitation for technical intelligence purposes. Such exploitation may take some time to complete, but the dissemination of known details should not be delayed to await all information to be assembled.

The procedure and process under which EOD reports are generated, validated and distributed needs to be agreed at FHQ level and implemented across the mission to ensure the appropriate widest and secure dissemination of information is achieved to all branches and personnel who need to be in receipt of such information. While OPSEC is always a consideration with reports, it is vital that EOD reports are given the widest possible circulation. This ensures that appropriate action is taken regarding lessons identified and that training, equipment and procedures are developed to adjust to the EO threat faced.

Comprehensive and clear report writing greatly aids the future clearance of EO and should include EOD operator assessments of technical and tactical details and should include clear and high quality imagery such as photographs, x-rays, sketch diagrams and basic circuitry diagrams where possible. Use of the words ‘possible’ and ‘probably’ are encouraged to provide context for assessments where there are unknowns. All EOD reports should be designed to be clear, concise accurate, systematic and allow lessons to be learned from it for other UN units to benefit.

The format of an EOD report should be standardized across a UN mission to achieve conformity in the information being collected and allow for easier collation and subsequent analysis of data from which trend and pattern analysis is possible. At the same time the format of the EOD report adopted should not be restrictive in not allowing an EOD operator to provide as much relevant information as possible. An exemplary IED / UXO report is provided in Annex E.

1.12 EO / IED Threat Mitigation Working Groups (WG)

Depending on the local situation, the threat and the force composition, the Force Commander may decide to provide directions for establishing an EO / IED threat mitigation Working Group (WG), which includes representatives from the EODCC, headquarters branches (operations, intelligence, engineer, support) and special advisors (legal, political, police). If considered relevant or as the situation requires, it may also include external representatives such as Host Nation Security Forces (HNSF) and Non-Governmental Organizations (NGOs) present in the AO. The mandate of this WG is to address the explosive ordnance threat, friendly capabilities and challenges, lessons learned both technical (recording and recovery of EO components) and tactical from incidents, and any other explosive device related issues that may impact operations, the mission mandate execution, or the security of UN personnel and civilians. WG meetings enable the exchange of information and generate informed recommendations for the commander’s decision on mission priorities and future actions.

Chapter 2

Capabilities of the UN EOD Unit

2.1 Core Capabilities

The core capabilities of the UN military EOD unit include:

- CMD activities;
- IEDD activities;
- Support to mission partners.

The modern approach to operations is a comprehensive approach which is often required in EO threat mitigation activities, wider ERW clearance operations and IEDD. In this regard, other arms and capabilities are often deployed in conjunction with EOD assets on operations such as FP, search and CREW assets in particular. It is the deployment of search assets along with, in support of, and in support to EOD teams that is most common. Search assets work in close cooperation with EOD assets to assist in the detection and location of IEDs, components thereof including explosives and IED paraphernalia. Further elaboration on search activities are covered in Chapter 4. In broad terms EOD and search assets can be combined in composite unit in which the same unit has both capabilities organic to it or they can be task organized in different units and brought together for a given operation or task. In either case, it is very common for both assets types to be deployed together. For more information on search assets and their capabilities and requirements the relevant Department of Peacekeeping Operations (DPKO) search / military engineer manual should be referenced. Included in these considerations of search and EOD unit interactions is the use of Explosive Detection Dogs (EDD) which are considered to be search assets.

2.2 Conventional Munitions Disposal (CMD) Activities

The term ERW refers to UXO and AXO. UXO[25] is defined EO that has been primed, fuzed, armed or otherwise prepared for use or used. It may have been fired, dropped, launched or projected yet remains unexploded either through malfunction or design or for any other reason. While AXO[25] refers to EO that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. AXO may or may not have been primed, fuzed, armed or otherwise prepared for use. The term ERW is often taken not to include mines whose disposal is traditionally considered under demining by militaries and mine action by non-military organizations; however, when undertaking the disposal of ERW in relation to IED threat mitigation, it is also taken to include the disposal of mines. The disposal of ERW refers to traditional EOD in that it excludes those activities that involve the disposal of IEDs and components thereof, i.e. IEDD. Since we are only considering conventional items of EO, it is more accurate to refer to these activities as CMD. For this manual, the disposal of ERW will be undertaken by CMD teams, however IEDD teams are qualified to undertake CMD at least up to IMAS level 3.

[25] *IMAS 04.10, 2nd Ed, 01 Jan 03, Amd 7, Aug 14, Glossary of Mine Action*

These activities are important, other than removing these explosive hazards from the AO, in that it removes key components often used in IEDs. Mines and items of ERW are often used directly as the main charge in IEDs, their fuzes in certain circumstances can be used as part of the initiator of an IED or the energetic material within such items can be harvested to be utilized as the main charge in an IED also. The removal of such components from a mission area is a key enabler in IED threat mitigation and is often undertaken by UN agencies such as UNMAS in direct support of explosive hazard reduction efforts.

2.3 IED Disposal (IEDD) Activities

IED neutralization refers to the process of preventing an IED from functioning as intended by the application of an external force which changes the environment around an IED. It can be permanent or temporary. It may not be possible to confirm neutralization purely by visual means. IEDD is a specialist skill requiring specific training and equipment preferably including the use of remote control / operated vehicles (RCV / ROV). IEDD personnel should not be put under pressure to operate outside their EOD capabilities[26] except in extreme circumstances. It is therefore important that any IEDD structure deployed to a UN Mission is consistent with the threat, the environment and the relevant circumstances within the IED threat spectrum. When facing a significant and sophisticated IED threat an effectively trained, equipped and supported IEDD capability will be required to respond to such a treat.

The capabilities of an IEDD unit will determine the tasks to which they are appropriately qualified and equipped to efficiently, effectively and safely respond to. IEDD unit capabilities should be driven by the assessed IED threat that the unit is likely to have to respond.

One illustrative example of an IEDD unit's capabilities being driven by the assessed IED threat is the assessment on the presence of a RCIED threat in a UN mission. If an assessment is made that a RCIED threat is likely or actually present, mission planning must then decide whether CREW[27] assets and what type is required and how this will be:

- Employed - technology type, threat frequency targeted;
- Deployed - by an existing team member or an attached ECM specialist;
- Maintained – day to day servicing and checks as well as repairs and maintenance;
- Sustained – threat fill, software, firmware and hardware upgrades and who is responsible for each of these.

This is but one example of how the assessed IED threat informs an IEDD unit's capability to which, in turn, affects the task the unit is capable of efficiently, effectively and safely responding.

[26] The capabilities of EOD personnel refer the knowledge, skillsets, attitude and competencies that EOD personnel are certified as being qualified with, in conjunction with the equipment and support available to them to effectively, efficiently and safely respond an IED incident.

[27] CREW is an abbreviation for Counter RCIED Electronic Warfare

2.4 Support to Mission Partners

All the above-mentioned core capabilities are mutually interrelated and assist in IED threat mitigation directly; however, there are several other related activities that support EOD efforts. One example of such support would be, that following the appropriate IED event technical and tactical analysis the provision of technical advice on FP issues and appropriate planning of operations is utilized to contribute to IED threat mitigation. Such technical and tactical analysis is enabled through Weapons Technical Intelligence (WTI) with the advice provided considered as FP advice and mobility planning advice. Other related support activities can contribute to mitigating the IED threat in a Mission area. These activities are covered under the heading support to mission partners and involve such activities as:

- Mobility planning advice;
- Force protection (FP) advice;
- Electronic warfare support in countering RCIED threats – CREW assets;
- Weapons Technical Intelligence (WTI);
- Host nation support;
- Local population engagement.

2.4.1 Mobility Planning Advice

Mobility and the effort to maintain FoM in an IED threat environment is one of the key operational activities that is undertaken. The aggressor utilising IEDs, often deploy them specifically to reduce or prevent FoM of those forces they are targeting. This in turns often produces local security vacuums and non-permissive or semi-permissive environments in which such aggressors have freedom to operate within and from where they can project their power elsewhere. As such the maintenance of FoM within an IED threat environment is always a key focus of IED threat mitigation and one that considerable effort in relation to EOD activities are invested. While in general many of these activities contribute to maintenance of FoM in an IED threat environment, the provision of advice to those involved in mobility planning is a direct support to FoM. Such advice comes in terms of terrain and route analysis to identify Vulnerable Points[28] (VP) and Vulnerable Areas[29] (VA) that may be avoided, countermeasures taken to reduce the risk of IEDs at these locations or advice on the priority deployment of route clearance assets such as heavy engineering plant to clear such VP and VA. This is a key input into the overall UN Common Operating Picture (COP).

[28] Vulnerable Points (VP) are those specific points where it is particularly advantageous for an adversary to position an ambush, using either IEDs, SALW, or both. VP are typically characterized by prominent or restrictive feature or choke point on the ground. Several factors pertaining to enemy capability, intent & ground use will contribute to the vulnerability of a specific point.

[29] Vulnerable Areas (VA) are those areas where the ground lends itself to IED or SALW attack. Common characteristics of vulnerable areas include (acronym POLICE THESE): Previously used tracks & patrol routes; Often used positions; Linear features; Interior of buildings; Canalized routes; Extended long stretches of road; Tactically important areas; High ground dominated areas; Escape routes into and out of areas; Successive VPs in close proximity; Exit or entry of areas of urban / rural interfaces;

2.4.2 Force Protection (FP) Advice

FP advice is a broad area that involves the assistance from technical experts, involved in EOD activities, in the provision of appropriate technical FP advice in relation to the IED threat faced and its purpose is to mitigate this threat against personnel, vehicles and friendly force locations. For example, personnel FP advice may involve provision of technical details on the level of personal protective equipment required or simple IED or wider explosive hazard threat awareness briefings. It can also provide technical advice on the level of armour protection that is required for the IED threat faced e.g. simple blast IED threats or directional explosive effect IEDs such as Explosively Formed Projectiles (EFP) or Directionally Focused Fragmentation Charges (DFFC). In terms of FP measures for friendly force locations, technical advice can be provided in terms of the level of overhead protection required from indirect fire threat (especially for unconventional threats), or in relation to perimeter defences against the use of IEDs designed to cause breaches as part of complex attacks and entry point layout including blast mitigation measures to counter Vehicle Bourne Improvised Explosive Device (VBIED) threats. FP advice can also extend to advice in relation to the provision of tactical advice in terms of the TTPs to be utilized by troops operating in an IED threat environment that best mitigate the threat posed by the IED threat faced. Such advice will typically be provided in conjunction with the UN engineer focal point in reference to the UN military engineers' unit manual. This is a key input into the overall UN COP.

2.4.3 Electronic Warfare Support in Countering RCIED Threats – CREW Assets

Electronic Warfare (EW) refers to military action to exploit the electromagnetic spectrum encompassing: the search for, interception and identification of electromagnetic emissions, the employment of electromagnetic energy, including directed energy, to reduce or prevent hostile use of the electromagnetic spectrum, and actions to ensure its effective use by friendly forces. EW support measures refer to that division of EW involving actions taken to search for, intercept and identify electromagnetic emissions and to locate their sources for immediate threat recognition. It provides a source of information required for immediate decisions involving Electronic Counter Measures (ECM), electronic protective measures and other tactical actions. EW support is an asset used in an environment where RCIEDs are a threat. ECM can be utilized to mitigate the risk posed by RCIEDs through its use of electromagnetic energy to prevent or reduce an IED aggressor's effective use of the electromagnetic spectrum. ECM utilized to mitigate the threat posed by RCIEDs is best referred to by the term CREW. There are three methods by which CREW assets can be utilized to mitigate the threat of RCIEDs

- **Electronic Jamming**. Electronic jamming is the deliberate radiation, re-radiation or reflection of electromagnetic energy, with the object of impairing the effectiveness of hostile electronic devices, equipment, or systems.
- **Electronic Deception**. Electronic deception is the deliberate radiation, re-radiation, alteration, absorption or reflection of electromagnetic energy in a manner intended to confuse, distract or seduce an enemy or his electronic systems.
- **Electronic Neutralization**. Electronic neutralization is the deliberate use of electromagnetic energy to either temporarily or permanently damage enemy devices which rely exclusively on the electromagnetic spectrum.

In general, there are two means by which CREW assets are deployed to mitigate the threat posed by RCIEDs, namely:

- FP use of CREW assets;
- Specialist EOD use of CREW assets.

2.4.3.1 Force Protection (FP) use of CREW Assets

CREW assets can be utilized as an all arms IED threat mitigation assets on vehicles or on personnel that are required to move from, through or to an area with an assessed RCIED threat in it. This can be for any move either logistical, operational or other. When it assessed that the deployment of CREW assets with vehicles moves is necessary additional planning considerations are required which are outlined in the section entitled "commanders planning consideration when deploying CREW assets"; however, it is often best practice for expert advice be sought when planning moves requiring CREW assets deployment in them.

2.4.3.2 Specialist EOD use of CREW Assets

Specialist EOD use of CREW assets refers typically to the use of ECM by either search or IEDD personnel operating in an environment that is assessed to have a potential RCIED threat. Typically, such CREW sets will be man portable and are referred to as manpacks; however, it is also common for such personnel to deploy in CREW fitted vehicles to mitigate such threats while in transit or when stationary in the area that they establish their Incident Control Point (ICP). Separate planning considerations are required in the deployment and use of manpack compared to vehicle mounted CREW systems and expert advice must be sought by commanders when the decision to deploy such assets is identified as being necessary.

2.4.3.3 Commanders Planning Considerations When Deploying CREW Assets

CREW asset deployment typically involves the employment of a suite of systems appropriately chosen to mitigate the risk posed by the assessed RCIED threat to provide a degree of assured protection against RCIEDs in a virtual 'envelope' surrounding the personnel within this envelope. There are many complex and competing factors that determine the effectiveness of this protective envelope. Despite the common demand from commanders and soldiers for a planning range that they are protected by their CREW assets any guidance given must be done so with extreme caution, only after expert opinion is consulted and with the caveat that the effectiveness can vary due to many factors and the protective coverage may not always be optimal due to these factors. The issue of the use of CREW assets must be done so in line with the UN mission guidance on such assets and the most effective deployment of such assets occurs when it is coordinated at a mission level so that the most accurate RCIED threat picture can be determined and the required fill developed for the technology type to be deployed.

Consideration should be given to the deployment of CREW expertise with each deployment if the system(s) being utilized are particularly complex or if its use is routine with certain units. As specialist EOD use of CREW assets often involves personnel deliberately going into areas with an assessed RCIED threat, the highest levels of assured protection from their CREW assets is required and may consist of multiple systems to provide redundancy to allow specialist techniques to be applied. For this reason, consideration should be given to deployment of appropriately qualified CREW operators to such units. If units are deployed with multiple CREW systems, special consideration should be given to ensure all CREW assets, both mounted and dismounted, are deconflicted with each other and friendly forces communication systems.

The provision of adequate budgets to ensure sufficient number of the appropriate type of CREW assets are procured and a complete life cycle management programmed financed to sustain the capability is essential. Similarly, as part of the complete life cycle budget considerations, the level of expert technical support needs to be included. The level and number of dedicated technical

experts required will be dependent on the type of CREW assets being deployed. The consequences of not financing this capability initially and long term can be extremely detrimental to IED threat mitigation activities and include:

- Vehicles not tactically dispersed are exposed to the effects of one non-RCIED.
- Not upgrading the hardware, firmware and software as the threat evolves leading to it becoming ineffective. This can lead to troops being exposed to RCIED threat they believe they have protection against and in turn lead to loss in confidence by troops in their equipment as well as those charged with looking after their safety.
- The deployment of inappropriately trained and experienced personnel charged with the responsibility of deployment, use and maintenance these assets resulting in its ineffectiveness in mitigating the RCIED threat.

When CREW assets are resourced and financed appropriately, commanders must be aware that it is likely since the RCIED threat has been successfully mitigated, the IED threat aggressor is likely to change their tactics. It can then appear that the significant financial and other resource investment in CREW assets was wasteful; however, such arguments are difficult to disprove and is one example of the challenges faced with an evolving IED threat.

2.4.4 Weapons Technical Intelligence (WTI)

WTI is defined as intelligence derived from the processes and capabilities that collect, exploit and analyse asymmetric threat weapons systems to enable material sourcing, support to prosecution, FP and targeting of threat networks[30]. It should be noted that WTI refers directly to asymmetric threat weapon systems. Another term that provides a similar capability is Explosive Site Investigation (ESI) and a TCC with ESI trained personnel may be suitable to deploy in WTI roles. A term closely associated with WTI and ESI is Weapons Intelligence Team (WIT) which refers to a small unit construct that deploys and undertakes WTI and ESI in support of wider EOD efforts in an AO.

WTI is an activity within IED threat mitigation that benefits all LOO. In relation to EOD it provides technical information to enable device profiling and tactical information that enables event signature analysis both of which feed into an understanding of the IED threat. Planning during the force generation phase for an IED affected UN mission must consider where such capabilities will lie and establish how IED components and other related evidence that is recovered is handled to support judicial prosecution of the aggressors involved. Options where such capabilities can reside are within IEDD teams, within Military Police (MP) units or as standalone dedicated WTI teams. The decision depends on the IED activity level in the mission and the ability of those tasked to undertake WTI to have the required time necessary to devote to this role in support of IED threat mitigation.

[30] *Source: UNMAS IED Lexicon*

2.4.5 Host Nation (HN) Support

EOD units can, if permitted under the mission mandate, undertake HN support activities which can involve support to the UN Country Team (UNCT), local government, federal government international aid agencies and NGOs to facilitate these partner activities and contribute to HN stabilization and security. Examples of how EOD units may undertake HN support include the provision of training and capacity building in EOD capabilities, removal of ERW from abandoned storage sites and wider Ammunition Security Management[31] (ASM) initiatives. Such activities should be appropriately coordinated with the appropriate UNCT agency to ensure compliance with UN mandate and unity of effort, e.g. ASM initiatives coordinated with any Disarmament, Demobilisation & Rehabilitation (DDR) or Security Sector Reform (SSR) involved in such programmes in the country. Consideration of such HNS activities requires the input and advice of the appropriate EOD focal point.

Capacity building and training tasks are done under the authority and direction of the Head of Mission/Special Representative of the Secretary-General. At times a Mission may have a mandate to build local humanitarian or HNSF EOD capabilities. This is very much a training role and those UN personnel tasked to undertake this should be appropriately trained, resourced and supervised to ensure the appropriate quality assurance of the training being delivered is in place. Unless specifically tasked by the mission to do so, no TCC should engage in EOD training or mentoring. When mandated and tasked to assist in the development of HN EOD capabilities, UN planners, during force generation, should examine what is the current realistic HN EOD capability and how this can be leveraged through the provision of appropriate TCC EOD training and mentoring to develop the required capability.

When permitted joint UN and HN EOD operations can benefit from local eyes and ears that will see and hear things that remain obscured to multi-national forces. Such ventures also encourage greater local empathy with the Mission objectives and will assist with influence by building human security and fostering HN capacity and legitimacy; however, sensitivity to local population views and perceptions of HNSF must be considered when undertaking such joint operations. At a lower level the use of HN security personnel to act as interpreters during EOD operations can be beneficial provided the interpreter is trusted by local UN commanders. These tasks involve developing or enhancing local skills and capabilities using the UN EOD unit's own expertise and equipment. When a UN EOD unit conducts capacity building and training activities for local residents or HN security personnel, it is important to keep in mind that the demining or other EOD skills taught should be appropriate to local needs, and eventually self-sustainable without the UN's presence. Respect for the local culture and a partnering attitude will reap great rewards for all involved. Capacity building works together with stabilisation support. For example, local nationals can be trained in some of the skills necessary for them to participate, in a meaningful way, in the recovery of land that has been contaminated with ERW or mines. This can then be used for beneficial economic purposes. Capacity building and training requires UN EOD unit commanders and staff who can conduct liaison, coordination and integration with the mission's various civilian elements, Civil-Military Cooperation (CIMIC) focal point, UN funds, programs and agencies, international organizations, NGOs, the HN's civilian security forces and local organizations. Further information and guidance on the use of interpreters in UN missions is provided in Annex G of UNIBAM Vol II.

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[31] *Often referred to as Weapons & Ammunition Management (WAM) & Physical Stockpile Security Management (PSSM)*

2.4.6 Local Population Engagement

The use of IEDs by aggressors typically results in initial and sometimes long term loss of FoM in mission areas with the affected IED threat environment resulting in a security vacuum in which such aggressors have freedom and control to operate within and from where they can project their influence. Owing to this lack of legitimate security for the local population within such areas from HN or UN forces, these locals who were not hostile to the HN or UN forces prior to their loss of security are now less likely to cooperate or be seen to cooperate with host such forces for fear of attack from such aggressors. This leads to non-permissive or semi-permissive environments in which EOD operations must be conducted. Such EOD activities are most effective when conducted with local support and in turn through EOD activities, FoM can be maintained and local security to the populace delivered securing protection of civilians. Hence EOD must involve wider CIMIC and local population engagement to legitimise the UN mission and its mandate and delegitimise those who utilize IEDs. This is a wider mission issue beyond those involved in DtD activities; however, its importance in DtD is critical as a UN Force with local support is more likely to be provided with the required local information that they can use to find IEDs and components thereof prior to them being initiated. They can also provide information in relation to those who utilize IEDs which supports broader LOO in mitigating the IED threat in a mission area.

To facilitate such local population engagement an appropriate secure and confidential means for the local population to pass on such information to UN Forces should be established. For example, local patrols should know how to enquire about such information and react appropriately and know how to handle it when they are made aware of it. Similarly, appropriate and culturally sensitive Key Leader Engagement (KLE) can be another means for such information to be passed. Initiatives that EOD units can undertake that can support local population engagement include mine risk education programmes and wider explosive hazard threat education to include IED awareness. While all elements of a mission have a mandated responsibility to protect civilians in the local population, the UN EOD unit has special capabilities to provide physical security to the local population and prevent harmful action by aggressors. Further information on how various elements of a UN Mission can and should where appropriate engage with HN populace, agencies and security apparatus is provided in UNIBAM Vol II.

Chapter 3

Organization of EOD Units

3.1 Organizing Principles

The nature of the EO threat faced by a UN force can be typified by their evolutionary nature and often the dynamic change in the threat that is faced. This is particularly the case within an AO in which there is an on-going IED threat but is also true of a mission in which conventional munitions are in use. The reasons for the evolutionary and dynamic nature of an EO threat lies in the fact that:

i. Aggressors who utilize IEDs typically modify and develop them and their tactics used in employing them to circumvent the counter measures introduced to mitigate their effects;
ii. On-going conflicts typically see the introduction of new or modified conventional munitions by aggressors as they seek to defeat the defenses introduced to protect their opponents.

This process is likely to only become an even greater challenge as:

i. The information age allows for unconstrained and immediate IED knowledge and capability transfer between groups and theatres of operation;
ii. The illicit transfer of conventional munitions to aggressors from unsecured stockpiles e.g. Small Arms Light Weapons (SALW) and weapons of mass effect such as Man Portable Air Defence Systems (MANPADS).

EOD Units will be assigned mission of search, disposal and component recording and recovery to effectively mitigate EO threats in support of FP and PoC. This in turn poses the challenge for EOD units needing to be both flexible and scalable in their capabilities to be suitably equipped and qualified to respond efficiently, effectively and safely to emerging and evolving EO threats. Therefore, EOD units in a UN mission must be flexible, adaptable, interoperable, deployable, and sustainable.

3.1.1 Flexible and Adaptable

The ability to rapidly align and refocus to meet diverse mission requirements requires well-led disciplined EOD units, highly trained and competent throughout the spectrum of EOD operations. The wide variety of operational tasks that an EOD unit will face requires mental and operational flexibility to re-mission or re-configure rapidly or to conduct simultaneous operations across the spectrum of EOD operations. A single EOD unit will be expected to conduct a variety of operations of varying threat levels and durations, against various EO hazards, in a short period of time. Priorities and resources fluctuate between phases of any UN mission and flexibility is required to deal with both unpredicted and unpredictable changes in the EO threat picture. The ability of an EOD unit to rapidly adjust to new demands and tasks as the unit reacts to emerging threats in operational scenarios is paramount to mission success.

3.1.2 Interoperable

The development of a joint and combined approach which adopts a multifunctional ethos to effectively engage with other participants in multinational and interagency EOD operations revolves around interoperability. This requires EOD units to be capable of operating seamlessly with other forces, actors, and agents across the spectrum of EOD tasks. Interoperability is required across the lines of EOD personnel, C2 structures, training, materiel and infrastructure common to all TCC having EOD units. Harmonization between TCC TTPs is necessary. Interoperability is also required with non-military actors to be found in the mission areas e.g. CIVPOL cordon and security personnel.

3.1.3 Sustainable

The provision, replacement and rotation of EOD personnel and materiel with the necessary means and facilities, to fully meet operational demands. Assessment of the likely duration of the requirement for the provision of EOD capabilities to a UN mission needs to be made in the force generation phase so that the replacement and rotation of personnel and materiel can be planned for. This assessment should consider rest and recuperation of personnel as well as the natural wear and tear of EOD materiel requiring maintenance, repair and replacement during both normal and high tempo operational periods.

3.1.4 Deployable

Deployment considerations and criteria are a multifaceted concept developed through appropriate decisions on and investment in doctrine, organization, training, materiel, leadership, personnel, facilities and interoperability. The deployability of EOD assets is key to the success of any such capabilities. States of readiness and rapid response times are key to effective EOD operations if dealing with timed IED threats as well as mitigation of the disruptive effective that EO threats can have in general. The deployability of EOD capabilities requires appropriate analysis of the operational environment to determine the transport requirements e.g. road vehicle type, air transport and boat transports, into the areas that the capability is likely to have to be deployed. Such analysis must also take account of changes in deployability with changing seasonal weather and terrain conditions.

3.2 Generic EOD Unit Structure

EOD Units must always be scalable in size, modular in function and mission-tailored. The EOD unit size and composition depend on the mission size, composition and requirements it supports and the physical characteristics of the mission area. EOD units may be required to perform the following roles in UN mission setting:

- CMD functions;
- IEDD functions;
- Mission support activities.

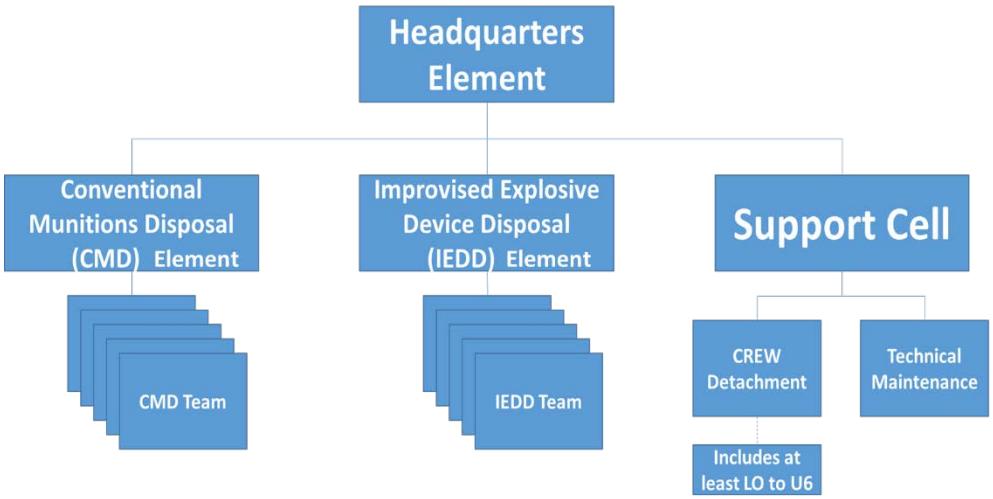

Figure 3-1 A generic UN military EOD unit structure containing a HQ element with CMD, IEDD and support cell components.

3.2.1 EOD HQ Elements and Unit Commanders

Various options for how an EOD unit HQ is structured and integrated into UN HQ is provided in Section 1.7.2 of this manual. The EOD unit commander is responsible for the unit's subordinate elements operating effectively and efficiently in an integrated manner. The commander is responsible for well-coordinated command, control and communication of all EOD related matters and employment of these capabilities. The commander will act as the appropriate level EOD focal point to higher command utilizing their qualifications and those of their unit subordinates in mitigating the EO threat. Coordination between engineer advisors in relation to mobility and FP issues may be required.

3.2.2 CMD Element

A CMD element is capable of any EOD operation conducted on ammunition which is used as a conventional weapon assessed as being required in a UN mission. A CMD element should have the following components:

- C2 element to include an experienced CMD operator as unit commander along with the required administrative support staff;
- Ammunition focal point;
- CMD teams, to include qualified CMD operators and drivers;[32]
- UN missions which have an assessed requirement for specialist CMD capabilities[33] can have an appropriately qualified CMD team(s) as part of the CMD unit.

[32] Qualified CMD operators refers to IMAS level 1 through 3 qualified personnel.

[33] Specialist CMD Skills refer to any of the following CMD competencies: Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities; Guided weapon system AXO where the missile is fitted in the launcher; Intact cluster munitions; Disposal DU EO and DU hazards and the clearance of AFV; Guided Missiles containing liquid propellant disposal; Maritime EO disposal.

3.2.3 IEDD Element

An IEDD element is capable of location, identification, rendering safe and final disposal of IEDs assessed as being required in a UN mission. An IEDD element should have the following components:

- C2 element to include an experienced IEDD operator as unit commander along with the required administrative support staff;
- IEDD teams, to include at a minimum a qualified IEDD operator acting as team leader, an IEDD qualified assistant and a driver as a minimum. Other possible elements of an IEDD team may include; CREW asset operator(s) or WTI specialist(s).

3.2.4 EOD Support Cell

The EOD support cell provides suitably qualified technicians responsible for all technical support required in terms of maintenance, care, repair, sustainment and upgrade of EOD hardware, firmware and software equipment to sustain the EOD capabilities that the unit is supposed to provide to the mission, sector or unit. In the case that CREW assets are part of an EOD unit's capabilities; the support cell will provide a suitably qualified technician to act as liaison to the U6 branch. It is broadly broken down in to two branches:

- Technical maintenance section;
- CREW detachment.

3.3 Determining EOD Unit Requirements

Since IEDD teams are scarce resources that take a long time to train and are expensive to appropriately equip, maintain and sustain, it is often necessary to have other EOD capabilities deployed to undertake non IED related tasks for example CMD teams to undertake demining and ERW disposal. An example of an EOD decision support tool is provided in Annex A to assist in the appropriate allocation of EOD assets.

When the capability and number of CMD and IEDD teams required for a UN mission have been identified, the appropriate EOD support cell and EOD unit HQ element need to be determined in order to finalize the structure of the EOD unit structure and composition.

3.3.1 CMD Capability Requirement Planning

When planning for a force to have a CMD capability in a UN mission, planners should examine the following:

- The extent of ERW in the mission area and the type of EO present – an assessment of the types of EO present should be undertaken and a list of items compiled[34]
- Identification of any items of conventional EO that present specific hazards and / or require specialist CMD skills such as:
    - Mixed EO item logistic demolitions >50 Kg NEQ;
    - Management of specialist demilitarization activities;
    - Ability to plan demilitarization activities;
    - Guided weapon system AXO where the missile is fitted in the launcher;
    - Intact cluster munitions;
    - Disposal DU EO and DU hazards and the clearance of AFV;
    - Guided Missiles containing liquid propellant disposal;
    - Maritime EO disposal;
- The presence of barrier or other types of mine field in the mission area and the requirement to remove them and the likelihood of the mines therein being used in IEDs;
- The presence of maritime EO natures and their potential use in IEDs;
- Large stockpiles of ammunition at abandoned or unsecured storage locations and the possible requirement for logistical disposal of such stocks;
- The presence of clandestine devices and the likely deployment / emplacement of these hazards.

When the information is compiled through the above assessment of the AO conventional EO threats, the type(s) of CMD teams can be identified along with any specialist CMD skills that are required. A mission may require any combination of the three levels of CMD competencies and may then decide that some or all the level 3 CMD teams need to also have specialized CMD skills as listed above or alternatively standalone specialized CMD teams in addition to level 3 CMD teams.

When the types of CMD capabilities required for the UN mission are determined planners must then consider the number of each type of CMD unit is required when the following is considered:

- The extent of ERW – if this is not known then it may be necessary to first plan for ERW survey of the mission area to inform the UN on the requirements;
- The geographical spread of the ERW threat;
- Accessibility to ERW threat sites and areas:
    - From a terrain and route perspective - all year round should be considered;
    - From a local security environment perspective – permissive, semi-permissive or non-permissive;
- The distance and accessibility between these sites and areas from UN locations;
- The time frame for the removal of these ERW hazards from the mission area.

[34] *Ideally each UN mission with an ERW hazard should have an EO Recognition Handbook compiled by UNMAS.*

3.3.2 IEDD Capability Requirement Planning

Broadly there are two components to an IEDD unit's capabilities:

- Personnel – IEDD unit minimum qualification and training standards;
- Materiel – IEDD critical equipment[35] requirements.

There are in fact many interrelated and mutually supporting factors that contribute to and influence an IEDD unit's capabilities. These factors include:

- Assessed IED threat, requiring input from:
  - All source information fusion;
  - IED tasks deployed to and lessons identified and learned from these.
- IEDD unit minimum qualification standards which will influence:
  - IEDD unit preparation and training;
  - Evaluation protocols;
  - IEDD critical equipment requirements which will determine IEDD unit support requirements.

While it is acknowledged that for planners to be able to generate and deploy the most appropriate IEDD capability for a UN mission being planned, it is essential that a clear understanding of the IED threat being faced is understood, there are however two challenges in achieving this:

- It is often extremely challenging to give any clear or accurate assessment of the IED threat being faced prior to specialist IEDD and WTI personnel being in the mission area operating and able to obtain the relevant technical and tactical data / information that analysis requires in order to accurately assess the IED threat. Such analysis will inform the UN system as to sophistication of the IED threat from a technical perspective and the tactical sophistication of the IED threat aggressor who are utilizing them.
- If a level of capability is determined and deployed to mitigate the IED threat in a UN Mission, it is possible that the aggressor will adjust their technical and tactical sophistication to circumvent any setbacks they experience due to countermeasures introduced against it. Therefore, an evolution in the IED threat faced should be planned for and the IEDD capability developed should be flexible and agile in order to be able to respond effectively to such changes in the threat.

When these two challenges are considered in relation to identifying the most effective, efficient and safe IEDD capability to deploy to a UN mission, it is best practice to first determine the current IED threat as accurately as possible from all information sources and then consider how sophisticated this could reasonably be expected to evolve upon deployment of the IEDD capability into the mission area. When an appropriate assessed IED threat is determined, the skillsets, expertise and equipment requirements can be determined. The various contributing factors that feed into the required IEDD capability and their inter relationship is illustrated in figure 3-2 below.

[35] Critical equipment is the minimum equipment deemed to be essential in order for an IEDD capability to be effective, efficient and safe.

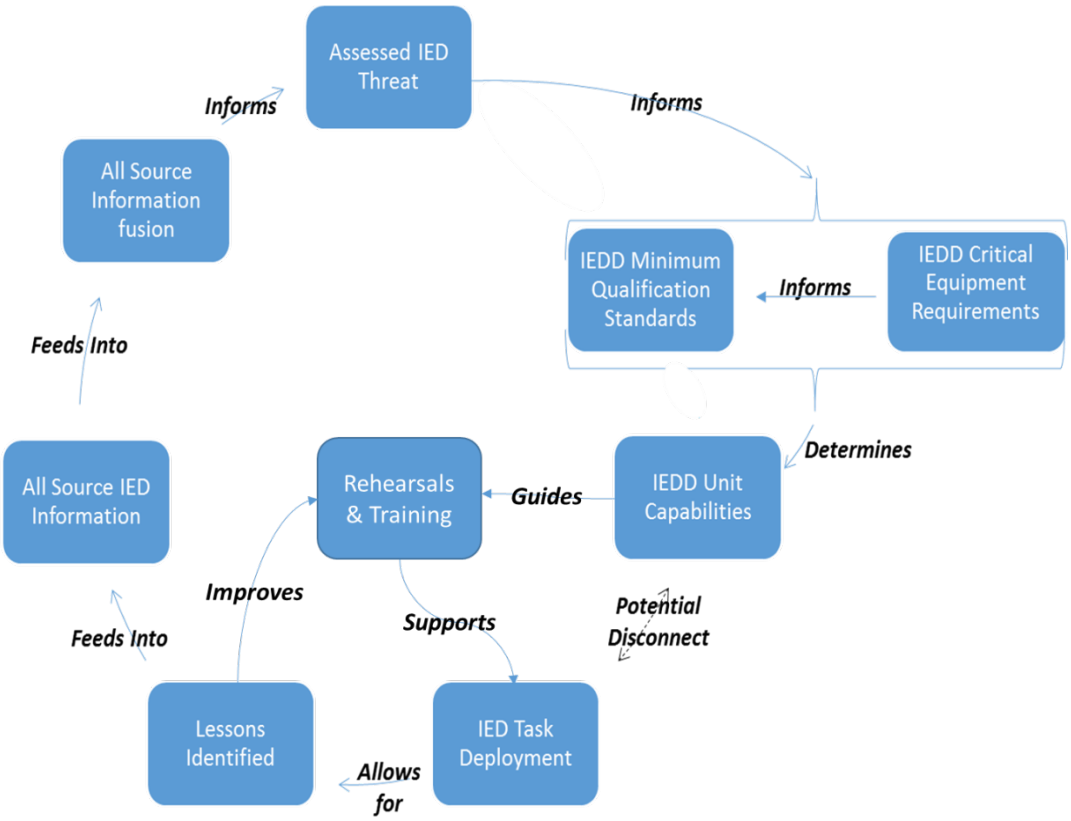

Figure 3-2: IEDD Capability Requirement Factors

When assessed the IED threat for a mission has been identified an assessment on the required IEDD minimum standards and critical equipment requirements must be undertaken. A list of possible IEDD skillsets and capabilities are provided in the separate UN IEDD standards with an EOD capability spectrum in Annex A of this manual listing many of the IEDD skillsets that can assist EOD force generation planning. When the required skillsets and capabilities required of IEDD units, assessed as necessary for the mission, are determined, the number of each type of IEDD units and their supporting elements must be determined, when such factors as the following are considered:

- Number of assessed IED incidents per day, week and month;
- The geographical spread of the IED threat;
- The potential number of convoys or patrols that are expected to have an IEDD capability with them (based on detailed terrain analysis of the AO to include the identification of VP and VA on the MSR and routes to be travelled);
- The distance and accessibility between friendly force locations throughout the year;
- The extent of the ERW disposal problem and options to deploy IEDD teams in this role;
- The scope of the mandate in terms of EOD support activities that they will be required to fulfil.

3.3.3 EOD Support Cell Capability Requirement Planning

When the CMD and IEDD elements of an EOD unit has been determined the EOD support cell requirements to maintain and sustain these capabilities can be determined. It is possible that the maintenance and sustainment of CMD elements capabilities can be done within the CMD element itself, without the need for technicians in a separate EOD support cell.

3.3.4 EOD Unit Capability Requirement Planning

When the CMD and IEDD elements of an EOD unit has been identified the EOD unit HQ's element requirements to C2 these capabilities can be determined.

3.4 External Support Requirements

EOD units will not typically be task organized with communications, medical and other logistical support elements organic to it and as such these must be provided by clearly identified other parent units of mission elements. Similarly, the requirement for other functional support when undertaking EOD operations must be considered and identified in the mission planning phase and the tasking and C2 relationship between the EOD unit / team and these support elements agreed. Chapter 4 of this manual provides further details on external support to EOD units.

3.5 Personnel Requirements

The UN military EOD unit organizations described in this manual are a recommended baseline for planning and preparation purposes at UN, TCC and mission HQ. Actual personnel requirements and unit configurations will vary widely based on mission requirements and UN-TCC MOU negotiations. When generating a UN military EOD unit, a number of points should be considered:

- **Rank Structure.** TCCs have the flexibility to adjust the rank structure according to their national organizational norms. Nevertheless, TCCs must ensure that their personnel have the requisite ability and qualifications.
- **Female Participation.** TCCs should make every effort to include uniformed female military personnel in UN EOD units as their presence is a significant advantage in situational awareness when coming into contact with the local population. The presence of female personnel in UN EOD units can be helpful in the questioning of female and juvenile witnesses to an incident, especially in mission areas with cultural sensitivities surrounding male interaction with local females and children. Wherever possible, female personnel should be included amongst the command and staff, operations, logistics and interpreter personnel.
- **Specialist Skills.** Technical and specialist personnel should be fully qualified in their respective areas of specialization in line with Annex B.
- **Communications.** All personnel within the units should be able to operate the unit's communications equipment.

3.6 EOD Equipment

EOD equipment breaks down into the equipment required for the three components of an EOD unit, namely; CMD team equipment, IEDD team equipment and support cell equipment.

3.6.1 CMD Team Equipment

The CMD team equipment listed in Appendix 1 Annex D are the critical equipment requirements for a CMD team on a UN mission. Those TCC who can provide CMD teams with equipment of a higher standard or capability than that listed in Appendix 1 Annex D are encouraged to do so.

3.6.2 IEDD Team Equipment

The IEDD team equipment listed in Appendix 2 Annex D are the critical equipment requirements for an IEDD team on a UN mission. Those TCC who can provide IEDD teams with equipment of a higher standard or capability than that listed in Appendix 2 Annex D are encouraged to do so.

3.6.3 Support Cell Equipment

The support cell is to have all the equipment, tools, spares and ancillary consumable items that are required to maintain, sustain, upgrade and repair all the items of equipment that are deployed with an EOD unit. An outline of the critical equipment requirements for an EOD unit support cell is provided in Appendix 3 Annex D.

Chapter 4

Support for the UN EOD Unit

4.1. Support Expectations

It is understood that logistics is generally a national responsibility during multinational operations. Once established, the UN logistic structure provides continuing support through a system of lead nations, civilian contracts, a UN force logistic support group, or a combination of the three. However, like all military units engaged in deployed operations, the UN EOD unit will require both routine and emergency logistical, training, and administrative support for manning, arming, fueling, repairing, moving, and sustaining all classes of supplies, from both the national and UN sources. The EOD unit will work to self-sustain as much as possible, but will inevitably, at some point, require logistical, training and administrative support beyond its inherent capabilities in order to maintain mission readiness. Some key examples of external support requirements include: provision of food, water, area reconnaissance information, training ranges/areas, cultural expertise, interpreters, bulk fuel and petroleum based lubricants, medical support, ammunition and explosives, heavy ground transport, air transport, maritime transport, funding resource management, contracts management, construction services, etc. UN EOD units will use internal support capabilities and processes to ensure good stewardship of assets and resources. A list of internal EOD unit equipment requirements is provided in Annex E.

4.2 The UN Military EOD Unit Commander's Role

The commander must arrange the EOD unit, its internal support resources, and its requested sustainment support in the appropriate time, space and with the appropriate purpose to maintain the unit's mission readiness at all times. The commander's role in the support process is to:

- Keep the UN EOD unit as ready as possible (manned, armed, fueled, repaired, sustained, equipped and trained), to conduct assigned missions at any time;
- Maintain full accounting of all unit personnel and equipment;
- Maintain an accurate status of required on-hand supplies and forecast emerging requirements;
- Maintain an accurate status of training readiness of the overall EOD unit and any sub-ordinate units and forecast for emerging requirements;
- Ensure all equipment is maintained and is in working order, with commensurate operationally required supplies to operate the equipment;
- Effectively communicate the unit's supply, personnel, training, and equipment readiness status to higher headquarters;
- Request logistical, training, and administrative support, as needed, to affect all of the above.

4.3 External Support Requirements

4.3.1 Search Activities

Search is a key enabling activity in EOD and refers to the capability to locate specific targets using threat assessments, systematic procedures and appropriate detection techniques. Search is used in support of CMD activities and IEDD activities. In support of EOD, search is primarily utilized in component and explosive detection, while it is also used in support of FP engineering activities also. Search will be examined under these two headings.

4.3.1.1 Component and Explosive Detection

In relation to IED threat mitigation, search is conducted to locate and isolate emplaced IEDs and to find IEDs when in transit or concealed prior to emplacement or components thereof prior to assembly. In IEDD, it is always the intent of those engaged in such efforts to prevent a device from being emplaced if possible through interdicting them in transit, in storage, during or prior to assembly. If this is not possible it is necessary to find the device prior to initiation. These efforts to mitigate the threat, require search activities.

An understanding of the IED threat is key to identifying the required search capabilities for EOD efforts. Once the assessed IED threat for a mission has been identified an assessment on the required search minimum standards and critical equipment requirements should be undertaken. This is illustrated in Figure 4.1 below.

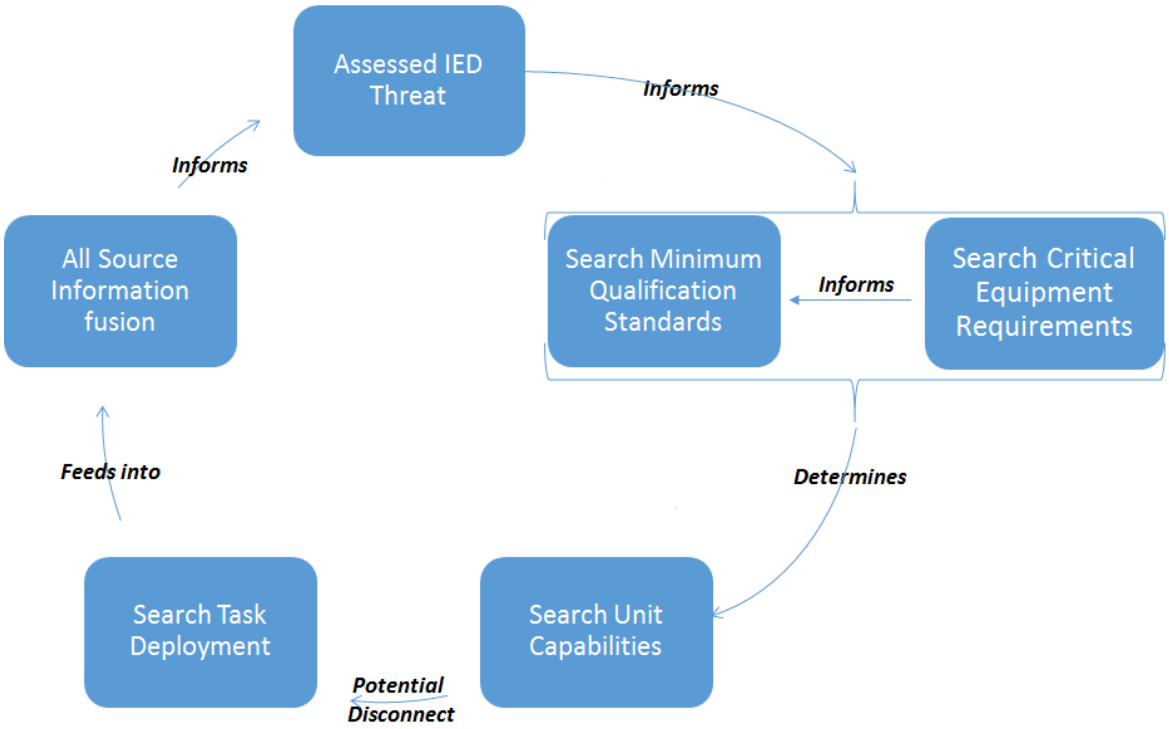

Figure 4.1 - Search Capability Factors

A technical understanding of the type and complexity of the IED threat is key to identifying the search equipment required. As an illustrative example, the length of command wire in use will influence the type of buried wire detector that is required and similarly the metallic signature of IED components in use will determine the effectiveness of metal detectors or other buried detectors that a team should deploy with. Some or all of an IED's components may be non-metallic. Aggressors utilising IEDs will adapt technically and tactically to circumvent search efforts introduced to mitigate IEDs, such evolution in the IED threat will often require an on-going evaluation of the search assets required to mitigate such threats e.g. an evolution in the metallic signature of buried IEDs. The minimum requirements will be determined by the tasks that the search capability is required to be able to undertake. This leads to several search levels which vary according to factors such as:

- The assessed threat level typically classified as being high or low;
- The complexity of the environment that the search is to be undertaken for example confined spaces, contaminated environments or environments requiring Self Contained Breathing Apparatus (SCBA);
- The specialisation of the search equipment to be utilized e.g. nonlinear junction detectors and probe camera systems;
- The assurance required from the search e.g. venue search prior to a VIP visit.

A mission should clearly identify the skillsets and capabilities required of each search capability. This is often best communicated to TCC through a mission search activities matrix an example of which is provided in Annex C to this manual. To illustrate this point, the example given in Annex C has a UN mission which has identified the need for basic search teams, route search teams, unit search teams and advanced search teams.

The use of definite terms to define the identified capability requirements are essential to ensure a common understanding between TCC in multinational deployment especially since there may not be a common understanding between nations on search terminology. This is particularly important when a Mission may require an advanced search team deployed when a unit search team is tasked. Once the required capability is determined the number of the various types of search teams and their supporting elements must be determined, when such factors as the following are considered:

- Number of assessed search tasks per day, week and month;
- The geographical spread of the IED threat;
- The potential number of convoys or patrols that are expected to have a search capability with them, based on terrain analysis;
- The distance and accessibility between friendly force locations throughout the year.

4.3.1.2 Force Protection (FP) Engineering Activities

Route clearance refers to the removal of the immediate threat from mines, UXO and IEDs along a route. Very often the first thing that needs to occur prior to the decision to deploy or generate route clearance capabilities, is terrain and route analysis of routes along which IEDs have been or may be deployed to identify VPs and VAs along them. Commanders then have options in the use of engineering assets to mitigate the threat that IEDs have in restricting FoM along such routes. Two options are:

- Search assets used to search VP and VA;
- Use of heavy engineering assets.

Search Assets Used to Search VP and VA

When search assets are used to search VP and VA along a route they undertake what is referred to as route searches[36]. The task of route search teams who undertake these types of VP and VA searches is to locate and isolate any EO hazard such as ERW and IED that may be at such points and areas that pose a hindrance to their FoM. Once an EO item has been located and isolated a CMD or IEDD team then dispose of the item. Commanders must remain aware that search is a risk reduction activity, but does not remove the risk entirely of the presence of EO. There are typically three types of route search team which vary in regards to the increasing level of assessed threat that is faced or the level of assuredness required from the search:

- Patrol search teams or route search teams;
- Intermediate route search using unit search teams;
- Advanced route search teams where a high threat requiring intimate support of other assets.

Specially formed engineering units commonly known as Route Clearance Packages (RCP)[37] are typically utilized to undertake route clearance along which IED have or assessed as being emplaced. RCP are specially equipped teams with the equipment designed to aid in identifying IEDs and explosives hazards along routes of travel within a mission area. Such route clearance operations are often key enablers in FP against the IED threat and support to the maintenance of FoM. Further information in relation the RCP should be referenced in the relevant DPKO military engineer search manual.

Use of Heavy Engineering Assets

It may be necessary at times to mitigate the threat posed by IEDs on routes being travelled using heavy engineering assets to undertake route reconnaissance, maintenance, improvement and obstacle clearance. Examples of the use of such assets may be to:

- Clear the vegetation and scrub around junctions which are assessed VP;
- Improve and secure culverts to prevent their use as IED emplacement locations;
- Use of such assets to improve the road surface to hinder IED emplacement along it;
- Improve mobility and enhance FoM.

Where there is an assessed IED threat at such locations and areas that heavy engineering tasks are to take place, route search teams of the required capability in line with the threat and assurance required can be deployed along with IEDD assets embedded with them. Commanders and planners have two options when considering the requirement for such route clearance capabilities.

Temporary Composite RCP. One off operations to establish a cleared route assembling the required assets at the start of a mission or when an IED threat emerges and then standing it down when their assigned task(s) is completed. This would typically involve the forming of a composite unit or RCP normally around combat engineering assets. This can be a very efficient use of resources and personnel; however once stood down it is possible that continual route maintenance will be required to keep the routes in a state that mitigates the threat of IEDs and repair damages caused through the continued use of IEDs along them.

[36] Route searches are also known as route checks. For this manual, the term Route search will be used.

[37] RCP typically refers to a composite unit of varying size that is typically made up of heavy engineering unit stood up in response to the need in the Mission for such a capability and is taken from other units in the existing task organization, typically combat engineering units.

Dedicated Mission RCP Unit. The task organization within the mission of dedicated route clearance assets and associated teams to assist with route management in an IED environment. Such dedicated units within an all-arms grouping can if large enough be a standalone mission assets or alternatively can be a platoon or larger element with in an UN engineer unit.

RCP can be equipped with a mix of general and specialist vehicles, equipment and personnel integrated to conduct route clearance. Their purpose is to eliminate concealment for IEDs, munitions and caches as well as providing systematic detection and deterrence sweeps along cleared routes. A RCP can be used in general support to maintain main supply routes and in close support providing support to manoeuvre units on tactical road movements.

4.3.2 Medical and CASEVAC Support

The UN EOD unit will require external support to sustain its internal medical supplies, as well as to stabilize, evacuate, and treat illness, injuries, and wounds that are beyond the capabilities of a first aid kit, e.g. more serious than small cuts, scrapes, abrasions, and routine sickness. This is especially important when conducting missions that are outside of the UN base camps or protected perimeters. Injuries caused by explosives are usually Serious Injuries (SI) or Very Serious Injuries (VSI) and are often complicated by burns, Traumatic Brain Injury (TBI), mild TBI, shock, broken bones, wound contamination, and amputations. Therefore, careful consideration should be given to ensuring UN EOD units are integrated and prioritized for both aerial and ground based CASEVAC to ensure EOD casualties are in line with force HQ SOPs.

4.3.3 UN Headquarters Staff Support to the UN Military EOD Unit

The Department of Field Support (DFS) at UN HQs provides dedicated support to peacekeeping field missions in the areas of financial reimbursements, logistical support services, communications and information technology, human resources and general administration to help field missions. Support is delivered to field missions and TCC contingents by DFS to the respective mission through mission directors / chiefs of mission support and their subordinate staff.

Equipment for communications between the mission, force or sector HQs and the UN military engineer unit is provided to the engineer unit by the UN as UN-Owned Equipment (UNOE). This ensures that the UN military EOD unit has secure, standardized military-grade communications within the force and mission's communications network. The UN military EOD unit's internal communications are a TCC responsibility. A contingent's internal communications and information systems include all line and radio communications from a contingent's highest headquarters down to its lowest subordinate element.

The determination of financial reimbursement to UN member states for Contingent-Owned Equipment (COE) is established through the COE WG and UN legislative bodies. The details of this reimbursement at the contingent-specific level are included in the MOU, which is the primary financial reference for contingent logistics support (including support for the UN EOD Unit) for each specific peacekeeping mission. Major equipment, if not in the COE manual, may be treated as a "special case" if the situation requires. Maintenance of this special case equipment

is a TCC responsibility if the equipment is under wet lease. See section 4.4.1.1 below for an explanation of wet and dry leases. In accordance with the COE manual, any special minor equipment or consumables not covered by the standard self- sustainment rates may be categorized as "unique equipment." These items will be reimbursed according to bilateral special case arrangements between the troop / police contributor and the UN.

The DFS logistics plan is the basis for identifying resources that may be re-deployed from other locations (e.g., UN global service center or other field missions) to support Mission deployment. Additionally, the DFS logistics plan may provide a basis for negotiations with potential TCCs on provision of COE that each individual troop contributor is required to bring to the mission along with associated, applicable self-sustainment services.

4.3.4 Personnel Support Services

The morale, welfare, religious / spiritual and recreational needs of EOD unit personnel needs to be considered and provided by the mission owing to the potential stressful nature of the work undertaken by these personnel.

4.3.5 Logistical Support

The UN EOD unit will use and consume routine amounts of normal classes of supply that will need to be replenished based upon unit usage rates, mission requirements, and the operational environment:

- Classes of supply sustainment provision and delivery of water, food; consumable supplies (office supplies, batteries, etc.), uniform and clothing items; fuels and petroleum based lubricants, construction / FP material, ammunition and explosives, toiletries / sundry items; normal waste collection, disposal, and management, to include hazardous material / waste management and disposal.
- Equipment repair / maintenance / recovery – for repair support beyond the capabilities of the EOD unit technicians.
- Transportation – For lift and heavy transport movement capability that is beyond the unit's internal assets, e.g. Material Handling Equipment (MHE), Heavy Equipment Transport (HETs), aerial, rail, or maritime movement.

4.4 Force Generation and Logistics Planning

It is essential to coordinate the force generation process with logistics planning. This coordination currently occurs once troop contributors have been identified. At this point, any problems that troop contributors may face in equipping or supporting their contingents are identified and staffed for resolution at UN Headquarters. Problems are assessed based on a combination of the data given by the TCC and assessments carried out by DPKO and DFS personnel. The UN Department of Field Support recognizes that many member states may not possess all the equipment needed for a particular UN mission and therefore put in place mitigating logistical arrangements including the purchase of UNOE and / or "wet and dry leases" as necessary.

4.4.1 Wet and Dry Lease

4.4.1.1 Wet Lease

Under wet lease arrangements, a contingent deploys with its COE and is responsible for its maintenance and support. This arrangement can be achieved in one of two - ways:

- The troop contributor provides the vehicles and equipment, related minor equipment, workshop support, spares, and maintenance personnel. The troop contributor is reimbursed at set rates.
- One troop contributor provides the major equipment and a second party, under a bilateral arrangement, provides the support. In this case, the troop contributor deployed to the mission area and operating the equipment may be reimbursed by the UN. The second party is reimbursed, if at all, through a bilateral arrangement without any UN involvement or responsibility.

4.4.1.2 Dry Lease

Under dry lease arrangements, a contingent deploys with its COE but the UN arranges for its support. This arrangement can be achieved in one of the following ways:

- Under the first, the troop contributor provides the equipment and the UN takes responsibility for the support, provision of spare parts and maintenance. The troop contributor receives reimbursement at the dry lease rate;
- The troop contributor provides the equipment and the UN arranges for another member state to provide the support. The former receives reimbursement at the dry lease rate and the latter is reimbursed for maintenance and support;
- The troop contributor provides the equipment, receives reimbursement at the dry lease rate and the UN provides the support via commercial contractor;
- The UN provides the equipment and along with the support, provision of spare parts and maintenance.

4.4.2 Letter of Assist (LOA)

Primary logistics support for a contingent comes from national military logistics sources under TCC control. Civilian contractors, arranged by the TCC, may also provide support. Major items of equipment may accompany deploying units, or the UN may provide them in the mission area as mentioned above. The UN may also satisfy specific support requirements not already included under an MOU or available through commercial contract. These support requirements may be met by a contracting method known as a LOA, by which the UN acquires special supplies or services from a member state. LOAs are used when:

- TCC deploy, rotate or repatriate personnel and equipment using its own capabilities.
- A special need arises for essential equipment or services that are not available through normal sources of supply.
- The items or services required by the mission are not covered by an MOU.
- A TCC contributes aircraft or vessels to a mission

4.4.3 Status of Forces Agreement (SOFA)

From a logistical perspective, the SOFA specifies the terms of support provided by the host state to the UN mission, as well as the legal rights of the UN mission's personnel and operations. DPKO, in coordination with DFS, is responsible for negotiating SOFAs with the host state.

SOFAs also codify relations between the UN mission and host state describing "the rights, privileges and immunities of the mission and its personnel and the mission's obligations to the host government."[38] SOFAs govern the legal status of troops and civilian personnel deployed to the mission in the host state, and specify the legal immunity for UN personnel with regard to the settlement of claims, the modalities for the exercise of civil and criminal jurisdiction over military and civilian mission members, as well as provisions relating to FoM, taxes, customs, immigration controls, radio frequencies, flight clearances and permission to wear uniforms and carry weapons. Under the typical terms of a SOFA, "military personnel are immune from criminal prosecution by the host state for crimes committed on its territory, but may still be subject to the criminal jurisdiction of their national authorities."[39]

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[38] *Handbook on United Nations Multidimensional Peacekeeping Operations*, published by DPKO Peacekeeping Best Practices Unit, December 2003, p.13, available at: http://www.peacekeepingbestpractices.unlb.org/Pbps/library/Handbook%20on%20UN%20PKOs.pdf

[39] *Office for the Coordination of Humanitarian Affairs (OCHA) Glossary of Humanitarian Terms in Relation to the Protection of Civilians in Armed Conflict*, 2003, available at: http://ppdb.un.org/Policy%20%20Guidance%20Database/Glossary2004.pdf

Chapter 5

Training and Evaluation for the UN EOD Units

5.1 Overview

All EOD personnel completing training should be able to perform at the required competencies described in this manual. Each TCC are responsible to educate and train their own personnel prior to deployment. All personnel nominated as EOD qualified (at whatever level or standard) need to have suitably documented proof of the training they have received and the required standard achieved from their authorized EOD training establishment. All operators need to demonstrate the required skills as part of the unit's pre-deployment evaluation.

Figure 5-1, illustrates the interconnectivity of EOD competencies from a UN perspective, in that CMD level 1 to 2 qualifications[40] are required to be a qualified level 3 CMD operator. A level 3 CMD qualification is required to be qualified in specialized CMD skills, an IEDD operator or a BCMD operator. It is possible if the EOD operators have successfully qualified to be cross trained in specialist CMD skills and as an IEDD operator, however; it is not necessary for an EOD operator qualified in specialized CMD skill(s) to be an IEDD operator and vice versa[41].

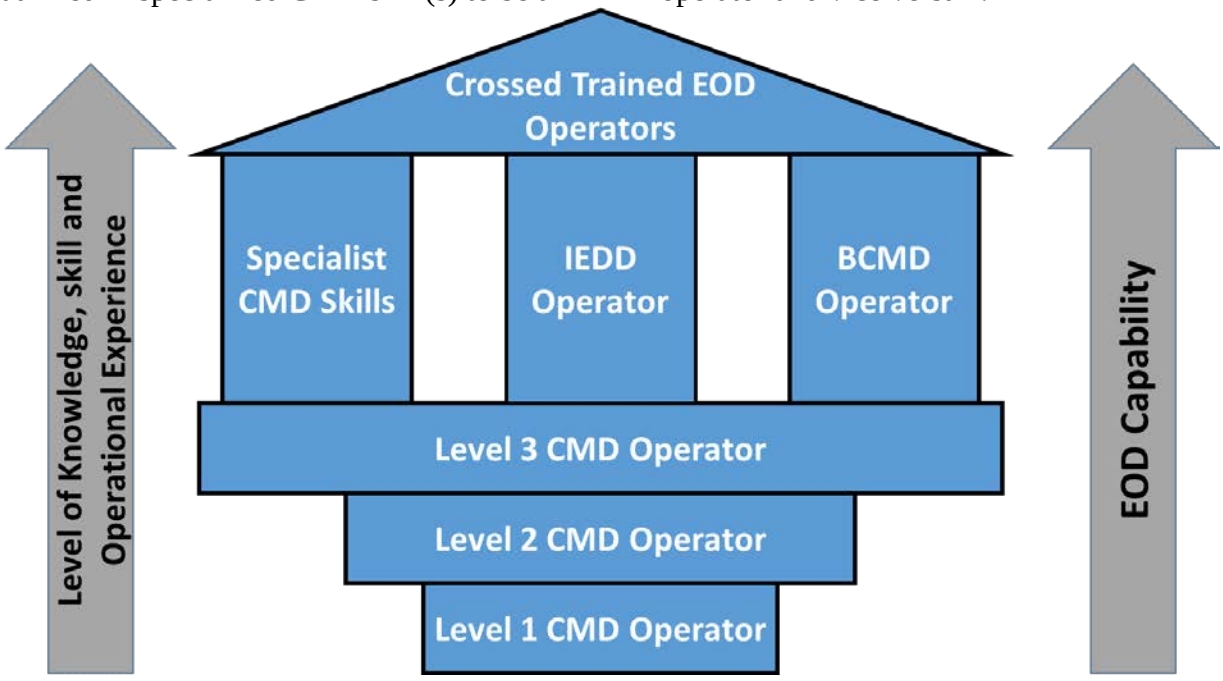


Figure 5-1 Integrated EOD Competencies

[40] Based on IMAS level 1 to 3 EOD qualifications.

[41] BCMD and IEDD are separate skillsets, and do not depend on each other, unless you are dealing with a CBRNE device i.e. an IED which has Chemical Biological or Radiological payload / enhancement. This is beyond the scope of this manual.

5.2 Training of EOD Units

This chapter provides insight into the training required for a TCC to appropriately prepare and develop the various EOD capabilities that UN missions may require. The appropriate instructional methods best suited to achieve the standards listed in this manual are to be utilized in the training of personnel. The UN DPKO recognize the following EOD qualifications:

- Level 1 CMD;[42]
- Level 2 CMD;[43]
- Level 3 CMD;[43]
- Specialist CMD skillsets:
    - Mixed EO item logistic demolitions >50 Kg NEQ;
    - Management of specialist demilitarization activities;
    - Ability to plan demilitarization activities;
    - Guided weapon system AXO where the missile is fitted in the launcher;
    - Intact cluster munitions;
    - Disposal DU EO and DU hazards and the clearance of AFV;
    - Guided Missiles containing liquid propellant disposal;
    - Maritime EO disposal.
- IEDD operators.

5.3 EOD Competencies

The following skillsets and capability requirements have been drawn up in line with the IMAS Test and Evaluation Protocol 09.30/01 for EOD Competency Standards for CMD competencies[43]. The competencies given are laid out in a series of performance requirements and outcomes as follows:

a) A competency unit designation, comprising a number and a title, e.g. *2. Equipment*

b) Two or more elements, each comprising of an element designation consisting of a number and a title, e.g. *2.1 Gather and prepare search or explosive ordnance clearance equipment.*

c) Criteria describing the required performance, e.g. *"The individual must be able to demonstrate an ability to…"* and/or explanations, describing the necessary knowledge and understanding e.g. *"The individual must be able to explain…"*

The competency requirements have been constructed using existing knowledge and the International Mine Action Standards (IMAS). They list the minimum requirements however a given UN Mission may demand additional competencies from their TCC offering CMD personnel, for which they must be appropriately trained and qualified. The competencies are listed here under accompanying appendices to Annex B as:

- CMD Level 1 – Appendix 1
- CMD Level 2 – Appendix 2
- CMD Level 3 – Appendix 3
- Specialist CMD Skills – Appendix 4

The skillsets and capability requirements for IEDD operators are not provided in this manual but the UN will utilize those set out in the UN IEDD standards publication.

[42] Described in IMAS Test & Evaluation Protocol 09.30/01/2014, Ver 1.0, 30 Oct 14 for EOD Competency Standards
[43] For IEDD competencies, reference to the UN IEDD standards are required.

The qualifications and competencies are built upon each other, in that for an operator being nominated as an IEDD operator is assumed to be suitably qualified as a CMD Level 1, 2 and 3 operator. Similarly, a CMD level 3 operator is assumed to be suitably qualified as a CMD Level 1 and 2 operator and a CMD level 2 operator is assumed to be suitably qualified as a CMD Level 1 operator. In the case of specialist CMD skills, it is necessary to be CMD Level 1, 2 and 3 qualified to be qualified in any one of these specialist CMD areas. It is NOT necessary for qualified IEDD operators to be qualified in any of the specialist CMD skills. However, an IEDD operator is not qualified in any of the specialist CMD skills, unless they have been formally trained and certified in these areas.

Some ERW fall within the guidelines for the above qualification levels but present a specific or additional hazard. Examples are items containing White Phosphorous (WP), Fuel Air Explosive (FAE) warheads, guided weapon systems, or the requirement for bulk demolitions or the logistic destruction of ammunition. Special consideration should be given for the need to state the requirement for additional training prior to deployment if CMD skills in relation to these hazards are deemed necessary. It is also best practice to state if such skills are not required and thus can be excluded from the category of competence. Where items of EO are frequently encountered, specific training in the disposal of these items may be given to enable CMD operators to deal with them rather than continually refer the problem to the next higher level of CMD expertise. When this approach is identified as appropriate in the force generation stage for a UN mission, it should be communicated to perspective TCC to allow and provide such additional training and qualification to be achieved prior to deployment on mission. It should be noted that sub-munitions may be particularly hazardous to deal with and should only be dealt with by level 2 or above qualified personnel.

5.4 Evaluation Objectives

Evaluations are extremely useful to TCCs, their contingent commanders and UN planners and in-mission leadership to organize, train, equip, deploy and employ military personnel. TCCs conduct their evaluations (reinforced by force and sector HQ evaluations) to assess and monitor the state of individual and collective training, examine the military operational readiness and proficiency of staffs, units and force components, and to check the maintenance and performance of equipment. Above all, the purpose of formal evaluations is to assist TCCs and military contingents in meeting national and UN standards of performance and interoperability to effectively and efficiently conduct missions and tasks, and therefore accomplishing mission objectives. This function is particularly important, given the high risks associated with EOD operations and tasks. Capabilities and relative performance of these EOD units yield a great influence on the level of success of a peacekeeping mission. The main objectives of evaluations are:

- To examine, grade and rate declared forces against UN prescribed or required standards, using defined criteria;
- To identify capability shortfalls in national or unit resources or performance;
- To make recommendations for the improvement of operational standards and capabilities linked up with the lessons learned process.

The diagram below illustrates the ongoing evaluation cycle and the activities which precede and follow the evaluation activity and how the corresponding results fit into the learning cycle of the organization.

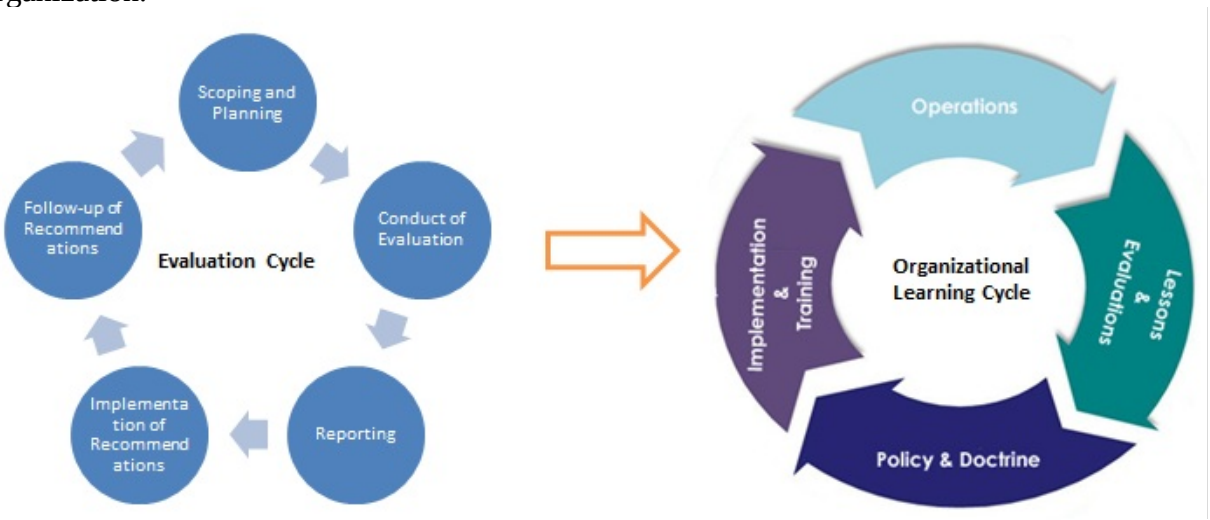


Figure 5.2 – UN evaluation cycle assisting the organizational learning cycle

5.5 Evaluation Criteria

A military contingent's operational readiness is evaluated based on distinct criteria such as Mission requirements, organizational structure, operational standards, the capability to perform mission essential tasks, standards achieved in training, as well as administrative and logistics standards. This evaluation should analyze task-oriented activities at each level within the military contingent to include individuals, task-oriented groups and commanders.

Consideration of the most appropriate evaluation criteria for the various EOD capability levels needs to be examined and done so in accordance with:

- UN Policy on "Operational Readiness Assurance and Performance Improvement";
- UN SOP on "Force and Sector Commander's Evaluation of Subordinate Military Entities in Peacekeeping Operations";
- UN SOP on "Evaluation of Force Headquarters in Peacekeeping Operations";
- UN "IED Threat Mitigation Handbook".

All TCC are reminded that compliance with policies and standard operating procedures is mandatory when contributing to a UN mission. The sample evaluation checklists at Annex F include broad peacekeeping evaluation criteria, as well as those that specifically relate to UN military EOD unit capabilities. For a comprehensive set of UN commander's evaluation checklists, see the chapter on peacekeeper capability standards in the UN infantry battalion manual.

5.6 Independent Evaluation Support

It is incumbent upon EOD unit commanders and subordinate leaders deployed on a peacekeeping mission to constantly conduct formal and informal "Operational Readiness Self-evaluations" of their unit to maintain full operational capabilities at all times. TCCs can authoritatively determine how well their personnel, units and equipment are prepared for peacekeeping duties by conducting independent evaluations using special evaluation experts and focal points from national training centers and personnel with previous peacekeeping experience.

Adequate resources in terms of training areas, ammunition for live firing, classrooms and equipment oriented to the mission environment will significantly improve preparation and evaluation exercises. Any identified gaps in capability should be corrected as soon as possible by TCC-appropriate action to make the necessary improvements.

Additionally, the UN FHQ conducts its own assessment of force units when they deploy. In this way, multiple evaluations contribute to higher states of operational readiness and performance. It should be noted that DPKO / DFS can be invited to assist with these evaluations, as explained in section 5.8 of this manual.

5.7 Conducting Evaluations

Formal evaluations during mission rehearsals and exercises are highly encouraged. Evaluation criteria should be based on measurable and quantifiable standards that are Specific, Measurable, Achievable, Realistic and Time-bound (SMART) in nature. Evaluations may be conducted in a graduated manner by level (from individual soldiers to commanders); activity (team, detachment, platoon, company or battalion); and in a task-oriented manner to systematically build expertise and integrate capabilities for collective application. Previous evaluation reports may be useful to comparatively demonstrate overall improvements in capability and performance. In addition to national training standards, further guidance on conducting evaluations is available in the sample evaluation checklists at Annex F, and the links and references provided in Annex G regarding UN policies, directives, SOPs and guidelines.

5.7.1 Pre-Deployment Evaluations

A military contingent is expected to be well trained and qualified in basic military skills and conventional military TTPs according to specific national military standards prior to concentration for peacekeeping training. DPKO-organized Pre-Deployment Visits (PDV) offer a level of independent evaluation prior to a contingent's deployment to the mission area. Pre-deployment evaluations by the TCC and DPKO / DFS may include validation of the contingent's ability to:

- Ensure timely assembly, grouping, and equipping of the UN military EOD unit in accordance with the SUR[44] and MOU.
- Conduct mission-specific, task-oriented, individual and collective tasks / capabilities.

[44] SUR is the acronym for Statement of Unit Requirements.

- Identify shortcomings and take corrective measures for capability enhancement.

Prior to UN DPKO's PDV, a well-prepared UN military EOD unit should undertake:

- Raising and establishing a military EOD unit in accordance with mission-specific UN SUR.
- Training in accordance with standard UN military EOD unit tasks and operational demands[45].
- Developing mission-specific, task-oriented, individual and collective expertise and capabilities.
- Identifying shortcomings and taking remedial action to improve capabilities.
- Making timely adjustments and mid-course corrections.
- Utilizing experienced trainers from other military EOD units to train the new military EOD unit awaiting deployment.
- Final pre-deployment inspection and rehearsal of the military EOD unit by national peacekeeping experts under troop contributing country arrangements.

5.7.2 In-Mission Evaluations

In-mission evaluations should include:

- Conducting the first in-mission evaluation in the second month of deployment to validate and match the standards achieved prior to deployment. This can be followed by quarterly / half yearly evaluations in accordance with mission norms.
- Continuously and simultaneously monitoring and reviewing performance in-mission by the military contingent command element and mission leadership.
- Identifying potential weak areas and instituting periodic selective evaluations to administer corrective actions.
- Reassessing capabilities and skills when the mission's operational situation (or threat) changes, or when there is a gap between requirements and performance.
- Taking note of clearly visible performance capability gaps and addressing them expeditiously.
- Validating key appointments in command and staff channels to verify ability and responsibility, and providing guidance and support where required.
- Hosting visiting TCC teams of military officials and peacekeeping experts who monitor and validate unit performance.
- Reporting evaluation results and corresponding projected remedial measures to the next higher authority.

[45] See Chapter 2 for a more detailed discussion of UN Military EOD Unit tasks.

5.8 UN Assistance

DPKO / DFS and the mission leadership play a key role in guiding and facilitating TCC achievement of evaluation and operational readiness. In addition to this manual, numerous references offer guidelines and standards by which UN military EOD units can evaluate their operational readiness. See Annex G. The nature of UN assistance is described below:

5.8.1 DPKO / DFS Assistance

DPKO / DFS promote evaluation, operational readiness and commitment to UN standards with a flexible and accommodative approach by:

- Guiding, assisting, facilitating or supplementing TCC efforts in evaluation.
- Providing training assistance through the integrated training service.
- Providing the mission and TCC strategic guidance and oversight by:
  - Conducting a PDV (for initial deployments only) to verify that provisions of the SUR/MOU are met and the contingent is ready for deployment.
  - Guiding and assisting emerging TCCs (and other TCCs on request), focussing on basic military training, output requirements and technology-related issues.
- Providing an operational advisory team from DPKO / DFS to guide and assist emerging TCCs (assistance on request for other TCCs).

5.8.2 Mission Leadership Assistance

The Mission leadership supports evaluation by coordinating and providing the following assistance:

- Informs TCCs of performance goals for the military EOD unit, pre-deployment preparation requirements and mission-oriented task requirements;
- Coordinates pre-deployment reconnaissance, organizes in-mission induction training through Integrated Mission Training Cells (IMTC), provides the train-the-trainer[46] courses (a FHQ responsibility), provides mission military EOD support and defines unambiguous operational tasks, roles and responsibilities for the military EOD Unit that provide a basis for evaluation;
- Carries out in-mission operational performance and capability evaluation of the contingent as and when required. Provides and coordinates the required resources and staff to conduct evaluations and centralized, technical on-the-job training to strengthen evaluated shortfalls.
- Guides and supports TCCs and military EOD units to improve shortfalls, adopt midcourse corrections, and take action with the mission command and staff on evaluation findings. Develops a mission-specific military EOD training plan and oversees the required training to improve the evaluated operational readiness.
- Performance Evaluation Forms (PEFs) for commanders.

[46] Train-the-trainer courses are often referred to as T3 courses or alternatively as Training of Trainers (ToT) courses.

5.9 Collective Evaluation Responsibilities

Evaluation of EOD units is an important command and staff responsibility, where everyone's contribution using their respective expertise optimizes the outcome. TCCs / units shall take the following principles into considerations when planning and conducting evaluations:

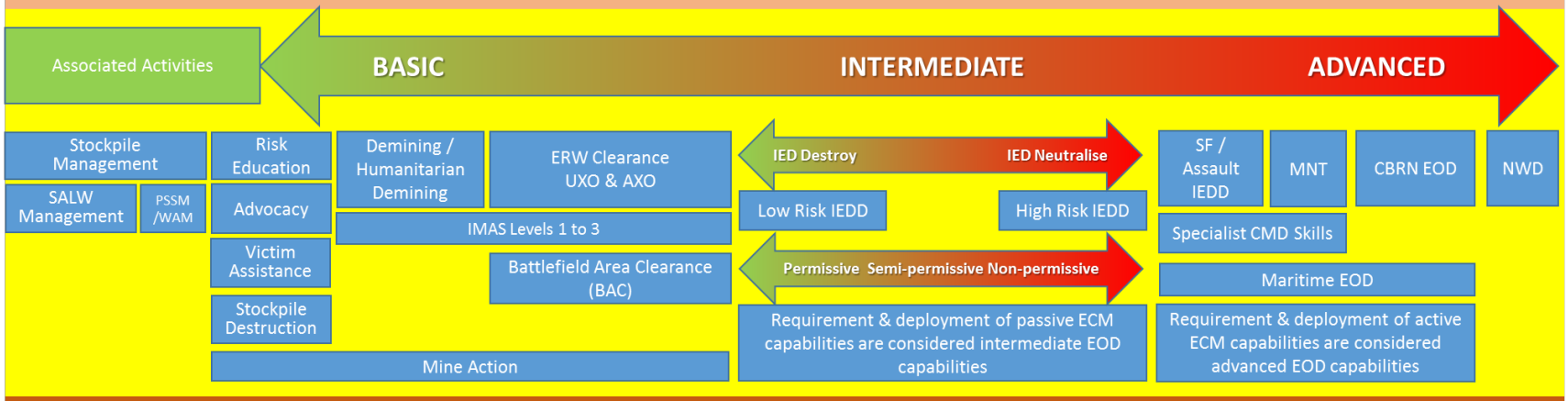
- Evaluation of EOD units is a rigorous and continuous process, which should nonetheless remain flexible and adaptable to the operational situation and environment.
- It is the responsibility of TCCs to evaluate their units before deployment.
- Once EOD units are deployed, their commander is responsible to conduct the operational and training evaluations and report on the outcome to the next higher authority.
- TCCs are encouraged to modify and formalize the evaluation methodology, criteria and procedures presented herein to suit their needs in conducting their evaluations.
- The development and use of detailed standards and evaluation checklists, focusing on peacekeeping and UN military EOD preparedness, will yield great benefits in terms of operational readiness and early identification of unit capabilities that need improvement.
- Early identification allows performance or equipment shortfalls to be addressed before they cause problems.
- TCCs that lack the financial or technical ability to support their deploying units with the resources needed to meet national and UN minimum standards should immediately seek to discuss their needs with DPKO / DFS at UN HQ.

Annex A

EOD Capabilities Spectrum

The objectives of EOD are the detection, identification, onsite evaluation, rendering safe, recovery and final disposal of unexploded EO. EOD Capabilities are defined as the measure of the ability of a force, unit, team or person to achieve these objectives, especially in relation to its overall mission.

The relative position of different capabilities on the spectrum are related to the following factors:
1. Equipment Specialisation 2. Knowledge, skill & competencies of the operators required 3. Risk involved



The delineation of EOD capabilities is not rigid and as such the graphic must be viewed as a spectrum with considerable overlap at times due to regional requirements, threat faced and tactical requirements

NOTE: Although ***Maritime EOD*** is considered to be a specialist CMD capability, it is located on the intermediate to advanced portion of the EOD spectrum owing to the increased equipment specialization, operator knowledge, skill and competency requirements as well as the increased environmental challenges in comparison to the other specialist CMD skills.

A list of the definition of the terms used in the EOD spectrum above are provided in Annex I to this Manual.

Annex B

EOD Competencies

This Annex contains the following appendices:

- Appendix 1: CMD Level 1 competencies
- Appendix 2: CMD Level 2 competencies
- Appendix 3: CMD Level 3 competencies
- Appendix 4: Specialized CMD competencies

Note: for details of the competencies required for IEDD qualified personnel, please reference the UN IEDD standards.

Appendix 1

CMD Level 1 Competencies

CMD Level 1 qualification enables the trained holder of the qualification to locate, expose and to destroy in situ, when possible, single items of mines and specific ERW on which the individual has been trained; thus, CMD Level 1 operators may be licensed to destroy only specific items of ordnance and are qualified with the following skillsets as listed below. It is important that should the decision be made during the force generation phase of UN mission that, CMD Level 1 qualified operators are appropriate, the items of ordnance that such operators are expected to be qualified to dispose of are listed for perspective TCC to be aware.

NOTE: It should be noted that sub-munitions may be particularly hazardous to deal with and should only be dealt with by CMD level 2 or above qualified personnel.

Knowledge Base

Explosive Ordnance Recognition

( ) Generic land service ammunition and fuzes;
( ) Generic mines;
( ) Generic submunition;
( ) Generic air dropped weapons;
( ) Generic guided weapons;
( ) Detailed IED awareness;
( ) Detailed clandestine device awareness.

Explosives Theory and Safe Handling of Explosives Ordnance

( ) The differences and applications of high and low explosives;
( ) The principles and objectives of explosive trains;
( ) The principles of explosive power;
( ) Blast effects and their uses;
( ) Methods of reducing blast effects.

Methods of Disposal

( ) Electrical and non-electrical means of initiation;
( ) Use of pyrotechnic devices to destroy by burning;
( ) Use of sufficient HE quantities to destroy EO on which they have received training;
( ) High order techniques;
( ) Ring main;
( ) Line main.

Safety Precautions

( ) Personal and personnel safety;
( ) Equipment safety;
( ) Explosives safety distances;
( ) Generic EO protective measures.

Storage and Transportation of Explosives
( ) Health and safety and explosive legislation;
( ) Environmental issues;
( ) Explosive safety;
( ) Explosive storage areas;
( ) Explosive transportation;
( ) Explosive security.

Management
( ) Quality assurance;
( ) Operational site management.

Medical requirements
( ) First aid;
( ) Organizational casualty evacuation procedures.

Equipment
Gather and prepare search or EOD equipment
Individuals must be able to:
( ) Effectively explain the environment in which the task will take place;
( ) Explain how to effectively inspect, test and prepare equipment;
( ) Explain acceptable tolerances of accuracy of the equipment;
( ) Explain the characteristics and hazards of the equipment in use;
( ) Explain operational requirements and organizational procedures;
( ) Demonstrate an ability to possess the necessary information to safely operate the equipment in use;
( ) Demonstrate an ability to effectively test the serviceability of the equipment, reporting any defective equipment through the appropriate channels;
( ) Demonstrate an ability to prepare the equipment correctly for use;
( ) Demonstrate an ability to meet operational requirements and their own organizational procedures.

Operate search or EOD equipment
Individuals must be able to:
( ) Explain the capabilities, limitations and uses of equipment in use;
( ) Explain how to operate the equipment correctly;
( ) Explain the importance of operating the equipment correctly and the consequences of not doing;
( ) Explain why a reading may be incorrect and how to deal with it;
( ) Demonstrate an ability to operate the equipment correctly according to the manufacturer's instructions;
( ) Demonstrate an ability to take accurate readings and measurements;
( ) Demonstrate an ability to effectively challenge obvious inaccuracies or inconsistencies of information;
( ) Demonstrate an ability to make necessary adjustment to the equipment in use;
( ) Demonstrate an ability to report problems to the appropriate authority.

Maintain search or EOD equipment
Individuals must be able to:
( ) Explain the requirements of the servicing schedule;
( ) Explain the equipment's capabilities and acceptable limits of deviation;
( ) Explain operational requirements and organizational procedures;
( ) Explain how to report defective equipment;
( ) Demonstrate an ability to carry out regular routine maintenance checks in accordance with the servicing schedule;
( ) Demonstrate an ability to report defective equipment & organize its repair or replacement;
( ) Demonstrate an ability to monitor consumables continuously & arrange for replenishment;
( ) Demonstrate an ability to maintain all equipment within the specified levels;
( ) Demonstrate ability to comply with operational requirements & organizational procedures.

Management
Initial Threat Assessment
Individuals must be able to:
( ) Explain their assessment process;
( ) Demonstrate an ability to carry out a simple threat assessment using current National procedures.

Gather and analyze information on the location of EO
Individuals must be able to:
( ) Effectively explain the history of the area, the scenario and sources of information collected;
( ) Explain characteristics of the environment;
( ) Explain the amount and type of information needed;
( ) Explain how to interpret technical information;
( ) Explain what their responsibilities, capabilities and limitations are;
( ) Explain to whom to refer the task and the correct procedures for doing so;
( ) Explain the requirements of the appropriate regulations and procedures;
( ) Demonstrate an ability to assess and validate information;
( ) Demonstrate an ability to liaise effectively with local agencies and organizations;
( ) Demonstrate an ability to conduct additional assessment on the event of incomplete information or to refine their understanding of the problem;
( ) Demonstrate an ability to carry out an initial threat assessment;
( ) Demonstrate an ability to assess accurately whether a task is within their capability and to refer it to the appropriate authority or agency if it is not;
( ) Demonstrate an ability to use feedback in their analysis;
( ) Demonstrate an ability to categorize and allocate a priority for the area to be searched according to agreed criteria;
() Demonstrate an ability to brief other relevant agencies at the appropriate time.

Assist in defining the specific area to be searched
Individuals must be able to:
( ) Explain how to interpret information (e.g. charts, maps, drawings or photographic images);
( ) Explain the requirements of the operational directive and organizational procedures;
( ) Explain capabilities & limitations of personnel & equipment relevant to the EOD scenario;
( ) Demonstrate an ability to assess and validate any additional information they receive;
( ) Demonstrate an ability to identify local environment secondary hazards if there are any;
( ) Demonstrate an ability to assist in developing diagrams of the specific area to be searched;

( ) Demonstrate an ability to assist in identifying & describing potential access & egress routes;
( ) Demonstrate an ability to clearly mark the defined area to be searched.

Identify and establish working relationships
( ) Individuals must be able to explain the extent of their authority.

Evaluate the effectiveness of EOD operations and programmes
Individuals must be able to:
( ) Demonstrate an ability to review and develop refined procedures for future operations;
( ) Explain their personal level of authority.

Provide advice on EOD related matters
Individuals must be able to:
( ) Explain their own level of authority when providing advice;
( ) Explain how to refer enquirers to the next level of authority when the request is beyond their authority or expertise;
( ) Demonstrate an ability to accurately establish the nature of the advice needed;
( ) Demonstrate an ability to present their advice clearly and concisely and ensure advice has been understood;
( ) Demonstrate an ability to carry out research when presented with findings in a logical manner.

Locating and Safe Access
Contribute to the identification of specific environmental hazards in areas where EO is located
Individuals must be able to:
( ) Explain the possible effects of the hazard;
( ) Explain the various precautions and mitigations used to eliminate or reduce a hazard to an acceptable level;
( ) Explain the capabilities, limitations and availability of resources;
( ) Explain operational requirements and organizational procedures;
( ) Demonstrate an ability to assist in carrying out an appropriate survey of the local environment and record the findings;
( ) Demonstrate an ability to identify any personal hazard;
( ) Demonstrate an ability to take all relevant measures when assisting in managing the hazards.

Contribute to gaining safe access to EO
Individuals must be able to:
( ) Explain the capabilities and limitations of resources;
( ) Explain the different types of personal protective equipment;
( ) Explain the hazards they are expecting to encounter during an EOD scenario;
( ) Demonstrate an ability to contribute to the selection and use of appropriate resources and personal protective equipment suitable for the task;
( ) Demonstrate an ability to contribute to planning for potential access and egress routes;
( ) Demonstrate an ability to contribute to the implementation of the EOD plan as directed;
( ) Demonstrate an ability to mark the access route when appropriate;
( ) Demonstrate an ability to locate the position of EO to such proximity as to enable it to be identified.

Contribute to the location of EO or confirm their absence

Individuals must be able to:

( ) Explain how to use the equipment;
( ) Explain what the best use of personal protective equipment is;
( ) Explain the parameters and limitations of search methods in use;
( ) Explain the interaction between suites of equipment;
( ) Explain when and why it may be appropriate to mark and plot the location of EO;
( ) Explain sources of information and their various strengths and weaknesses;
( ) Explain the potential follow-on actions upon confirmation of EO;
( ) Explain the stated criteria for searching the area and their implications;
( ) Demonstrate an ability to use appropriate equipment to the recognized standards and in accordance with manufacturer's instructions;
( ) Demonstrate an ability to mark the location of explosive ordnance if required to do so;
( ) Demonstrate an ability to accurately plot the location of the EO;
( ) Demonstrate an ability to use appropriate sources of information to confirm their findings;
( ) Demonstrate an ability to confirm that the area has been searched in accordance with standard criteria;

Transportation of Explosive Ordnance

Move EO within a designated area

( ) Individuals must be able to demonstrate an ability to assist in the movement of ordnance.

Final Disposal

Confirm the threat posed by EO

Individuals must be able to:

( ) Explain the importance of establishing the status (i.e. condition and situation) of the EO;
( ) Explain how to apply their in-depth technical knowledge within their own area of expertise;
( ) Identify appropriate sources of information on other EO types;
( ) Explain how to interpret the possible effect of EO on the local scenario;
( ) Explain to whom threats posed by hazardous non-EO are reported;
( ) Demonstrate an ability to achieve a positive identification of the EO types(s);
( ) Demonstrate an ability to establish the status of the EO when possible to do so;
( ) Demonstrate an ability to re-evaluate the threats posed by the EO in the light of additional knowledge;
( ) Demonstrate an ability to identify and report the threat posed by the item as appropriate when beyond the scope of their expertise and availability of resources;
( ) Demonstrate an ability to record and report their findings in accordance with operational requirements and organizational procedures.

Implement protective measures

( ) Individuals must be able to demonstrate an ability to assist in implementing protective measures.

Assist in the disposal of EO

Individuals must be able to:

( ) Explain the generic functioning of the explosive ordnance and the relevant "render safe" procedures where appropriate;
( ) Explain the capabilities, limitations and uses of the resources;
( ) Explain the effect of a successful disposal and the consequences of an unsuccessful disposal;
( ) Demonstrate an ability to contribute to the development of an effective EO disposal plan;
( ) Demonstrate an ability to confirm the availability of resources to implement the plan;
( ) Demonstrate an ability to assist in completing the 'render safe' or 'final disposal' procedures as appropriate;
( ) Demonstrate an ability to record and report the disposal as required.

Dispose of EO

( ) Individuals must be able to demonstrate under supervision, an ability to dispose of single EO items in situ.

Remediation

Provide advice on the remediation of cleared areas

Individuals must be able to:

( ) Demonstrate an ability to determine the effect of the operation on the environment;
( ) Demonstrate an ability to obtain all necessary information from relevant agencies to establish the nature and extent of the effect;
( ) Demonstrate an ability to provide advice that is realistic, practicable and objective;
( ) Demonstrate an ability to effectively communicate with relevant agencies and organizations;
( ) Demonstrate an ability to maintain an on-going and accurate record of findings and actions taken as appropriate;
( ) Explain the effects of search or disposal operations;
( ) Identify relevant agencies and authorities and their likely communication needs;
( ) Explain the information and recording requirements to enable appropriate remediation of cleared areas.

Appendix 2

CMD Level 2 Competencies

CMD Level 2 qualification, in addition to CMD level 1 competencies, enables the trained holder of the qualification to determine when it is safe to move and transport munitions and to conduct the simultaneous disposal of multiple items of ordnance using line mains or ring mains. This qualification extends only to those mines and specific ERW on which the individual has been trained. It is important that should the decision be made during the Force Generation phase of UN Mission that, CMD Level 2 qualified operators are appropriate, the items of EO that such operators are expected to be qualified to dispose of are listed for perspective TCC to be aware. It should be noted that sub-munitions may be particularly hazardous to deal with and should only be dealt with by CMD Level 2 or above qualified operators.

Knowledge Base

EO Recognition

( ) Detailed land service ammunition and fuzes;
( ) Detailed mines;
( ) Detailed submunition.

Explosives Theory and Safe Handling of EO

( ) Movement of EO.

Methods of Disposal

( ) Detonation by propagation – pit lay out;
( ) Disposal by burning.

Management of Demolition Sites

( ) Selection and layout of disposal site;
( ) Management of disposal site.

Management

( ) Quality control;
( ) Incident / accident investigation.

Equipment

Manage search or EOD equipment

Individuals must be able to:

( ) Explain the equipment management system for their organization;
( ) Explain the equipment's normal functioning and acceptable limits of deviation;
( ) Explain correct use of equipment, operational requirements & organizational procedures;
( ) Explain how to report defective equipment;
( ) Explain the importance of ensuring a simple and effective logistics supply chain;
( ) Demonstrate an ability to carry out regular inspections of the servicing log for all equipment in use;
( ) Demonstrate an ability to monitor defects through a defect reporting schedule;
( ) Demonstrate an ability to manage the consumption and order of consumables through the organization's logistic system;
( ) Demonstrate an ability to ensure all personnel comply with operational requirements and organizational procedures.

Management

Threat assessment

Individuals must be able to:

( ) Explain methods and sources of gathering intelligence material;
( ) Explain a simple threat analysis tool/system;
( ) Explain their decision-making process;
( ) Demonstrate an ability to identify and gather relevant information;
( ) Demonstrate an ability to use information that is complete, valid, accurate and reliable;
( ) Demonstrate an ability to use simple threat analysis tools;
( ) Demonstrate an ability to justify their decisions.

Assess the EO-related risks

Individuals must be able to:

( ) Explain the overall strategy, mission and objectives, and the method of execution for EOD scenarios within their area of responsibility;
( ) Provide a comprehensive appreciation of the potential consequences of EO risk;
( ) Explain the potential impact of changing operational priorities and tempos;
( ) Explain the meaning of 'risk' and how this is factored into EOD operations;
( ) Explain the role, capabilities, modus operandi and limitations of appropriate agencies and organizations;
( ) Explain whom to consult and the relevance of their contributions;
( ) Explain risk assessment techniques;
( ) Explain methods of minimizing risks;
( ) Explain methods of recording and validating their risk assessment;
( ) Explain operational requirements and organizational procedures;
( ) Demonstrate an ability to identify accurately what is at risk;
( ) Demonstrate an ability to identify objectively what is the likely nature of the risks;
( ) Demonstrate an ability to identify objectively the potential consequences of the risk and of non-action;
( ) Demonstrate an ability to challenge or confirm the mission or objectives when appropriate to do so;
( ) Demonstrate an ability to effectively research to refine their understanding of the matter;
( ) Demonstrate an ability to consult relevant agencies and organizations in development of their draft risk assessment;
( ) Demonstrate an ability to effectively revise their risk assessment, incorporating feedback (as appropriate) into their assessment;
( ) Demonstrate an ability to accurately record and validate their risk assessment.

Gather and analyze information on the location of EO

Individuals must be able to:

( ) Define the relevant agencies and organizations and their likely interest;
( ) Explain how to communicate effectively with interested parties;
( ) Explain how to carry out a threat assessment and why it is important to do so.

Use local and other information to locate affected areas

Individuals must be able to:

( ) Explain how to interpret information (e.g. maps, charts, drawings or photographic images etc.);
( ) Explain differing sources of information and how to access them;
( ) Explain the different methods of confirming correct locations;
( ) Explain the communication needs of appropriate agencies and organizations and how to communicate with them;
( ) Explain the importance of ensuring understanding of an EO issue;
( ) Demonstrate an ability to identify the correct vicinity;
( ) Demonstrate an ability to gather, analyze and interpret local information in order to assess the extent of the task;
( ) Demonstrate an ability to ensure that their definition of the area meets operational requirements, organizational procedures and local conditions;
( ) Demonstrate an ability to record and clearly communicate their definition of the affected area.

Define the specific area to be searched

Individuals must be able to:

( ) Explain the different communication requirements of relevant agencies and organizations and ensure appropriate methods of understanding;
( ) Explain how to interpret information (e.g. maps, charts, drawings or photographic images);
( ) Explain the requirements of their operational directive and organizational procedures;
( ) Explain any local factors that should be taken into account;
( ) Explain the capabilities and limitations of personnel and equipment;
( ) Demonstrate an ability to assess and validate additional information as appropriate;
( ) Demonstrate an ability to clearly define an area to be cleared and to communicate such in an appropriate format;
( ) Demonstrate an ability to ensure that their definition meets operational requirements and organizational procedures;
( ) Demonstrate an ability to assess and satisfactorily describe local environment and secondary hazards as appropriate;
( ) Demonstrate an ability to identify and accurately describe the potential access and egress route.

Record the possible location and general disposition of EO

Individuals must be able to:

( ) Explain the appropriate formats for recording information (e.g. maps, charts, drawings, or photographic images);
( ) Explain operational requirements and own organizational procedures;
( ) Identify the differing authorities and their communication needs;
( ) Explain the different methods of communicating (e.g. written reports, emails, and fax);
( ) Demonstrate an ability to ensure information is recorded in the appropriate format;
( ) Demonstrate an ability to ensure that records meet operational requirements and organizational procedures;
( ) Demonstrate an ability to communicate the recorded areas to appropriate authorities.

Identify and establish working relationships

Individuals must be able to:

( ) Explain the likely interests and aspirations of relevant agencies;
( ) Explain the possible contribution of relevant agencies;
( ) Demonstrate an ability to identify relevant agencies;
( ) Demonstrate an ability to identify the likely role and interest of relevant agencies;
( ) Explain various factors that determine the establishment of good working relationships;
( ) Explain operational requirements and organizational procedures;
( ) Explain the different types of working relationship (e.g. contracted, informal);
( ) Explain various communication techniques utilized during clearance & disposal operations;
( ) Demonstrate an ability to establish the capabilities of relevant agencies and their potential for effective contribution;
( ) Demonstrate an ability to develop holistic communication arrangements and working practice in accordance with organizational procedures;
( ) Demonstrate an ability to develop and maintain professional working relationship, altering the terms of reference if/as required;
( ) Demonstrate an ability to formalize working arrangements as appropriate;
( ) Demonstrate an ability to maintain their organization's reputation whilst dealing with relevant agencies.

Allocate EOD resources

Individuals must be able to:

( ) Explain the components of an EOD plan;
( ) Explain any hazardous and non-hazardous resources and any attendant constraints for their movement and storage;
( ) Explain their role in the supply and distribution systems;
( ) Explain operational requirements and organizational procedures;
( ) Explain the demands of task management;
( ) Demonstrate an ability to identify and source suitable EOD resources to be allocated;
( ) Demonstrate ability to prioritize allocation of EOD resources in order to meet objectives;
( ) Demonstrate ability to identify destination of EOD resources & arrange their distribution;
( ) Demonstrate an ability to ensure that any special distribution & storage conditions are available &, if required, appropriate arrangements are made to maximize safety & security;
( ) Demonstrate an ability to confirm the serviceability of newly acquired EOD resources;
( ) Demonstrate an ability to manage the allocation of EOD resource replenishment system;
( ) Demonstrate an ability to establish an effective replenishment system.

Respond to developing events and imperatives

Individuals must be able to:

( ) Explain the components of an EOD plan;
( ) Explain differing monitoring techniques;
( ) Explain the demands of task management;
( ) Explain the various possible effects of changes to be implemented on the operation;
( ) Explain possible methods of responding to change;
( ) Explain how to assess the benefits of different courses of action.
( ) Demonstrate an ability to monitor the operation effectively;
( ) Demonstrate an ability to identify & evaluate possible impact of changes on the operation;
( ) Demonstrate an ability to consult on & revise the plan implementing necessary changes;
( ) Demonstrate an ability to communicate effectively any changes to be implemented;
( ) Demonstrate an ability to confirm that any changes have been implemented.

Evaluate the effectiveness of explosive ordnance disposal operations and programmes
Individuals must be able to:
( ) Demonstrate an ability to effectively monitor the operational teams;
( ) Explain monitoring techniques and procedures.

Ensure the accurate recording and general disposition of EO
Individuals must be able to:
( ) Explain the appropriate formats for recording information (e.g. maps, charts, drawings, or photographic images);
( ) Explain operational requirements and organizational procedures;
( ) Identify appropriate authorities and their communication needs;
( ) Explain different methods of communicating information (e.g. written reports, emails, etc.);
( ) Demonstrate an ability to ensure that the information is recorded in the appropriate format;
( ) Demonstrate an ability to ensure that the records meet operational requirements and organizational procedures;
( ) Demonstrate ability to effectively communicate recorded areas to appropriate authorities;
( ) Demonstrate ability to ensure that records are updated or amended as necessary.

Detect the possible presence of EO and other risks
Individuals must be able to:
( ) Explain the planning process;
( ) Explain the capabilities and limitations of resources;
( ) Explain operational requirements and organizational procedures;
( ) Justify the use of a particular detection method or resources;
( ) Explain the probable nature and extent of the risk or hazard;
( ) Identify the best use of PPE;
( ) Explain the basis for challenging the accuracy or consistency of information;
( ) Demonstrate ability to draw up a plan of action in line with operational requirements and organizational procedures;
( ) Demonstrate ability to implement the plan and re-evaluate as necessary;
( ) Demonstrate ability to take prompt, corrective action in the event of problems arising;
( ) Demonstrate ability to use alternative methods to corroborate evidence when appropriate;
( ) Demonstrate an ability to challenge inconsistencies or anomalies of information.

Locate EO or confirm their absence
Individuals must be able to:
( ) Explain how to use the relevant EOD equipment;
( ) Explain what the best use of personal protective equipment is;
( ) Explain the parameters and limitations of search methods in use;
( ) Explain the interaction between suites of equipment;
( ) Explain when and why it may be appropriate to mark and plot the location of EO;
( ) Explain the various strengths and weaknesses of sources of information;
( ) Explain what potential follow-on actions are to be taken upon confirmation of EO;
( ) Explain the stated criteria for searching the area and their implications.
( ) Demonstrate ability to use appropriate equipment effectively to the recognized standards and manufacturer's instructions;
( ) Demonstrate ability to mark the location of the EO;
( ) Demonstrate ability to plot the location of EO to prescribed accuracies;
( ) Demonstrate ability to use appropriate sources of information to confirm their findings;
( ) Demonstrate ability to confirm that an area has been searched within stated criteria;

Identify the specific hazards posed by the environs in which EO are located

Individuals must be able to:

( ) Explain what kind of survey may be appropriate and why;
( ) Explain the possible effects of hazards;
( ) Identify & explain to relevant agencies & their staff specific hazards posed by EO located;
( ) Explain the various precautions and mitigations used to eliminate or reduce a hazard to an acceptable level;
( ) Explain the capabilities, limitations and availability of resources;
( ) Explain operational requirements and organizational procedures.
( ) Demonstrate an ability to carry out an appropriate survey of the local environment and record their findings;
( ) Demonstrate an ability to contact relevant agencies and source information where necessary to amplify their understanding of the potential hazard, taking into account any impact of contaminants in the vicinity;
( ) Demonstrate an ability to determine the nature of any personal hazard;
( ) Demonstrate an ability to accurately assess the feasibility of an operation;
( ) Demonstrate an ability to take all appropriate actions to manage hazards;
( ) Demonstrate an ability to report their recommendations in accordance with operational procedures.

Gain safe access to EO

Individuals must be able to:

( ) Explain the capabilities and limitations of available resources;
( ) Explain operational requirements and organizational procedures;
( ) Identify the appropriate types of personal protective equipment;
( ) Identify relevant agencies and other sources of information;
( ) Explain the range of likely hazards they may be expected to encounter in the circumstances;
( ) Demonstrate an ability to identify the likely threat posed by the EO;
( ) Demonstrate an ability to take optimum practical precautions to manage the hazards posed by the environments within organizational procedures and the current constraints;
( ) Demonstrate an ability to select and use appropriate resources and PPE likely for the task;
( ) Demonstrate an ability to plan access to the EO by the optimum route;
( ) Demonstrate an ability to implement the plan and re-evaluate if required;
( ) Demonstrate an ability to consult local agencies and individuals when appropriate;
( ) Demonstrate an ability to mark an access route when appropriate;
( ) Demonstrate an ability to locate the position of the EO to such proximity as to enable it to be identified.

Transportation of Explosive Ordnance

Determine whether to move EO

Individuals must be able to:

( ) Explain the nature of the risk posed by moving the EO;
( ) Explain the nature of the risk posed by secondary hazards;
( ) Demonstrate an ability to justify movement of EO based upon the status of the EO; operational expediency; an assessment of secondary hazards; the practicality of transporting the EO; an assessment of the risks to the local environments;
( ) Explain the meaning of suitable transport.

Move EO within a designated area

Individuals must be able to:

( ) Demonstrate an ability to assist in the movement of ordnance;
( ) Explain the explosive train of the EO and the relevant 'render safe' procedures;
( ) Explain the meaning of 'designated area';
( ) Explain operational requirements and organizational procedures;
( ) Explain the capabilities, limitations and uses of the resources;
( ) Identify appropriate agencies and organizations and explain the importance of liaison;
( ) Identify the differences between a suitable and unsuitable movement plan;
( ) Demonstrate an ability to develop an effective EO movement plan;
( ) Demonstrate an ability to liaise effectively with other agencies and individuals;
( ) Demonstrate an ability to confirm availability of resources to implement a movement plan;
( ) Demonstrate an ability to ensure that their plan meets operational requirements and organizational procedures;
( ) Demonstrate an ability to consider and implement the safety procedures as appropriate;
( ) Demonstrate an ability to implement the plan, assess its effectiveness and adapt where necessary.

Transport EO for analysis and/or disposal

Individuals must be able to:

( ) Demonstrate an ability to develop an effective EO transport plan;
( ) Demonstrate an ability to liaise effectively with other agencies and individuals;
( ) Demonstrate an ability to confirm the availability of resources to implement the plan;
( ) Demonstrate an ability to ensure that their plan meets operational requirements and organizational procedures;
( ) Demonstrate an ability to consider appropriate safety precautions;
( ) Demonstrate an ability to implement their plan, re-assessing its effectiveness and adapting it as necessary;
( ) Explain the explosive chain of the EO and relevant 'render safe' procedures;
( ) Explain the requirements of statutory instruments for packaging and transportation as appropriate;
( ) Explain their selection of a specific destination and the optimum route;
( ) Explain operational requirements and organizational procedures;
( ) Explain the capabilities, limitations and uses of the resources;
( ) Identify appropriate agencies & organizations & explain the importance of effective liaison;
( ) Explain the differences between a suitable and an unsuitable transport plan.

Final Disposal

Confirm the threat posed by EO

Individuals must be able to:

( ) Explain changing operational tempos and priorities;
( ) Explain the responsibilities, capabilities and limitations of other agencies;
( ) Explain operational requirements and organizational procedures;
( ) Demonstrate an ability to positively identify the fusing systems & the state they are in;
( ) In the event that initial positive identification is not possible individuals must be able to demonstrate an ability to able to assess the state that the item of EO is in, inspecting and recording sufficient detail to maximize the chance of subsequent positive identification where possible.

Implement protective measures

Individuals must be able to:

( ) Explain the effects of changing operational tempos and priorities;
( ) Explain improvisation techniques;
( ) Explain how to use the appropriate agencies to optimum effect;
( ) Explain how to brief their team and other relevant people and agencies;
( ) Explain the capabilities, limitations and uses of the resources and protective measures;
( ) Explain sources of technical information;
( ) Explain how to interpret technical information;
( ) Explain the minimum safety distances for various threats;
( ) Explain the reasoning for amending minimum safety distances;
( ) Demonstrate an ability to define the required protective measures consistent with the threat;
( ) Demonstrate an ability to develop and execute an implementation plan in accordance with operational requirements and organizational procedures;
( ) Demonstrate an ability to confirm the availability of resources to implement the protective measures;
( ) Demonstrate an ability to consult relevant documents and agencies to determine appropriate protective requirements;
( ) Demonstrate an ability to maintain effective liaison with and advise other agencies and individuals to ensure that the required protective measures can be implemented;
( ) Demonstrate an ability to consider the possible impact on the environment of the protective measures;
( ) Demonstrate an ability to evaluate the effectiveness of their plan, adapting it where necessary;
( ) Demonstrate an ability to plan and implement evacuation procedures;

Dispose of EO

Individuals must be able to:

( ) Explain operational requirements and organizational procedures;
( ) Explain the relevant capabilities, limitations and uses of resources;
( ) Identify appropriate agencies & organizations & explain the importance of effective liaison;
( ) Explain the effect of a successful disposal & the consequences of an unsuccessful disposal.
( ) Demonstrate an ability to dispose of multiple items of EO;
( ) Demonstrate an ability to determine the action required for disposal;
( ) Demonstrate an ability to develop an effective disposal plan for EO;
( ) Demonstrate an ability to confirm the availability of resources to implement the plan;
( ) Demonstrate an ability to ensure that their plan meets operational requirements and organizational procedures;
( ) Demonstrate an ability to action or complete final disposal procedures as appropriate, re-assessing their plan's effectiveness and adapting it as necessary;
( ) Demonstrate an ability to record and report the disposal of EO.

Contribute to the remediation of cleared areas

Individuals must be able to:

( ) Explain what the relevant legal requirements are;
( ) Explain the different methods of area remediation;
( ) Explain their responsibilities, capabilities, limitations and resources;
( ) Explain the process used in achieving the agreed standards;
( ) Identify the relevant parties and their areas of interest;
( ) Explain the role of external quality assurance agencies.
( ) Demonstrate an ability to accurately define the areas in which they can contribute effectively;
( ) Demonstrate an ability to establish the limits of their responsibility if not previously agreed;
( ) Demonstrate an ability to effectively liaise with relevant agencies in the development of an agreed remediation plan;
( ) Demonstrate an ability to develop a remediation plan to the agreed standard;
( ) Demonstrate an ability to implement and evaluate the remediation plan, adapting it as necessary;
( ) Demonstrate an ability to liaise with external quality assurance agencies when appropriate;
( ) Demonstrate an ability to confirm that the area has been cleared to the required standard.

Post Task Activities

Complete post task recording and reporting

Individuals must be able to:

( ) Explain the different recipients of the report and their potential requirements;
( ) Identify the components of an appropriate post activity report;
( ) Explain the importance of timeliness when submitting reports;
( ) Explain the importance of accurate record keeping;
( ) Demonstrate an ability to establish post task activity requirements;
( ) Demonstrate an ability to identify and gather relevant information;
( ) Demonstrate an ability to identify the relevant recipients for the post activity report;
( ) Demonstrate an ability to use information that is complete, valid, accurate and reliable;
( ) Demonstrate an ability to ensure that their report addresses the requirements and is in accordance with organizational procedures;
( ) Demonstrate an ability to present their report in the appropriate format;
( ) Demonstrate an ability to produce their report within the agreed timeframe;
( ) Demonstrate an ability to record and file reports as appropriate.

Provide supplementary information, statements or reports

Individuals must be able to:

( ) Identify differing time constraints;
( ) Explain the potential various uses of their report;
( ) Explain the importance of appropriately formatted reports;
( ) Explain the importance of accurate record keeping;
( ) Demonstrate an ability to establish information requirements and their reasons;
( ) Demonstrate an ability to establish report format requirements;
( ) Demonstrate an ability to collect and analyze information;
( ) Demonstrate an ability to present appropriately formatted reports;
( ) Explain the uses of their report;
( ) Demonstrate an ability to meet objectives within relevant time constraints;
( ) Demonstrate an ability to record and file reports.

Appendix 3

CMD Level 3 Competencies

CMD Level 3 qualification, in addition to CMD level 1 and level 2 competencies, enables the trained holder of the qualification to conduct render-safe procedures and final disposal of a wide range of specific types of EO on which the individual has been trained. It is important that should the decision be made during the force generation phase of UN Mission that, CMD Level 3 qualified operators are required, the items of EO that such operators are expected to be qualified to dispose of are listed for perspective TCC to be aware.

Knowledge Base

EO Recognition

( ) Detailed air dropped weapons;
( ) Detailed guided weapons;
( ) Generic maritime EO;
( ) Generic liquid propellant fueled EO;
( ) Generic chemical EO;
( ) Generic biological EO.

Explosives Theory and Safe Handling of EO

( ) IEDs and Home Made Explosives (HME);
( ) Fuel Air Explosive (FAE) systems.

Methods of Disposal

( ) Low order techniques;
( ) Mixed item logistic demolitions <50 Kg NEQ.

Management of Demolition Sites

( ) Management of mixed item logistic demolitions.

Management

( ) Understand generic management requirements of CMD specialist competency operations.

Management

Assess the EO-related risks

( ) Individuals must be able to explain the hazards associated with guided weapons.

Implement plans to minimize EO-related risks

Individuals must be able to:
( ) Explain what the potential risks during EOD operations are;
( ) Explain what the acceptable levels of risk are;
( ) Explain their capabilities, limitations and resources and those of any relevant agencies;
( ) Explain methods for minimizing risks;
( ) Explain operational requirements and organizational procedures;
( ) Explain whom should be consulted and why;
( ) Explain the time-scales in which they are operating;
( ) Demonstrate an ability to determine required resources;
( ) Demonstrate an ability to establish the nature of the contributions of other agencies;

( ) Demonstrate an ability to review all practical options to select the optimum course of action for the circumstances;
( ) Demonstrate an ability to communicate their plan to those who need to know;
( ) Explain the implementation of guided weapon related EOD plans;
( ) Demonstrate an ability to execute guided weapon related EOD plans.

Develop plans to minimize EO-related risks
Individuals must be able to:
( ) Explain the potential risks during EOD operations;
( ) Explain the acceptable levels of risk;
( ) Explain own capabilities, limitations and resources and those of any relevant agencies;
( ) Explain methods for minimizing risks;
( ) Explain operational requirements and organizational procedures;
( ) Explain planning techniques;
( ) Explain communication techniques;
( ) Explain what resources are required during an EOD operation & why;
( ) Explain who is likely to be affected by their plan;
( ) Explain the time-scales in which they are operating;
( ) Demonstrate an ability to identify resource requirements;
( ) Demonstrate an ability to establish the nature of the contributions of other agencies;
( ) Demonstrate an ability to review all practical options to select the optimum course of action for the circumstances;
( ) Demonstrate an ability to develop a plan in accordance with organizational requirements;
( ) Demonstrate an ability to consult on their draft plan, revising as necessary in the light of feedback received;
( ) Demonstrate an ability to record and validate plans in accordance with organizational requirements;
( ) Demonstrate an ability to communicate their plan to those who need to know;
( ) Demonstrate an ability to plan guided weapon related EOD;

Evaluate the effectiveness of EOD operations and programmes
Individuals must be able to:
( ) Demonstrate an ability to collect and analyze information including feedback and progress reports;
( ) Demonstrate an ability to draw out the successes of the operation and the lessons learned for future reference;
( ) Demonstrate an ability to implement necessary changes, at short notice, obtaining approval where necessary;
( ) Demonstrate an ability to record findings and report recommendations through appropriate channels;
( ) Demonstrate an ability to ensure the effectiveness of relevant training.
( ) Explain their own operational requirements and organizational procedures;
( ) Explain the preconditions and scope for change;
( ) Explain when immediate changes are required.

Provide advice on EOD related matters

Individuals must be able to:

( ) Identify requirements & any potential limitations regarding information provided to them;
( ) Explain a comprehensive technical understanding of EO related matters;
( ) Identify differing sources of information and how to access them;
( ) Explain effective communication techniques;
( ) Explain operational requirements and organizational procedures;
( ) Demonstrate an ability to liaise effectively with other agencies to ensure appropriate information is obtained;
( ) Demonstrate an ability to ensure their advice is consistent with internationally recognized standards;
( ) Demonstrate the advice to relevant agencies and organizations;
( ) Demonstrate an ability to can provide advice for EOD of GWS.

Dispose of EO

Individuals must be able to:

( ) Explain the functioning of the EO and the relevant "render safe" procedures;
( ) Demonstrate an ability to action or complete the 'render safe' or 'final disposal' procedures as appropriate, re-assessing their plan's effectiveness and adapting it as necessary.

Appendix 4

CMD Specialist Competencies

CMD specialist competencies, in addition to CMD level 1, level 2 and level 3 competencies, enables the trained holder of the qualification to undertake one or more of the following advanced specialist CMD qualifications in line with the skillsets listed for the relevant specialist capability. Such CMD specialist qualifications are for Advanced CMD operators who have been trained in areas that needed to address specific hazards. There are eight CMD specialist qualifications provided here, namely:

- Mixed EO item logistic demolitions >50 Kg NEQ;
- Management of specialist demilitarization activities;
- Ability to plan demilitarization activities;
- Guided weapon system AXO where the missile is fitted in the launcher;
- Intact cluster munitions;
- Disposal DU EO and DU hazards and the clearance of AFV;
- Guided Missiles containing liquid propellant disposal;
- Maritime EO disposal.

It is important that should the decision be made during the force generation phase of UN Mission that, CMD specialist qualified operators are required, the items of EO that such operators are expected to be qualified to dispose of, are listed for perspective TCC to be aware. Whenever there is a requirement for specialist CMD skills then it is the duty of those responsible for force generation to specify the additional skills required, and for nominating TCC to demonstrate that their CMD operators have the required higher-level training and experience appropriate for the task. Such specialized CMD qualifications shall clearly indicate the specialist training received by each individual, whether within core or specialist competencies.

This appendix contains a list of the competencies for:

- Disposal DU EO and DU hazards and the clearance of AFV;
- Liquid propellant disposal;
- Maritime EO disposal.

For the other listed specialist CMD capabilities, it is necessary for the UN planners to liaise with the relevant subject matters experts for the required capabilities and determine the competency requirements and for these to be communicated to potential TCC offering these capabilities.

Disposal of Depleted Uranium (DU) EO and DU Hazards and the Clearance of Armoured Fighting Vehicles (AFV)

Knowledge Base

EO Recognition

( ) DU related EO.

Explosives Theory and Safe Handling of EO

( ) DU hazards.

Methods of Disposal

( ) Disposal of DU related EO.

Safety Precautions

( ) DU related protective measure.

Storage and Transportation of Explosives

( ) Storage and transport of DU or DU contaminated material.

Medical requirements

( ) DU related EO medical requirements.

Equipment

Operate search or EOD equipment

( ) Individuals must be able to demonstrate an ability to safely decontaminate or destroy equipment after use if necessary.

Management

Assess the EO related risks

( ) Individuals must be able to explain the hazards associated with DU related EO.

Develop plans to minimize EO-related risks

Individuals must be able to:

( ) Demonstrate an ability to plan EOD AFV clearance;

( ) Demonstrate an ability to plan DU related EOD.

Implement plans to minimize EO-related risks

Individuals must be able to:

( ) Explain the implementation of AFV clearance plans;

( ) Demonstrate an ability to execute AFV clearance plans.

Provide advice on EOD related matters

Individuals must be able to:

( ) Demonstrate an ability to provide advice for DU related EOD;

( ) Demonstrate an ability to provide advice for AFV clearances.

Locating and Safe Access

Detect the possible presence of EO and other risks

Individuals must be able to:

( ) Explain the potential secondary EO hazards from abandoned / destroyed AFVs and method for detecting them;

( ) Explain the detection, mitigation & PPE requirements for search with DU related hazards.

Identify the specific hazards posed by the environs in which EO are located

( ) Individuals must be able to explain the likely hazards associated with AFV clearance.

Gain safe access to EO

( ) Individuals must be able to explain the techniques and safety precautions to gain safe access to associated with AFV for clearance.

Transportation of Explosive Ordnance

Determine whether to move EO

( ) Individuals must be able to explain the nature of the risk associated with moving DU related EO.

Transport EO for analysis and/or disposal

( ) Individuals must be able to explain the special considerations and requirements for transportation of DU related EO and materiel.

Final Disposal

Confirm the threat posed by EO

( ) Individuals must be able to explain hazards when dealing with DU EO or related scenes.

Implement protective measures

( ) Individuals must be able to explain the implementation of protective measures for DU related EOD.

Dispose of EO

( ) Individuals must be able to explain confirmation of disposal for DU related EO.

Remediation

Provide advice on the remediation of cleared areas

( ) Individuals must be able to explain the information required for remediation of a DU related scene.

Post Task Activities

Complete post task recording and reporting

( ) Individuals must be able to explain the post task requirements for personal dosimeters if used.

Liquid Propellant Disposal

Knowledge Base

EO Recognition

( ) Detailed liquid propellant fueled EO.

Explosives Theory and Safe Handling of EO

( ) Liquid propellants.

Methods of Disposal

( ) Disposal of liquid propellant.

Safety Precautions

( ) Liquid propellant protective measures.

Storage and Transportation of Explosives

( ) Storage and transport of liquid propellant.

Medical requirements

( ) Liquid propellant related medical requirements.

Equipment

Operate search or EOD equipment

( ) Individuals must be able to demonstrate an ability to safely decontaminate or destroy equipment after use if necessary.

Management

Assess the EO related risks

( ) Individuals must be able to explain the hazards associated with liquid propellants.

Implement plans to minimize EO-related risks

Individuals must be able to:

( ) Explain the implementation of EOD tasks relating to liquid propellant;

( ) Demonstrate an ability to execute EOD tasks relating to liquid propellant.

Develop plans to minimize EO-related risks

( ) Individuals must be able to demonstrate an ability to plan EOD tasks relating to liquid propellants, including consideration of climatic and environmental factors.

Provide advice on EOD related matters

( ) Individuals must be able to demonstrate an ability to provide advice for liquid propellant related EOD.

Locating and Safe Access

Detect the possible presence of EO and other risks

( ) Individuals must be able to explain the detection, mitigation PPE requirements for search in liquid propellant related hazards.

Gain safe access to EO

( ) Individuals must be able to explain the techniques and safety precautions to gain safe access to liquid propellant related EO.

Transportation of Explosive Ordnance

Determine whether to move EO

( ) Individuals must be able to explain the nature of the risk associated with moving EO containing liquid propellant.

Transport EO for analysis and/or disposal

( ) Individuals must be able to explain the special considerations and requirements for transportation of liquid propellant related EO.

Final Disposal

Confirm the threat posed by EO

( ) Individuals must be able to explain the hazards when dealing with liquid propellant related EO.

Implement protective measures

( ) Individuals must be able to explain the implementation of protective measures for liquid propellant related EOD.

Dispose of EO

( ) Individuals must be able to explain confirmation of disposal for liquid propellant related EO.

Maritime EO Disposal

Knowledge Base

EO Recognition

( ) Maritime EO – detailed.

Methods of Disposal

( ) Disposal of maritime EO.

Management

Assess the EO related risks

( ) Individuals must be able to explain the hazards associated with maritime EO.

Implement plans to minimize EO-related risks

Individuals must be able to:

( ) Explain the implementation of maritime EOD plans;

( ) Demonstrate an ability to execute maritime EOD plans.

Develop plans to minimize EO-related risks

( ) Individuals must be able to demonstrate an ability to plan maritime EOD.

Provide advice on EOD related matters

( ) Individuals must be able to demonstrate an ability to provide advice for maritime EOD.

Locating and Safe Access

Detect the possible presence of EO and other risks

( ) Individuals must be able to explain the detection, mitigation and PPE requirements for search of maritime EO.

Identify the specific hazards posed by the environs in which EO are located

( ) Individuals must be able to explain the likely hazards associated with maritime EO.

Gain safe access to EO

( ) Individuals must be able to explain the techniques and safety precautions to gain safe access to maritime EO.

Transportation of Explosive Ordnance

Determine whether to move EO

( ) Individuals must be able to explain the nature of the risk associated with moving maritime EO.

Final Disposal

Confirm the threat posed by EO

( ) Individuals must be able to explain the hazards when dealing with maritime EO.

Implement protective measures

( ) Individuals must be able to explain the implementation of protective measures for maritime EOD.

Dispose of EO

( ) Individuals must be able to explain confirmation of disposal for maritime EO.

Annex C

Exemplary Mission Search Activities Matrix

Search involves the management and application of systematic procedures and appropriate detection equipment to locate specified targets

Search is a capability that is complimentary to IEDD. Intermediate and Advanced Search Teams will often work in support of, or supported by an IEDD team. The ability to FIND/DETECT IEDs is a key enabler in Defeat the Device Efforts. In order to defat the device (DtD) a proactive rather than reactive approach is required to put pressure on the IED network of actors. A key enabler in these efforts is finding IEDs components thereof and IED paraphernalia before they find UN personnel.

Basic Search

This capability is an "all arms" one for all personnel undertaking any security related search activities. It is designed for personnel who during the course of their UN deployment will be required to undertake person, vehicle or rummage search.

Route Search

A unit level search course for use in the search of assessed VP & VA along a route for the presence of IEDs. It involves the knowledge & skills to be able to assess a VP or VA & determine how best it should be searched in order to locate & isolate IEDs so they can be rendered safe by IEDD or other suitably qualified personnel or alternatively confirm the absence of IEDs at a given VP or VA. Route search teams (RST) typically consist of 5 personnel (TL & 4 Searchers).

Unit / Intermediate Search

Unit search is an "All Arms" capability to conduct operations in a situation where there is a perceived threat from EO and a low level of assurance is acceptable. It is normally used for deliberate, pre-planned offensive search operations aimed at denying resources & enhancing situational awareness, or for support to routine operations where a level of assurance is required. This training should be tailored for the Mission context with a focus primarily on Route & Area Search. A Unit Search Team (UST) typically consists of a Unit Search Advisor (USA) & 6 personnel (Team Leader, Scribe & 4 Searchers).

Advanced Search

Specialist Combat Engineer capability to conduct operations in a situation where there is a high threat from EO, where only the highest level of assurance is acceptable, or where a hazardous environment exists. This level of search is used for all deliberate & rapid pre-planned search operations within a high threat environment or where the risk of failure is considered unacceptable. It invariably requires a cordon to provide security. Team composition is typically the same as a UST. In addition to Intermediate capabilities an AST is trained in the use of specialist search equipment.

Discipline	Basic Search	Route Search	Unit / Intermediate Search	Advanced Search
Introduction & Overview	■	■	■	■
Vehicle Search	■	■	■	■
Person Search	■	■	■	■
Rummage Search	■	■	■	■
Route Search	■	■	■	■
Tactical Cordon & Search	■	■	■	■
Defensive Building Search	■	■	■	■
Aircraft Search	■	■	■	■
Vessel Search	■	■	■	■
Railway Search	■	■	■	■
Hazardous Environment Search	■	■	■	■

The terms used in this search activities matrix are explained in the Annex I of this manual

Annex D

EOD Unit Critical Equipment Requirements

This annex provides a breakdown of the minimum equipment deemed to be essential for an EOD capability to be effective, efficient and safe. These EOD unit critical equipment requirements are broken down in the following sections based on the generic structure of a UN EOD unit.

- CMD team – Appendix 1
- IEDD team – Appendix 2
- Support cell – Appendix 3

The equipment listed is deemed the minimum equipment needed to safely, efficiently and effectively undertake the tasks that the stated team or cell is expected to be able to complete. TCC can provide equipment in addition to or to a higher specific than those listed in this annex, in line with the COE agreement between the TCC and the UN. Only specialist EOD equipment is mentioned in the attached appendices with the generic administrative and communications and information technology support equipment required by the team HQ and unit HQ elements not listed. All IEDD teams are expected to have all equipment listed in appendix 1in addition to the equipment listed in appendix 2.

Appendix 1

CMD Team Critical Equipment Requirements

- Consumables:
  - Tape Pressure Sensitive Adhesive (TPSA) / duct tape;
  - Batteries for all equipment requiring them including spares and chargers if needed;
  - POL as required by the generator.
- CMD notebook;
- Explosive Ordnance Recognition (EOR) handbook for the Mission area;
- Individual First Aid Kit (IFAK) for each team member;
- Torches / flash lights;
- Electricity generator and scene lights;
- Hand Held Detector (HHD) with appropriate sensitivity to EO threat in mission area;
- Personal Protective Equipment (PPE) in line with IMAS standards and the security requirements for the mission area;
- Detonator holder;
- Non-electric initiation equipment[47]:
  - Ruler;
  - Crimpers;
  - Non-metallic knife;
  - Burning fuse;
  - Igniters;
  - Non-electric initiators;[48]
  - Main charges.
- Protective works equipment:
  - Sandbags;
  - Shovels;
  - Picks;
  - Blast mitigation material / equipment for movement of items of EO.
- Digital camera;
- Global Positioning System (GPS);
- Binoculars;
- Laser Range Finder (LRF);
- Compass;
- Marking kit;
- Grapnel hook;
- 100m pulling rope / line;
- Gloves;
- Non-metallic prodder.

[47] Electrical initiation equipment accepted in lieu of non-electrical equipment – see electrical initiation equipment in the proceeding appendix.

[48] An initiator whose functioning is initiated by non-electric means and includes inter alia igniferous or flash detonators / initiators.

Appendix 2

IEDD Team Critical Equipment Requirements

All IEDD teams are expected to have all equipment listed in appendix 1 in addition to the equipment listed here.

- EO component recovery kits;
- Telescopic pole;
- Collapsible ladder(s);
- Explosive test kit(s) with all supporting equipment and consumables;
- Electric initiation equipment:
    - Exploder with batteries including spares and chargers as required;
    - Firing cable;
    - Electric detonators;
    - Main charges.
- Disruptor set complete in line with the IED threat:[49]
- EOD tools:
    - Toolkit;
    - Bolt cutters.
- EOD Remotely Operated Vehicle (ROV):
    - Disruptor deployable;
    - Suitable to the terrain in the mission area;
    - Remote optical capability;
    - Wireless and hardwire deployable.
- Armoured vehicle:
- Portable digital x-ray;
- Personal dosimeters with capability to read exposure levels;
- EOD bomb suit;[50]
- Hook And Line (HAL) kit;
- Counter Radio-controlled Electronic Warfare (CREW) assets;[51]

[49] Should be determined in line with threat assessment as to the nature of IED threat faced in the Mission area.
[50] With protection levels in line with US National Institute of Justice (NIJ) standards.
[51] Only required when the threat assessment indicates the threat of RCIEDs in the Mission Area and the type of assets is to be stated which will determine the support that these assets required as covered in appendix 3 to this annex.

Appendix 3

EOD Support Cell Critical Equipment Requirements

An EOD support cell is intended to provide all technical support required to sustain the EOD capabilities that the unit is supposed to provide to the mission, sector or unit. It is broadly broken down in to two branches:

- Technical maintenance section
- CREW detachment

Technical Maintenance Section

The technical maintenance section will be required to have the necessary technicians, equipment support and materiel to maintain, sustain, repair and upgrade if necessary all CMD and IEDD equipment that the TCC deploys. Broadly in the case of a TCC deploying IEDD teams this can be broken down into two broad areas:

- General CMD and IEDD equipment support;
- EOD ROV support the electronics, hydraulics, mechatronics, weapons, optical systems and software along with all other technical aspects of the ROV in service.

CREW Detachment

A CREW detachment will only be required as part of the support cell of a UN EOD unit when a threat assessment has identified an RCIED threat in the mission area requiring the deployment of such capabilities. Such capabilities go far beyond the physical hardware and the type of CREW assets to be deployed. Deconfliction between other UN units and HN CREW assets and communications systems is necessary to ensure harmonization operation of all such assets and avoid communications and CREW asset fratricide. Depending on the type of CREW assets deployed, the support will require the necessary technical expertise in terms of personnel along with the equipment support materiel to maintain and sustain the capability:

- Hardware spares;
- Test equipment;
- Workshop and tools;
- IT support of hardware, firmware and software to load, repair, maintain and upgrade the equipment and threat fills.

Annex E

Example IED / UXO Report Template

<table>
<tr><td>Improvised Explosive Device Incident Report (File Number)</td><td>1. Formation and Search & EOD Team Number</td><td>2. Control Number</td><td>3. Unusual ☐
4. Routine ☐</td></tr>
<tr><td colspan="4">SECTION A: INITIAL INFORMATION</td></tr>
<tr><td>5. Date/Time Reported
6. Reported By</td><td colspan="2">9. Incident Location</td><td rowspan="3">11.Item(s) Reported</td></tr>
<tr><td>7. Phone Number
8. Address</td><td colspan="2">10.Whom to Contact (including telephone number)</td></tr>
<tr><td colspan="4">SECTION B: ACTION BY EOD OPERATOR</td></tr>
<tr><td rowspan="4">12. Personnel Dispatched</td><td>13. Date/Time</td><td>14. Travel Data</td><td>15. Man Hours</td></tr>
<tr><td>13.1 Departure</td><td>14.1Air-Flying Time</td><td>15.1 Travel</td></tr>
<tr><td>13.2 Arrival</td><td rowspan="2">14.2 Vehicle-Mileage</td><td rowspan="2">15.2 Incident</td></tr>
<tr><td>13.3 Completion</td></tr>
<tr><td colspan="2">16. Confirmed Identification/Nomenclature</td><td colspan="2">17. Disposition</td></tr>
<tr><td colspan="4">18. Incident Narrative (Include all Significant Details and Problems)
Separate page may be attached.</td></tr>
<tr><td colspan="4">19. Authentication</td></tr>
<tr><td>19.1 IEDD Team Leader</td><td colspan="2">19.2 Telephone Number</td><td>19.3 Date</td></tr>
</table>

Annex F

Sample Evaluation Checklists

This Annex contains the following appendices:

- Appendix 1: Pre-deployment evaluation
- Appendix 2: In-mission Evaluation
- Appendix 3: CMD Level 1 evaluation
- Appendix 4: CMD Level 2 evaluation
- Appendix 5: CMD Level 3 evaluation
- Appendix 6: Specialist CMD skillsets evaluation
- Appendix 7: IEDD evaluation

Appendix 1

Pre-Deployment Evaluation

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
a.	**Generic Peacekeeping Skills**. Are all personnel of the Military EOD Unit trained on and sensitized to the generic UN policy guidelines and directives for conducting peacekeeping operations? Do they demonstrate a clear understanding of these guidelines and directives?		
b.	**Mission-Specific Peacekeeping Skills.** Are all personnel of the Military EOD Unit trained, equipped and organized to perform mission essential tasks as per peacekeeping norms? Is the unit capable of performing in line with Mission mandate(s)?		
c.	**Basic/Conventional Skills**. Is the unit trained in basic infantry skills like firing personal weapons and minor tactics in accordance with national standards?		

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
d.	**Legal.** Do unit personnel and commanders clearly understand the responsibility to adhere to, promote and protect the legal framework for UN peacekeeping operations with specific reference to SOFA / SOMA, ROE, Human Rights and Humanitarian Law, other/ relevant international legal statutes and host nation law?		
e.	**Core-Specific Capabilities**. Is the Military EOD Unit able to perform core tasks based on unit organization, tasks assigned and type of Mission? ***See specific evaluation criteria for core EOD capabilities.***		
f.	**Mine- EO- and IED-Awareness.** Is the UN Military EOD Unit aware of minefield, Explosive Ordnance and Improvised Explosive Device hazards? Are the basic protective measures known and trained?		
g.	**Leadership**. Is the unit chain of command capable, responsive and accountable in planning and directing operations in a peacekeeping environment?		
h.	**Command and Staff**. Is the unit command and staff integrated, trained and capable of planning, organizing, coordinating and directing the multifaceted operational and administrative tasks in the peacekeeping environment?		

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
i.	**Physical and Mental Robustness.** Is the Military EOD Unit physically and mentally robust enough to be deployed to the harsh conditions of the field mission?		
j.	**Training**. Has the Military EOD Unit undertaken peacekeeping-oriented and Mission-specific training? Has it achieved the requisite standards?		
k.	**Resources**. Is the unit carrying or in possession of the required number of personnel, arms, ammunition, equipment, accessories, spares, unit stores and expendables as per MOU and Mission requirements?		
l.	**Equipment Maintenance/Management**. Does the unit maintain a minimum serviceability state of 90 percent and does it have the capability to organize preventive maintenance and repair/recovery in situ?		
m.	**Weapons, Instruments and Vehicles.** Are all weapons zeroed, instruments calibrated, vehicles maintained and inspected and certified for correctness and functionality as per required standards.		

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
n.	**Logistics**. In case of deployment at more than one location, are the forward deployed elements configured for independent and self-sustained real-life support logistics capability (food, water, accommodation, hygiene and sanitation, transport, ammunition, stores and medical), or do they receive this support from the hosting headquarters?		
o.	**Medical**. Do all personnel meet the requisite medical standards? Were preventative medicine measures taken? Have personnel been inoculated as per Mission requirements and have they cleared the periodic medical examination? Does the unit have access to a fully operational medical facility (Medical Level 1) in accordance with the MOU?		
p.	**Integrity**. Are all unit personnel aware of applicable UN rules, regulations and code of conduct, and have they demonstrated high standards of professionalism and integrity?		

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
q.	**Morale and Motivation**. Are all unit personnel well motivated to operate in a complex, restrictive, multinational and multidimensional environment while maintaining high morale?		
r.	**Welfare**. Does the unit maintain high standards of personnel welfare as per national standards and Mission requirements?		
s.	**Evaluation**. Has the unit carried out a formal evaluation? Have shortcomings been rectified? Have TCC authorities certified the unit to be fit for deployment to the Mission on time?		

Additional Comments:

Appendix 2

In-Mission Evaluation

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
a.	**Performance.** Does the unit plan and perform all Mission essential tasks effectively and safely as per Mission mandate(s), peacekeeping norms and Mission SOPs? ***See specific evaluation criteria for core EOD capabilities.***		
b.	**Shortcomings.** Has the unit taken corrective action on shortcomings in performance or resources observed by the unit or Mission leadership?		
c.	**In-Mission Training.** Is the unit carrying out periodic in-Mission refresher, task-oriented and Mission-specific training as per IMTC guidelines to maintain qualification standards? Does the chain of command institute measures for integrating and coordinating TTPs with mission partners?		
d.	**Countering Improvised Explosive Devices.** Is the unit trained in the specific theatre / regional hazards of minefields, explosive ordnance and IEDs?		

e.	**Serviceability.** Is the unit carrying out periodic inspection, preventive maintenance and repairs on time and replacing unserviceable equipment?		
f.	**Conduct and Discipline.** Does the unit continue to maintain high standards of conduct and discipline in all ranks?		
g.	**Outreach and Engagement.** Has the unit been able to (where relevant) establish good rapport and effective interface with the local population through CIMIC, Quick Impact Projects and welfare activities?		
h.	**Morale and Welfare**. Does the unit have morale and welfare programs, sports / recreation facilities, leave plans, and mental health support to maintain personnel motivated, healthy and balanced?		

Additional Comments:

Appendix 3

CMD Level 1 Evaluation

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

This evaluation proforma is designed for use in the evaluation of CMD level 1 teams[52]. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the conventional EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions be answered in term of the CMD team's having the following knowledge, skills or competencies.

Ser	Evaluation Criteria	Score	Remarks
a.	Knowledge base for the conventional munitions in the AO they are deploying to in terms of EOR, explosive theory and safe handling of EO, methods of disposal, safety precautions, explosives storage and transportation, CMD management and medical requirements?		
b.	Equipment skills in terms of gathering, preparing, operating and maintaining search and EOD equipment.		
c.	Management skills in terms of: • Initial threat assessment; • Gather and analyse information on the location of EO; • Assist in defining specific areas to be searched; • Identify and establish working relationships; • Evaluate EOD operations & program effectiveness • Provide advice on EOD related matters.		

[52] In line with IMAS EOD competency levels.

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

This evaluation proforma is designed for use in the evaluation of CMD level 1 teams[52]. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the conventional EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions be answered in term of the CMD team's having the following knowledge, skills or competencies.

Ser	Evaluation Criteria	Score	Remarks
d.	Locating and safe access to EO through contributing to: • Identification of specific hazards in EO areas; • Gaining safe access to EO; • Location of EO or confirmation of their absence.		
e.	EO transport within a designated area under supervision.		
f.	Undertake Final Disposal including: • Confirmation of the threat posed by EO; • Implement protective measures; • Assist in the Disposal of EO; • Dispose of single item EO under supervision; • Contribute to the remediation of cleared areas.		
g.	Provide Advice on the remediation of cleared areas		

Additional Comments:

Appendix 4

CMD Level 2 Evaluation

Suggested evaluation criteria scoring levels

0. *Not mission capable*
1. *Not yet mission capable with major capability deficiencies*
2. *Not yet mission capable with minor deficiencies*
3. *Mission capable with improvements highly recommended*
4. *Mission capable with minor improvements recommended*
5. *Fully mission capable*

This evaluation proforma is designed for use in the evaluation of CMD level 2 teams[53]. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the conventional EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1 competencies are demonstrated in conjunction with CMD level 2 competency evaluation.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
	Knowledge base for the conventional munitions in the AO they are deploying to in terms of EOR, explosive theory and safe handling of EO, methods of disposal, management of demolition sites and overall management?		
	Equipment skills in terms of management of search and EOD equipment?		

[53] In line with IMAS EOD competency levels.

Suggested evaluation criteria scoring levels

0. *Not mission capable*
1. *Not yet mission capable with major capability deficiencies*
2. *Not yet mission capable with minor deficiencies*
3. *Mission capable with improvements highly recommended*
4. *Mission capable with minor improvements recommended*
5. *Fully mission capable*

This evaluation proforma is designed for use in the evaluation of CMD level 2 teams[53]. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the conventional EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1 competencies are demonstrated in conjunction with CMD level 2 competency evaluation.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
	Management skills in terms of: • Threat assessment • Assessing EO related risks • Ability to gather & analyze info on the location of EO • Ability to use local knowledge and other information to locate affected areas • Ability to define a specific area to be searched • Record possible location & general disposition of EO • Identify and establish working relationships • Allocate EOD resources • Respond to developing events and imperatives • Evaluate EOD operations & programmes effectiveness • Ensure accurate recording & general disposition of EO • Detection of possible EO presence and other risks. • Location of EO or confirmation of their absence • Identify the specific hazards posed by the environs in which EO are located • Gain Safe Access to EO		

Suggested evaluation criteria scoring levels

0. *Not mission capable*
1. *Not yet mission capable with major capability deficiencies*
2. *Not yet mission capable with minor deficiencies*
3. *Mission capable with improvements highly recommended*
4. *Mission capable with minor improvements recommended*
5. *Fully mission capable*

This evaluation proforma is designed for use in the evaluation of CMD level 2 teams[53]. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the conventional EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1 competencies are demonstrated in conjunction with CMD level 2 competency evaluation.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
	Transportation of EO being able to: • Determine whether to move EO • Move EO within a designated area • Transport EO for analysis and/or disposal		
	Undertake Final Disposal including: • Confirmation of the threat posed by EO • Implement protective measures • Dispose of EO • Contribute to the remediation of cleared areas		
	Undertake post task activities: • Completing post task recording and reporting • Provide supplementary information, statements or reports		

Additional Comments:

Appendix 5

CMD Level 3 Evaluation

Suggested evaluation criteria scoring levels

0. *Not mission capable*
1. *Not yet mission capable with major capability deficiencies*
2. *Not yet mission capable with minor deficiencies*
3. *Mission capable with improvements highly recommended*
4. *Mission capable with minor improvements recommended*
5. *Fully mission capable*

This evaluation proforma is designed for use in the evaluation of CMD level 3 teams[54]. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the conventional EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1 and 2 competencies are demonstrated in conjunction with CMD level 3 competency evaluation.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
a.	Knowledge base for the conventional munitions in the AO they are deploying to in terms of EOR, explosive theory and safe handling of EO, methods of disposal, management of demolition sites and overall management?		
b.	Management skills in terms of: • Assessment of the EO related risks • Threat Assessment • Implementation of plans to minimize EO related risks • Development of plans to minimize EO related risks • Evaluation of the effectiveness of EOD operations and programmes • Provision of advice on EOD related matters • Dispose of EO		

[54] In line with IMAS EOD competency levels.

Additional Comments:

Appendix 6

Specialist CMD Skillsets Evaluation

Suggested evaluation criteria scoring levels

0. *Not mission capable*
1. *Not yet mission capable with major capability deficiencies*
2. *Not yet mission capable with minor deficiencies*
3. *Mission capable with improvements highly recommended*
4. *Mission capable with minor improvements recommended*
5. *Fully mission capable*

This evaluation proforma is designed for use in the evaluation of specialist CMD skills[55]. The UN EOD Military manual identifies eight separate specialized CMD skills. This appendix only provides evaluation criteria for three of the eight specialized CMD skills, namely; DU EO and AFV clearance; Liquid Propellant Disposal and Maritime EOD. The other three CMD specialist skills of Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities do not have an evaluation sheet but each TCC volunteering a CMD team with these three specialist skills needs to provide documentation of such training and qualification. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the stated EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialized CMD skillset being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
	Disposal of Depleted Uranium (DU) EO and DU Hazards and the Clearance of AFV		
a.	Knowledge base for DU EO and DU hazards in the AO they are deploying to in terms of EOR, explosive theory and safe handling of EO, methods of disposal, storage and transportation and medical requirements?		
b.	Equipment skills in terms of operator search and EOD equipment?		

[55] In line with IMAS EOD competency levels.

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

This evaluation proforma is designed for use in the evaluation of specialist CMD skills[55]. The UN EOD Military manual identifies eight separate specialized CMD skills. This appendix only provides evaluation criteria for three of the eight specialized CMD skills, namely; DU EO and AFV clearance; Liquid Propellant Disposal and Maritime EOD. The other three CMD specialist skills of Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities do not have an evaluation sheet but each TCC volunteering a CMD team with these three specialist skills needs to provide documentation of such training and qualification. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the stated EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialized CMD skillset being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
c.	Management skills in terms of: • Assessment of DU EO related hazards • Development and execution of plans to clear AFVs • Provide advice on DU related EOD & AFV clearance		
d.	Locating and safe access to DU related hazards through: • Detection of presence of EO and other risks • Explanation of likely AFV clearance hazards • Gaining access to EO		
e.	Transportation of DU related hazards: • Explain the risks in terms of moving DU related EO. • Explain the special considerations and requirements of such transportation.		

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

This evaluation proforma is designed for use in the evaluation of specialist CMD skills[55]. The UN EOD Military manual identifies eight separate specialized CMD skills. This appendix only provides evaluation criteria for three of the eight specialized CMD skills, namely; DU EO and AFV clearance; Liquid Propellant Disposal and Maritime EOD. The other three CMD specialist skills of Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities do not have an evaluation sheet but each TCC volunteering a CMD team with these three specialist skills needs to provide documentation of such training and qualification. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the stated EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialized CMD skillset being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
f.	Undertake Final Disposal including: • Confirmation of the threat posed by EO; • Implement protective measures; • Dispose of EO; • Contribute to the remediation of cleared areas.		
g.	Explain the information required for the remediation of DU related scenes		
h.	Completion of post task recording and reporting noting before and after dosimeter readings to determined potential exposure.		

Additional Comments:

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

This evaluation proforma is designed for use in the evaluation of specialist CMD skills[55]. The UN EOD Military manual identifies eight separate specialized CMD skills. This appendix only provides evaluation criteria for three of the eight specialized CMD skills, namely; DU EO and AFV clearance; Liquid Propellant Disposal and Maritime EOD. The other three CMD specialist skills of Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities do not have an evaluation sheet but each TCC volunteering a CMD team with these three specialist skills needs to provide documentation of such training and qualification. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the stated EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialized CMD skillset being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
	Disposal of Liquid Propellant		
a.	Knowledge base of liquid propellant in the AO they are deploying to in terms of EOR, explosive theory and safe handling of EO, methods of disposal, safety precautions, storage and transportation and medical requirements?		
b.	Equipment skills in terms of operator search and EOD equipment?		
c.	Management skills in terms of: • Assessment of liquid propellant related hazards • Explaining, developing and execution of liquid propellant EOD plans • Provide advice on liquid propellant related EOD		
d.	Locating and safe access to liquid propellant: • Detection of possible presence of EO and other risks • Gaining access to EO		

Suggested evaluation criteria scoring levels

0. *Not mission capable*
1. *Not yet mission capable with major capability deficiencies*
2. *Not yet mission capable with minor deficiencies*
3. *Mission capable with improvements highly recommended*
4. *Mission capable with minor improvements recommended*
5. *Fully mission capable*

This evaluation proforma is designed for use in the evaluation of specialist CMD skills[55]. The UN EOD Military manual identifies eight separate specialized CMD skills. This appendix only provides evaluation criteria for three of the eight specialized CMD skills, namely; DU EO and AFV clearance; Liquid Propellant Disposal and Maritime EOD. The other three CMD specialist skills of Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities do not have an evaluation sheet but each TCC volunteering a CMD team with these three specialist skills needs to provide documentation of such training and qualification. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the stated EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialized CMD skillset being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
e.	Transportation of liquid propellants: • Explain the risks in terms of moving liquid propellant • Explain the special considerations and requirements of such transportation		
f.	Undertake Final Disposal including: • Confirmation of the threat posed by EO • Implement protective measures • Dispose of EO		

Additional Comments:

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

This evaluation proforma is designed for use in the evaluation of specialist CMD skills[55]. The UN EOD Military manual identifies eight separate specialized CMD skills. This appendix only provides evaluation criteria for three of the eight specialized CMD skills, namely; DU EO and AFV clearance; Liquid Propellant Disposal and Maritime EOD. The other three CMD specialist skills of Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities do not have an evaluation sheet but each TCC volunteering a CMD team with these three specialist skills needs to provide documentation of such training and qualification. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the stated EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialized CMD skillset being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

This evaluation proforma is designed for use in the evaluation of specialist CMD skills[56]. The UN EOD Military manual identifies eight separate specialized CMD skills. This appendix only provides evaluation criteria for three of the eight specialized CMD skills, namely; DU EO and AFV clearance; Liquid Propellant Disposal and Maritime EOD. The other three CMD specialist skills of Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities do not have an evaluation sheet but each TCC volunteering a CMD team with these three specialist skills needs to provide documentation of such training and qualification. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the stated EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialized CMD skillset being evaluated.**

Disposal of Maritime Explosive Ordnance

[56] In line with IMAS EOD competency levels.

Suggested evaluation criteria scoring levels

0. Not mission capable
1. Not yet mission capable with major capability deficiencies
2. Not yet mission capable with minor deficiencies
3. Mission capable with improvements highly recommended
4. Mission capable with minor improvements recommended
5. Fully mission capable

This evaluation proforma is designed for use in the evaluation of specialist CMD skills[55]. The UN EOD Military manual identifies eight separate specialized CMD skills. This appendix only provides evaluation criteria for three of the eight specialized CMD skills, namely; DU EO and AFV clearance; Liquid Propellant Disposal and Maritime EOD. The other three CMD specialist skills of Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities do not have an evaluation sheet but each TCC volunteering a CMD team with these three specialist skills needs to provide documentation of such training and qualification. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the stated EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialized CMD skillset being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
a.	Knowledge base of maritime EO in the AO they are deploying to in terms of EOR, and methods of disposal?		
b.	Management skills in terms of: • Assessment of maritime EO related hazards; • Explaining, developing and execution of maritime EOD plans; • Provide advice on maritime EO related EOD.		
c.	Locating and safe access to liquid propellant: • Detection of possible presence of EO and other risks; • Gaining access to EO.		
d.	Explain the risks in terms of moving maritime EO.		
e.	Undertake Final Disposal including: • Confirmation of the threat posed by EO; • Implement protective measures; • Dispose of EO.		

Suggested evaluation criteria scoring levels

0. *Not mission capable*
1. *Not yet mission capable with major capability deficiencies*
2. *Not yet mission capable with minor deficiencies*
3. *Mission capable with improvements highly recommended*
4. *Mission capable with minor improvements recommended*
5. *Fully mission capable*

This evaluation proforma is designed for use in the evaluation of specialist CMD skills[55]. The UN EOD Military manual identifies eight separate specialized CMD skills. This appendix only provides evaluation criteria for three of the eight specialized CMD skills, namely; DU EO and AFV clearance; Liquid Propellant Disposal and Maritime EOD. The other three CMD specialist skills of Mixed EO item logistic demolitions >50 Kg NEQ; Management of specialist demilitarization activities; Ability to plan demilitarization activities do not have an evaluation sheet but each TCC volunteering a CMD team with these three specialist skills needs to provide documentation of such training and qualification. The aim of this evaluation is to assess if this CMD team is capable of safely, effectively and efficiently disposing of the stated EO identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialized CMD skillset being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks

Additional Comments:

Appendix 7

IEDD Evaluation

0. *Not mission capable*
1. *Not yet mission capable with major capability deficiencies*
2. *Not yet mission capable with minor deficiencies*
3. *Mission capable with improvements highly recommended*
4. *Mission capable with minor improvements recommended*
5. *Fully mission capable*

This evaluation proforma is designed for use in the evaluation of IEDD skills[57]. The aim of this evaluation is to assess if this IEDD team is capable of safely, effectively and efficiently disposing of IED identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialised IEDD competencies being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
Basic IEDD Capabilities			
a.	Knowledge base of IEDs in the AO they are deploying to in terms of explosive theory and safe handling of IEDs, and methods of disposal?		
b.	Management skills in terms of: • Assessment of IED related hazards; • Development and execution of IEDD plans; • Provide IEDD advice.		
c.	Locating and safe access to IEDs through: • IED search and detection techniques; • Appropriate mitigation and PPE requirements.		
d.	RSP development and execution.		
e.	Explain the risks in extremis in moving IEDs and special considerations and requirements of such transportation.		

[57] In line with IMAS EOD competency levels.

0. *Not mission capable*
1. *Not yet mission capable with major capability deficiencies*
2. *Not yet mission capable with minor deficiencies*
3. *Mission capable with improvements highly recommended*
4. *Mission capable with minor improvements recommended*
5. *Fully mission capable*

This evaluation proforma is designed for use in the evaluation of IEDD skills[57]. The aim of this evaluation is to assess if this IEDD team is capable of safely, effectively and efficiently disposing of IED identified as being present in the Mission AO. This evaluation can be used in support of both pre-deployment and in-mission evaluations. This evaluation proforma involves the following questions to be answered in term of the CMD team's having the following knowledge, skills or competencies. **It is essential that CMD level 1, 2 and 3 competencies are demonstrated in conjunction with the relevant specialised IEDD competencies being evaluated.**

Serial	Evaluation Criteria	Evaluation score 0 to 5	Remarks
f.	Undertake Final Disposal including: • Understand the hazards when dealing with IEDs; • Implement of protective IEDD measures; • Dispose of IEDs; • Confirmation of disposal for IEDs.		
g.	Undertake post task activities: • IED component recording and recovery; • Completing post task recording and reporting.		

Additional Comments:

Annex G

Evaluation References

In addition to this manual, the following UN peacekeeping documents provide guidelines and standards by which UN military units can evaluate their operational readiness. These references can be accessed at the following UN links, or through the Office of the Military Advisor, DPKO at UN Headquarters:

- *Resource Hub*, developed for Member States to access UN documents at: http://research.un.org/en/peacekeeping-community.

A. DPKO-DFS, United Nations Peacekeeping: Principles and Guidelines (2008) ("Capstone Doctrine").
B. DPKO-DFS Mission Evaluation Policy (Ref 2013.02), dated March 2013
C. DPKO-DFS Operational Readiness Assurance and Performance Improvement Policy (Ref 2015.16), dated 01 January 2016
D. DPKO-DFS Standard Operating Procedure on Evaluation of Force Headquarters in Peacekeeping Operations (2016)
E. Standard Operating Procedure on Force and Sector Commander's Evaluation of Subordinate Military Entities in Peacekeeping Operations, (Ref 2016.02), dated 1 February 2016
F. DPKO-DFS Force Headquarters Handbook (November 2014)
G. DPKO-DFS Guidelines on Business Continuity Arrangements for Critical Staff (April 2011)
H. DPKO-DFS Operational Readiness Assurance Guidelines (under development) (2015)

Furthermore, staff involved in the conduct of unit evaluations should also make use of the following references:

- TCC-specific UN peacekeeping operations manuals, guidelines and standard operating procedures.
- Mission mandate, memoranda of understanding, status of forces agreement and Rules of Engagement and TCC Guidelines.
- Statement of Unit Requirement (SUR) issued by the UN Office of Military Affairs, DPKO.
- Mission Concept of Operations, operational directives and orders, Operational Plans, Standard Operating Procedures and Mission-specific case studies.
- Generic Guidelines for TCC deploying military units (2012), the COE Manual 2011 and Guidelines on Peacekeeping Training (2011).
- Lessons learned and best practices of current and past peacekeeping Missions.
- Information obtained during the military unit's command group reconnaissance visit and feedback from the unit being relieved.
- After action reports and end of assignment reports of units and previous commanders.

Annex H

Lexicon of Abbreviations

2IC /EO	Second in Command / Executive Officer
AFV	Armoured Fighting Vehicle
AO	Area of Operations
ASM	Ammunition Security Management
AST	Advanced Search Team
AXO	Abandoned Explosive Ordnance
BAC	Battlefield Area Clearance
BCMD	Biological and Chemical Munitions Disposal
C2	Command and Control
CBRN	Chemical, Biological, Radiological and Nuclear
CEA	Captured Enemy Ammunition
CIMIC	Civil Military Cooperation
CMD	Conventional Munition Disposal
COE	Contingent Owned Equipment
COP	Common Operating Picture
CREW	Counter Radio-controlled Electronic Warfare
DCOS	Deputy Chief Of Staff
DDR	Disarmament, Demobilisation & Rehabilitation
DFC	Directional Fragmentation Charge
DFFC	Directionally Focused Fragmentation Charge
DFS	Department of Field Services
DPKO	Department of Peacekeeping Operations
DtD	Defeat the Device
ECM	Electronic Countermeasures
EDD	Explosive Detection Dogs
EFP	Explosively Formed Projectiles
EHR	Explosive Hazard Reduction
EOD	Explosive Ordnance Disposal
EODCC	Explosive Ordnance Disposal Coordination Cell
EOR	Explosive Ordnance Reconnaissance
ERW	Explosive Remnants of War
ESI	Explosive Scene Investigation
EW	Electronic Warfare
FHQ	Force Headquarters
FP	Force Protection
GPS	Global Positioning System
HE	High Explosive(s)
HET	Heavy Equipment Transport
HHD	Hand Held Detector
HME	Home Made Explosives
HN	Host Nation
HNSF	Host Nation Security Force(s)

HoMC	Head of Military Component
ICP	Incident Control Point
IDD	Improvised Dispersal Device
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
IEDTM	Improvised Explosive Device Threat Mitigation
IFAK	Individual First Aid Kit
IMAS	International Mine Action Standards
IMTC	Integrated Mission Training Cells
IPD	Identify Process Dispose
KLE	Key Leader Engagement
LO	Liaison Officer
LOO	Lines Of Operation
LRF	Laser Range Finder
MANPADS	Man Portable Aid Defence System(s)
MHE	Manual Handling Equipment
MNT	Manual Neutralisation Techniques
MOU	Memorandum of Understanding
MP	Military Police
MSR	Main Supply Route
NEQ	Net Explosive Quantity
NGO	Non-Governmental Organization(s)
NWD	Nuclear Weapon Disposal
OPCW	Organization for the Prohibition of Chemical Weapons
PDV	Pre-deployment Visit(s)
PEF	Performance Evaluation Form
PoC	Protection of Civilians
POL	Petrol, Oil and Lubricant
PPE	Personal Protective Equipment
PSSM	Physical Stockpile Security Management
RCIED	Radio / Remote Controlled Improvised Explosive Device
RCV	Remote Controlled Vehicle
ROE	Rules Of Engagement
ROV	Remotely Operated Vehicle
RSP	Render Safe Procedure
RST	Route Search Team
SA	Staff Assistant
SALW	Small Arms and Light Weapons
SF	Special Forces
SI	Serious Injury(s)
SMART	Specific, Measurable, Achievable, Realistic and Time-based
SO	Staff Officer
SOFA	Status of Armed Forces Agreement
SOP	Standard Operating Procedure
SSR	Security Sector Reform

SUR	Statement of Unit Requirements
TBI	Traumatic Brain Injury(s)
TCC	Troop Contributing Country(s)
TL	Team Leader
TPSA	Tape Pressure Sensitive Adhesive
TTP	Tactics, Techniques and Procedures
U2	Intelligence Branch
U3	Operations Branch
U5	Planning Branch
U6	Communication and Information Systems Brach
U7	Training and Education Branch
U9	CIMIC Branch
UN	United Nations
UNCT	United Nations Country Team
UNIBAM	United Nations Infantry Battalion Manual
UNMAS	United Nations Mine Action Service
UNOE	United Nations Owned Equipment
USA	Unit Search Advisor
UST	Unit Search Team
UXO	Unexploded Explosive Ordnance
VA	Vulnerable Area
VBIED	Vehicle Bourne Improvised Explosive Device
VIP	Very Important Person
VOIED	Victim Operated Improvised Explosive Device
VP	Vulnerable Point
VSI	Very Serious Injury(s)
WAM	Weapons and Ammunition Management
WG	Working Group
WIT	Weapons Intelligence Team(s)
WTI	Weapons Technical Intelligence

Annex I

Glossary of Terms

The following terms are defined as utilized in this manual. Some terms are provided to provide guidance when a mission determines that it is necessary to stand up a specific EOD capability to fill an assessed capability gap. For example, a course of training in "light EOD" or in improvised techniques do not lead to a new capability but fits somewhere into the EOD spectrum of capabilities given in Annex A, the position of which depends on the skills taught and developed, the equipment specialization and the risk that this operator is expected to be exposed to when utilizing these skills. For example, if an operator is trained and deployed to undertake light high risk IEDD with improvised techniques, it is possibly situated in the advanced IEDD capabilities of the spectrum. Similar search capabilities are also possible and the terms that can be used are provided herein this annex.

Abandoned Explosive Ordnance(AXO). EO that has not been used during an armed conflict, that has been left behind or dumped by a party to an armed conflict, and which is no longer under control of the party that left it behind or dumped it. AXO may or may not have been primed, fuzed, armed or otherwise prepared for use.

Access Procedures. Those actions taken to locate exactly and to gain access to explosive ordnance.

Assault IEDD. Assault IEDD is a highly specialized IEDD capability typically utilized by SF units enabling selected IEDD operators to rapidly assess and neutralize access denial and body-borne IEDs during land-based, aviation and maritime interdiction operations. Assault IEDD differs from generic IEDD in that the overriding aim of the IEDD operator is to maintain the momentum of the assault in a non-permissive environment by facilitating the assaulters reaching their objective safely, rapidly and with minimum risk of compromise.

Battlefield Area Clearance (BAC). Systematic and controlled clearance of hazardous areas where the hazards are known not to include mines.

Booby-trap. Any device or material which is designed, constructed or adapted to kill or injure, and which functions unexpectedly when a person disturbs or approaches an apparently harmless object or performs an apparently safe act.
Source: CCW – AP II
NOTE: the term boobytrap is used by many involved in EOD to refer to refer to both:

1. Conventional anti-handling devices which can be used in association with mines or as clandestine devices.
2. Improvised explosive devices which utilize a victim operated firing switch more commonly referred to as VOIED.

From an EOD perspective, there is a difference between an anti-handling device, that has a level of quality assurance associated with its manufacture, and the switch used in a VOIED which owing to the improvised nature of the device or part thereof has a lower certainty of reliability in construction and method of function. For this reason, boobytrap is taken as a non-technical generic term, with the preferred terms of anti-handling device and VOIED the preferred technical terms. Not all persons qualified to dispose or render safe military anti-handling devices are IEDD qualified which is a requirement to be qualified to dispose of or render safe VOIED.

Biological and Chemical Munitions Disposal (BCMD). Any EOD operation conducted on conventional munitions containing either biological or chemical agents or the recovery of other containers containing toxic substances.

Capabilities of EOD personnel. ***Capabilities of EOD personnel.*** The capabilities of EOD personnel refer the knowledge, skillsets, attitude and competencies that EOD personnel are certified as being qualified with, in conjunction with the equipment and support available to them to effectively, efficiently and safely respond an IED incident.

CBRN EOD. CBRN EOD is the term that refers to both BCMD and CBRN Weapon Disposal.

CBRN Weapon Disposal. A specialization within CBRN EOD in which EOD techniques are applied to render safe an improvised device containing a CBRN payload.

Clandestine Devices. Clandestine devices are EO items which are specifically designed for concealed emplacement or appear like an innocuous item which functions when a person carries out an apparently harmless act. They utilize anti-handling devices or other conventional firing mechanisms in conjunction with a conventional initiator and main charge. The term military boobytrap has been used in reference to clandestine devices in the past.
NOTE: They do not refer to anti-handling devices or other firing mechanisms fitted to ERW or other EO being used in a manner not in their intended design role which are considered to be IEDs.

Conventional Munitions Disposal (CMD). Any EOD operation conducted on ammunition that is used as a conventional weapon.

CMD Team. A three-man team composed of a Team Leader (TL), and two other members trained and certified to safely, effectively and efficiently dispose of items of conventional EO.

Counter Radio-controlled Electronic Warfare (CREW). The term used to describe the use of Electronic Counter Measures (ECM) equipment, techniques and specialists to mitigate the threat posed by RCIEDs.

Critical Equipment. Minimum equipment deemed to be essential in order for an IEDD capability to be effective, efficient and safe.

Defensive Building Search. A type of defensive search operation conducted in building which are assessed as requiring detailed defensive operations prior to a major event of VIP visit. It is intended to provide a safe environment from the perceived IED threat. Defensive building searches are complex, resource intensive operations that require careful planning and control by a search advisor.

Defeat the Device (DtD). A defensive line of operation undertaken as part of IED threat mitigation activities which include all actions and activities designed to reduce the effects of IED initiations for safe operations, including:

- Search activities;
- CMD activities;
- IEDD activities;
- Support to mission partners.

***Demining / Humanitarian Demining*[58].** Activities which lead to the removal of mine and ERW hazards, including technical survey, mapping, clearance, marking, post-clearance documentation, community mine action liaison and the handover of cleared land. Demining may be carried out by different types of organizations, such as NGOs, commercial companies, national mine action teams or military units. Demining may be emergency-based or developmental.
Note the following in IMAS standards and guides in relation to demining:

- Mine and ERW clearance is considered to be just one part of the demining process;
- Demining is considered to be one component of mine action;
- The terms demining and humanitarian demining are interchangeable.

Destroy in Situ. The destruction of an item of explosive ordnance by explosive means without moving the item from where it was found through remote counter charge placement or the remote use of disruptor weapons.

Detection Procedures. Those actions taken by any means to discover the presence of an item or substance of potential explosive ordnance significance.

Diagnostic Procedures. Those actions taken to identify and evaluate explosive ordnance.

Explosive Hazard Reduction (EHR). The act or actions taken against explosive hazards that diminishes the threat posed by such hazards. Hazards containing an explosive hazard include unexploded ordnance (UXO), IEDs, Captured Enemy Ammunition (CEA), and bulk explosives. All activities across the EOD spectrum along with associated fields enable EHR. Within a UN mission there is no designated "EHR Team", with specific responsibility for this; however, EHR is the sum of all EOD and associated activities.

Explosive Ordnance (EO). All munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket and small arms ammunition; all mines, torpedoes and depth charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine and improvised explosive devices; and all similar or related items or components explosive in nature.[59]

Explosive Ordnance Awareness. A comprehensive set of theory presentations and practical lessons, which may include a written and or practical assessments. It is termed 'EO' as it covers the whole range of ERW, IED and IDF awareness and "actions on".

Explosive Ordnance Disposal (EOD). The collective term that includes the procedures of detection, access, diagnosis[60], render safe[61], recovery and final disposal used in the disposal of items of explosive ordnance or any hazardous material associated with an EOD incident.

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[58] *Source: IMAS 04.10, 2nd Ed, 01 Jan 03, Amd 7, Aug 14, Glossary of Mine Action*
[59] Other definitions include demolition charges.
[60] Diagnosis procedures within EOD include the actions required to identify and evaluate the item of explosive ordnance, which in some other definitions are separate procedures.
[61] To render safe are those courses or modes of action taken by EOD personnel on items of explosive ordnance which cause such items to be placed in a state of tolerable risk unlikely to cause harm, injury or damage, through the application of special EOD methods and tools to provide for the interruption of functions or separation of essential components thus preventing an unacceptable initiation.

Explosive Ordnance Disposal (EOD) Capabilities. The measure of the ability of a force, unit, team or person to achieve these objectives, especially in relation to its overall mission.

Explosive Ordnance Disposal Coordination Cell (EODCC). A designated entity which provides operational control, planning, and administrative services related to EOD operations for assigned EOD units in a designated geographical area of responsibility. These cells receive notification of an EOD incident and completed incident reports from subordinate units and provide scheduling and control of disposal operations.

Explosive Remnants of War. Refers to Unexploded Ordnance (UXO) and Abandoned Explosive Ordnance (AXO).

Explosive Remnants of War (ERW) Clearance. Tasks or actions to ensure the removal and / or the destruction of ERW hazards.

Final Disposal. Those actions within EOD that lead to the final elimination of explosive ordnance hazards by EOD personnel.

Final Disposal Procedures. The final disposal of explosive ordnance may include demolition, neutralization, burning or other appropriate means that result in the final elimination of explosive ordnance hazards. In some cases, the RSP is the final disposal.

Focal Point. May be an individual who is part of an EOD coordination cell or a standalone focal point. In either case, they may be responsible for EOD and / or EO / IED threat mitigation.

Hazardous Environment. An environment with confined spaces and or a toxic environment requiring specialist access or breathing equipment.

High Threat. Activities undertaken where there is the **probability** of EO being present. For example, where specific U2 indicates the presence of emplaced IEDs.

Improvised Explosive Device. A device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic, or incendiary chemicals and designed to destroy, incapacitate, harass, or distract. It may incorporate military stores, but is normally devised from nonmilitary components.

Improvised Explosive Device Disposal (IEDD). The location, identification, rendering safe and final disposal of IEDs. Final disposal refers to the final elimination of explosive ordnance hazards by explosive ordnance disposal personnel. This may include demolition, neutralization, burning, or other proper means. In some cases, the RSP is the final disposal.

IED Threat Mitigation. The application of physical, procedural and training measures intended to reduce the impact of an IED incident.

IED Neutralization. Rendering safe of IEDs through the application of special EOD methods and tools to provide for the interruption of functions or separation of essential components to prevent an unacceptable functioning of the device, with an emphasis on denying the enemy from achieving their aim and preserving components where possible for exploitation.

The render safe procedures include the portion of the EOD procedures involving the application of special EOD methods and tools to provide for the interruption of functions or separation of essential components of unexploded explosive ordnance to prevent an unacceptable detonation.

IEDD Team. A three-person team consisting of a Team Leader (TL) and tow team members appropriately certified and equipped to undertake IEDD operations. This is taken to refer to CMD certified operators who have successfully completed an IEDD course.

Improvised Techniques. Skillsets of EOD personnel to be flexible in being able to complete an EOD task using the equipment issued or available on scene in a manner that it may not have been originally designed for, acting dynamically to develop makeshift solutions to the challenges faced on scene. Such actions are part of many CMD and IEDD tasks and are not stand alone EOD courses, qualifications or a different EOD unit structure.

Low Risk IEDD and High Risk IEDD. Classification of an EOD capability as low risk or high risk IEDD is multi-factorial and mission dependent. The factors that will contribute to the classification include:

- Sophistication of the IED threat in terms of:
    - NEQ of the main charges utilized;
    - Configuration of the main charge for directional effects such shape charge, EFP, platter charges, DFC or DFFC;
    - Sensitivity of the main charge;
    - Type of initiators being utilized;
    - Types and complexity of the firing switches being utilized;
    - Tactical deployment of the IEDs;
    - Secondary hazards in areas that IEDs are being emplaced;
- Requirement to deploy CREW assets and the type assessed as necessary i.e. passive or active capabilities;
- The wider threat in the AO in terms of whether it is permissive, semi-permissive or non-permissive to UN Forces, this includes whether IEDs are being emplaced to target EOD personnel utilizing come-on devices and anti-EOD Victim Operated firing switches;
- The requirement for the recovery of IED components intact for exploitation purposes.

Light EOD. The term “light’ should only be used in relation to the equipment scales that an EOD team or unit is deployed with in comparison to what they would typically be deployed with if fully equipped. Light Scales as it is sometimes referred to may be required due to mobility requirements e.g. on foot or due to equipment deficiencies in a time of conflict, hostility or crisis. Light EOD is not an EOD course or qualification or a different EOD unit structure.

Low Threat. Activities undertaken where there is a possibility of EO being present, e.g. a VA or VP.

Manual Neutralization Techniques (MNT). Specialist methods of disarming / dismantling an IED or Improvised Dispersal Device (IDD) when the possibility of the device functioning is unacceptable and/or where the retrieval of components / payload may assist in the defeat of the adversaries’ system. MNT may also be necessary when the use of an ROV or other conventional EOD weapons is not an option.

Net Explosives Quantity (NEQ). The total explosives contents of an ammunition, unless it has been determined that the effective quantity is significantly different from the actual quantity. It does not include such substances as white phosphorus, war gases or smoke and incendiary compositions unless these substances contribute significantly to the dominant source of potential harm of the hazard division concerned.

Nuclear Weapons Disposal (NWD). Any EOD operation conducted on nuclear weapons or devices which may disperse radiological contamination.

Permissive, Semi-Permissive and Non-Permissive Operating Environments
The categorization of the operating environment in which EOD operations are undertaken allow for the appropriate planning and resource allocation of security assets as well and the appropriate TTPs to be utilized to mitigate the assessed threat. When assessing the operating environment in this manner, it is always considered in terms of the threat facing the EOD unit and its friendly forces.
Permissive refers to an operational environment, typically in peacetime, where there is support from the local population.
Semi-permissive refers to operations in a potentially hostile environment where the support from the local population cannot be depended upon.
Non-Permissive refers to a hostile environment where both aggressors and unsupportive local population pose a continuous threat.

Physical Stockpile Security Management (PSSM). PSSM involves providing the necessary infrastructure and national capacity in order for States to safely secure and account for weapons and ammunition under Government control.

Recovery Procedures. Those actions taken to recover explosive ordnance or components thereof.

Render Safe. Those courses or modes of action taken by EOD personnel on items of EO which cause such items to be placed in a state of tolerable risk unlikely to cause harm, injury or damage, through the application of special EOD methods and tools to provide for the interruption of functions or separation of essential components thus preventing an unacceptable initiation.

Render Safe Procedures (RSP). The portion of the EOD actions involving the application of special explosive ordnance disposal methods and tools to provide for the interruption of functions or separation of essential components of explosive ordnance to prevent an unacceptable initiation. RSP are incorporated in execution of the devised outline plan developed as a result of the task appreciation and threat assessment for the EOD task faced by an operator in line with the philosophy and principles of EOD.

Route Search. A unit level search capability used in the search of assessed VP & VA along a route for the presence of IEDs. It involves the knowledge & skills to be able to assess a VP or VA & determine how best it should be searched in order to locate & isolate IEDs so they can be rendered safe by IEDD or other suitably qualified personnel or alternatively confirm the absence of IEDs at a given VP or VA. Route search teams (RST) typically consist of five personnel of a team leader and four searchers.

Rummage Search. A physical and visual systematic search of areas and property where the concealment of prohibited items is possible.

Safer Waiting Periods. Safe waiting periods are waiting times which an EOD operator must allow to elapse following positive EOD action, prior to making a manual approach. The times are mandatory and cover both the primary and secondary safe waiting periods.
Note: the term soak times is used in some TCC EOD communities to refer to same things as safe waiting periods.

Search. The capability to locate specific targets using intelligence assessments, systematic procedures and appropriate detection techniques.

Specialist CMD Skills. Any of the following CMD competencies:

- Mixed EO item logistic demolitions >50 Kg NEQ;
- Management of specialist demilitarization activities;
- Ability to plan demilitarization activities;
- Guided weapon system AXO where the missile is fitted in the launcher;
- Intact cluster munitions;
- Disposal DU EO and DU hazards and the clearance of AFV;
- Guided Missiles containing liquid propellant disposal;
- Maritime EO disposal.

Special Forces (SF) / Assault IEDD. *See Assault IEDD.*

Systematic. All search activities regardless of the level they are conducted at are systematic in their nature. The techniques involved are principle based, and the level of assurance provided varies on the level of training and equipment available.

Semi-remote. Those actions where an EOD operator must make an approach towards and/or be in close proximity to the IED, in person to place or fit a weapon or tool. The tool or weapon is then operated remotely. Such actions are part of many of the CMD and IEDD capabilities and does not refer to a standalone capability.

Tactical Cordon & Search. A unit or advanced search capability that is undertaken as part of offensive operations in conjunction with a security element that first secures a cordon around a give target area or location prior to a search element systematically searching for Explosive Hazard threats and or weapons and / or components thereof. Typically, part of an offensive intelligence led operation. The distinction between such operations being undertaken by a unit or advanced team depends on the threat level, the assurance level required, the equipment to be utilized and the operating environment.

Unexploded Explosive Ordnance (UXO). Explosive ordnance which has been primed, fused, armed or otherwise prepared for action, and which has been fired, dropped, launched, projected or placed in such a manner as to constitute a hazard to operations, installations, personnel or material and remains unexploded either by malfunction or design or for any other cause.

Vulnerable Area (VA). Areas where the ground lends itself to IED or SALW attack. Common characteristics of vulnerable areas include:

- Previously used tracks & patrol routes
- Often used positions
- Linear features
- Interior of buildings
- Canalized routes
- Extended long stretches of road
- Tactically important areas
- High ground dominated areas
- Escape routes into and out of areas
- Successive VPs in close proximity
- Exit or entry of areas of urban / rural interfaces

Vulnerable Point (VP). Specific points where it is particularly advantageous for an adversary to position an ambush, using either IEDs, SALW, or both. VP are typically characterized by prominent or restrictive feature or choke point on the ground. Several factors pertaining to enemy capability, intent and ground use will contribute to the vulnerability of a specific point.

Weapons and Ammunition Management (WAM). A system of work and accompanying set of procedures, equipment and basic training for the marking, record keeping, management, distribution and verification of weapons and small arms ammunition in a designated region or geographical area.

Weapons Technical Intelligence (WTI). Intelligence derived from the processes and capabilities that collect, exploit and analyze asymmetric threat weapons systems to enable material sourcing, support to prosecution, force protection and targeting of threat networks.

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