Range Clearance Operations

1. Introduction

Explosive Remnants of War (ERW) are the main hazards posing greater risk to the people of Afghanistan. Current data of civilian accidents shows that over 70% of civ cas are due to ERW. In addition, abandoned ranges contaminated with UXO and AXO (Abandoned Explosive Ordnance) also caused multiple civilian accidents. Therefore, besides battle area clearance, range clearance is also necessary and crucial to be undertaken to reduce civilian casualties in Afghanistan.

Certain Conventional Weapons Convention (CCW) *Protocol V* describes internationally accepted generic measures to reduce civ cas from explosive remnants of war (ERW). CCW Protocol V includes an obligation to clear ERW. ERW is generated from combat operations and such ERW-contaminated areas are described as battle areas. However, ERW is also created by non-operational firing during training or testing and these ERW-contaminated areas are described as ranges. While ERW associated policies and procedures generally exist within military systems, compliance and enforcement would appear to be lax, based on the increasing civ cas challenge associated with international military ranges being reported by United Nations (UN) offices in Afghanistan. A centralized authority with a single consistent and complete document dealing with the ERW-challenge supported by enforcement would address this challenge.

The clearance challenge can be remedied in a straight forward manner. Firstly, international military forces should centrally collect and record the data concerning the ERW-hazard areas, their location, ordnance used and current and future status. Then the MAC, in concert with UN supported Directorate of Mine Action Coordination (DMAC), can prioritize the areas and sequence the clearance of the areas based primarily on the life-safety risk.

2. Scope

This annex forms part of the *Afghanistan Mine Action Standards* and provide a legitimate basis and standard guidelines for range clearance operations.

3. Reference

3.1 Protocol V

CCW Protocol V describes internationally agreed generic remedial measures to be taken to minimise the risks and effects of explosive remnants of war (ERW). Within its technical annexes it describes some voluntary best practices to assist in minimising these risks and effects. Therefore, Protocol V provides a solid basis on which to address the challenges presented by ERW on minefields, ranges[1] and battle areas[2] as below:

3.1.1 Clearance

The most direct and effective measure to reduce the risk from ERW is to remove the hazard. Protocol V addresses the clearance, removal or destruction of ERW by armed forces, whether or not they exercise control over the contaminated territory. Armed forces should mark and clear, remove or destroy ERW in affected territories under their control or facilitate such measures in relation to their ERW in other areas. Areas affected by ERW which are

[1] Range is a generic term used here to include locations where non-operational weapon firing has occurred. It includes firing ranges, test fire pits, EOD disposal areas and jettison and ordnance drop areas. The terms includes all such areas whether they have been formally declared or designated, or whether they are an ad hoc arrangement.

[2] Battle areas are locations where ground combat has occurred or where indirect fire or aerially delivered munitions have impacted.

assessed as posing a serious humanitarian risk shall be accorded priority status for clearance, removal or destruction. DMAC can provide advice on the relative levels of risk caused by different ERW-contaminated hazard areas.

Clearance may be conducted in phases. A surface clearance can significantly and rapidly reduce the civ cas risk. At the same time, data-logging sensors provide spatial and ERW-density data on which to base subsequent clearance decisions. Targeted, deeper clearance shall then be conducted using approved and appropriate detection tools.

As soon as feasible the armed forces should take the following measures in affected territories under their control to reduce the risks posed by ERW:

a) Survey and assess the threat posed by ERW;

b) Risk Reduction Education to neighbouring communities;

c) Assess and prioritise needs and practicability in terms of marking and clearance, removal or destruction;

d) Mark and clear, remove or destroy ERW;

e) Take steps to mobilise resources to carry out these activities.

An area shall not be deemed clear until such time as the DMAC has taken all required quality measures about the clearance of ranges that claimed to be cleared and verified/approved the clearance certificate.

Protocol V also describes the requirement to record, retain and transmit information on the use of explosive ordnance or abandonment of explosive ordnance, to facilitate the rapid marking and clearance, removal or destruction of ERW, risk education and the provision of relevant information to the party in control of the territory and to civilian populations in that territory.

Armed forces which have used or abandoned explosive ordnance which may have become ERW should, without delay and as far as practicable, subject to their legitimate security interests, make available such information to the party or parties in control of the affected area, bilaterally or through a mutual agreement with DMAC or, upon request, to other relevant organisations which will be undertaking risk education and the marking and clearance, removal or destruction of ERW in the affected area.

3.1.2 Information

Techniques for the recording, storage and release of information for Unexploded Ordnance (UXO) and Abandoned Explosive Ordnance (AXO), whether in respect to combat operations or non-operational activities, shall comply with the following:

1) The recording of information:

   a) Regarding explosive ordnance which may have become UXO should include the following information as accurately as possible:

      i. Location of areas targeted using explosive ordnance;

      ii. Approximate number of explosive ordnance used in the areas under (i);

      iii. Type and nature of explosive ordnance used in areas under (i); and

      iv. General location of known and probable UXO.

   b) Where a party has been obliged to abandon explosive ordnance in the course of operations, it should endeavour to leave AXO in a safe and secure manner and record information on this ordnance as follows:

i. Location of AXO;

ii. Approximate amount of AXO at each specific site; and

iii. Types of AXO at each specific site.

2) Where a party has recorded information in accordance with paragraph 1), it should be stored in such a manner as to allow for its retrieval and subsequent release in accordance with paragraph 3).

3) Information recorded and stored by a party in accordance with paragraphs 1) and 2) should, taking into account the security interests and other obligations of the party providing the information, be released in accordance with the following provisions:

a) On UXO the released information should contain details on the:

i. General location of known and probable UXO;

ii. Types and approximate number of explosive ordnance used in the targeted areas;

iii. Method of identifying the explosive ordnance including colour, size and shape and other relevant markings; and

iv. Method for safe disposal of the explosive ordnance.

b) On AXO the released information should contain details on the:

i. Location of the AXO;

ii. Approximate number of AXO at each specific site;

iii. Types of AXO at each specific site;

iv. Method of identifying the AXO, including colour, size and shape;

v. Information on type and methods of packing for AXO, if required;

vi. State of readiness; and

vii. Location and nature of any booby traps known to be present in the area of AXO.

The information should be released to the party or parties in control of the affected territory, particularly GIRoA, and to those persons or institutions that the releasing State is satisfied are, or will be, involved in UXO or AXO clearance in the affected area and in the education of the civilian population on the risks of UXO or AXO. The release of information should be performed via DMAC, and the information entered into the Information Management System for Mine Action (IMSMA). The information should be released as soon as possible, taking into account such matters as any ongoing military and humanitarian operations in the affected areas, the availability and reliability of information and relevant security issues.

3.1.3 Other Precautions

Other precautions for the protection of the civilian population, individual civilians and civilian objects from the risks and effects of ERW shall also be considered. Armed forces are required to take all feasible precautions in the territory under their control affected by ERW to protect the civilian population, individual civilians and civilian objects from the risks and effects of ERW. Feasible precautions are those precautions which are practically possible, taking into account all circumstances ruling at the time, including humanitarian and military considerations. These precautions may include warnings[3], risk education to the civilian

[3] Warnings are the punctual provision of cautionary information to the civilian population, intended to minimise risks caused by ERW in affected territories.

population and the marking, fencing and monitoring of territory affected by ERW. Risk education to the civilian population should consist of risk education programmes to facilitate information exchange between affected communities, government authorities and humanitarian organisations so that affected communities are informed about the threat from ERW. Risk education programmes are usually a long term activity.

Best practice elements of warnings and risk education include:

a) All programmes of warnings and risk education should, where possible, take into account prevailing national and international standards.

b) Warnings and risk education should be provided to the affected civilian population which comprises civilians living in or around areas containing ERW and civilians who transit such areas.

c) Warnings should be given, as soon as possible, depending on the context and the information available. A risk education programme should replace a warnings programme as soon as possible. Warnings and risk education always should be provided to the affected communities at the earliest possible time.

d) Parties to a conflict should employ third parties such as national and international organisations and nongovernmental organisations when they do not have the resources and skills to deliver efficient risk education.

e) Parties to a conflict should, if possible, provide additional resources for warnings and risk education. Such items might include: provision of logistical support, production of risk education materials, financial support and general cartographic information.

Best practice for the marking, fencing, and monitoring of an ERW affected area include:

a) When possible, at any time during the course of a conflict and thereafter, where ERW exist the armed forces should, at the earliest possible time and to the maximum extent possible, ensure that areas containing ERW are marked, fenced and monitored so as to ensure the effective exclusion of civilians, in accordance with the following provisions.

b) Warning signs based on methods of marking recognised by the affected community should be utilised in the marking of suspected hazardous areas. Signs and other hazardous area boundary markers should as far as possible be visible, legible, durable and resistant to environmental effects and should clearly identify which side of the marked boundary is considered to be within the ERW affected area and which side is considered to be safe. Over 20 years of humanitarian demining experience in Afghanistan has shown that the most effective and reliable method of marking hazard areas is to use painted rocks in accordance with the Afghanistan Mine Action Standards (AMAS 05.03).

c) An appropriate structure should be put in place with responsibility for the monitoring and maintenance of permanent and temporary marking systems, integrated with national and local risk education programmes.

3.1.4 Existing Explosive Remnants of War:

Assistance with respect to existing ERW is also addressed in Protocol V. Each High Contracting Party has the right to seek and receive assistance, where appropriate, from other entities in dealing with the problems posed by existing ERW. High Contracting Parties

shall also take into account the humanitarian objectives of Protocol V, as well as the relevant international standards[4].

3.1.5 Co-operation and Assistance.

Each High Contracting Party should provide assistance for the marking and clearance, removal or destruction of ERW and for risk education to civilian populations and related activities through a suitable entity or on a bilateral basis. Similarly, they should provide assistance for the care and rehabilitation and social and economic reintegration of victims of ERW through a suitable entity or on a bilateral basis. They should also contribute to trust funds within the United Nations system, as well as other relevant trust funds, to facilitate the provision of assistance under Protocol V.

Each High Contracting Party shall have the right to participate in the fullest possible exchange of equipment, material and scientific and technological information other than weapons related technology, necessary for the implementation of Protocol V. High Contracting Parties undertake to facilitate such exchanges in accordance with national legislation and shall not impose undue restrictions on the provision of clearance equipment and related technological information for humanitarian purposes.

Each High Contracting Party undertakes to provide information to the relevant databases on mine action established within the United Nations system, especially information concerning various means and technologies of clearance of ERW, lists of experts, expert agencies or national points of contact on clearance of ERW and, on a voluntary basis, technical information on relevant types of explosive ordnance.

4. Clearance Requirements

The surface clearance operations in the ranges should be undertaken the same as BAC operations, but at least the command group of range clearance teams shall be EOD level 3 qualified.

For sub-surface range clearance operations, the clearance organizations shall consider the followings requirements:

1) A comprehensive risk assessment of the range areas prior to the clearance commences, to:

    a) Identify the locations of firing post and firing targets;

    b) Identify the types and calibres of items used;

    c) Find out the craters of explosions around the firing targets;

    d) Identify the nature and type of the ground in terms of its hardness and softness;

    e) Assess the area if it is a flat ground or any water passage or a valley, where the possibility of wash down hazardous items and also extra soil and gravel accumulation can be assumed and ascertained;

    f) Identify the possible depth of item in the ground; and

[4] As the Russian Federation ratified Protocol V on 21 July 2008 there is scope to request their support.

g) Estimate the possible radius of sub-surface contamination around the targets.

2) Assess the intended use of land and also the number of communities in vicinity of the abandoned ranges;

3) Liaise with communities and local authorities and inform them about the purpose of operations;

4) Make sure that the qualified EOD level 3 operators as minimum two operators per each section are deployed in range clearance teams;

5) Make sure that the detection tools are capable of detecting targets in identified and estimated clearance depth; and

6) Make sure that the required medical support is provided to firing range clearance teams as per AMAS 07.03.

Once all above mentioned requirements have been met, a comprehensive clearance plan shall be developed by site operations officers and shared with DMAC RO and then the clearance team should be deployed for clearance operations. All the found items shall be dealt with as per the requirements of AMAS 06.07 for demolition of mine and ERW.

Range clearance operations may be conducted in phases, the surface clearance can significantly and rapidly reduce the civ cas risk. At the same time, data-logging sensors can be used to collect spatial and ERW-density data from the ground to base subsequent clearance decisions. Targeted, deeper clearance shall then be conducted using approved and appropriate detection tools to accurately locate each single item as investigated by data logging machine.

5. Mitigation Strategies

All military forces need to urgently address the associated challenges of CCW Protocol V compliance, ERW clearance and civ cas on current and former ranges. Of critical importance is the need to appoint a single authority within their structure to supervise, monitor, enforce and report on ERW clearance activities, including the collection of baseline data. Their policy related to ERW and range clearances needs to be consolidated and compliance enforced.

An urgent need exists to collect, collate and analyse data on ERW contaminated areas, especially battle areas and ranges. Priority should be given to those ranges already closed and where civ cas have been recorded. The data and its analysis shall provide the following information on each contaminated area:

a) The location and extent of the area, including range danger areas (also known as surface danger zones);

b) Spatial distribution of ERW within the area;

c) TCN(s^i) that may be responsible for ERW;

d) Any dud-producing[5] weapons and ordnance used;

e) The current status of the area, for ranges this may be open, closed and transferred to GIRoA, as a range, cleared (and by who and to what standard); and

f) Future use, this should also consider likely future changes to use or occupancy.

[5] 23mm cartridges are considered the smallest dud-producing ordnance relevant to clearance in Afghanistan.

The adequacy of the marking of ERW contamination should be assessed, and remediated as required, immediately. AMAS 05.03 provide guidance on acceptable marking systems. Similarly, warning and risk education measures shall be introduced, or reinforced, immediately, possibly through existing UN initiatives.

Clearance operations need to be conducted in a sequence that addresses the most pressing life safety hazards. Ongoing cooperation between DMAC and the MAC can enable a suitable task sequencing methodology. Clearance requests from TCNs should continue to be coordinated through and directed by the MAC in accordance with established policies.

Clearance should be conducted in phases. A surface clearance will significantly and rapidly reduce the civ cas risk associated with ERW. At the same time, data-logging sensors should be used to collect spatial and ERW-density data on which to base subsequent clearance decisions. Targeted, deeper clearance should then be conducted. Finally, the area may undergo QA by DMAC and a clearance certificate verified and approved.

Clearance standards and certification of cleared areas should remain the purview of DMAC and should provide the basis on which compliance with CCW Protocol V is measured. DMAC approved clearance certificates should be an essential element of any transfer documentation, demonstrating compliance and simplifying the transfer of liability associated with ERW.

6. Quality Management

DMAC shall first make sure that the mine action organizations contracted for range clearance are accredited by the DMAC, and their internal Quality Management System is established, prior to commence range clearance operations in Afghanistan.

DMAC may have difficulty meeting the QA and certification burden generated by range clearance operators, and if these processes need to remain robust and creditable then DMAC may require targeted funding support.

Mine Action organizations and or any relevant entities involved in range clearance operations, shall develop and establish their QM system to ensure the quality and credibility of range clearance operations and to release the safe land back to the communities and beneficiaries.

7. Recording & Reporting

All the mine action activities and operations undertaking in Afghanistan are subject to recording and reporting as per the requirements of Afghanistan Mine Action Standards. As such, the ranges related survey and clearance activities shall be recorded and reported to DMAC for entry to national database (IMSMA). The IMSMA standard formats for survey and clearance should be used by the contractors. The standard task numbering system shall be followed as used for minefields and battlefields clearance. The only difference should be considered is the two digits code of “RC” for range clearance tasks, for example: AF/0101/12345/RC 001.

8. Liability

The liability requirements are covered in AMAS 05.01 for land release, the same requirements are applicable in range clearance as well.

[i] TCN(s) means Third Country National