

Section Six: Explosive Ordnance Disposal

INTRODUCTION

6.1 The disposal of mines and UXOs as part of the clearance task, as well as the authorization to undertake such tasks must be clearly defined in SOPs. Simple demolition tasks, such as the disposal of single mines, small items of ordnance, small mortars, grenades, should be undertaken by team leaders and supervisors of demining teams.

6.2 Specialist EOD work, consisting of bulk demolition tasks or the disposal of large or unusual items of ordnance, must be undertaken by specially trained and qualified personnel. Should large tasks or unusual items of ordnance need to be disposed of, or the destruction of munitions containing toxic material, special advice should be sought from a competent authority.

SCOPE

6.3 This document addresses the identification, removal and destruction of commonly found munitions in areas where humanitarian mine and UXO clearance is being undertaken. It should be read in conjunction with the standards for Safety, Training and Qualifications, Mine Clearance and other technical documents.

PURPOSE

6.4 The purpose of this document is to establish standards for the identification, removal where necessary, and disposal of all items of ordnance found in mine and UXO clearance activities.

GENERAL DISPOSAL METHODS

6.5 This section deals with disposal methods for items of explosive ordnance.

6.6 There are four methods for the disposal of munitions. The selected method will be dependent on the explosive content of the munition. The methods are:

a) **Detonation**, which includes the act of disruption. Mainly used with high-explosives (HE) and white phosphorus (WP) filled items, but small quantities of other items, such as smoke and pyrotechnics, can also be disposed of by their inclusion in mixed demolition shots during large-scale demolitions.

b) **Burning**, a method used with propellant, both bagged and loose, smoke and pyrotechnic items. It can also be used for certain explosives, such as CE, TNT and nitroglycerine (NG), however detonation is the preferred method.

c) **Incineration**, a specialised form of burning for certain items which contain a minimal amount of explosive content.

d) **Render Safe Procedures (RSP)**. The rendering safe and/or dismantling of a munition is used so that the munition can be removed and the explosive elements destroyed.

6.7 This document only deals with destruction by detonation and burning (para 6.6a and b) since it is assumed that the capability for specialised incineration will not be readily available in countries where humanitarian demining operations are being conducted. RSP procedures are only to be used in special circumstances and are not covered in this document.

DISPOSAL OPTIONS

6.8 There are six main options for the disposal of munitions in both the urban and rural environments, they are:

- a) Removal to a central demolition and disposal site;
- b) Blow in situ;
- c) Blow in situ using protective works;
- d) Render safe procedures then removal to a central site for destruction;
- e) Low-order techniques (cutting or deflagration techniques);
- f) Disruption.

LEVELS FOR THE DESTRUCTION OF MUNITIONS

6.9 The destruction of munitions is categorised in four separate levels:

a) The destruction of single mines or items of ordnance in situ such as mortars or shells up to 160 mm may be conducted by personnel with the relevant UN approved or nationally recognised qualifications and experience. All personnel must attend an in-country familiarisation course.

b) Bulk ordnance disposal tasks which may consist of one or more types of munitions may be conducted by specialists who hold the appropriate UN approved or nationally recognised qualifications and experience.

c) Disposal of specialist items such as booby traps, large size ordnance (over 160 mm), missiles, rockets and bombs may be conducted by specialists who hold the appropriate UN approved or nationally recognised qualifications and have experience in bulk disposal tasks.

d) Disposal of munitions that contain a toxic element may be conducted by personnel who hold the appropriate UN approved or nationally recognised qualifications and have experience in this type of work.

TRAINING AND QUALIFICATIONS

6.10 The necessary training and qualifications required for the control and supervision of the various levels of the destruction of munitions, outlined in paragraph 6.6 are explained in Section Two - Training and Qualifications, paragraph 2.6, 2.7 and 2.8.

AUTHORISATION TO CONDUCT DEMOLITION/DISPOSAL WORK

6.11 All personnel involved in the disposal of munitions must be authorised, in accordance with the national regulations where they exist or by the Mine Action Centre, to conduct demolition tasks based on their qualifications and experience.

DEMOLITION/DISPOSAL METHODS, TECHNIQUES AND SIZE

6.12 The demolition and disposal techniques, methods and quantities of explosives to be used must be stipulated in the SOPs.

DANGER AREA REDUCTION

6.13 Many items of UXOs cannot be moved for safety reasons and must be destroyed in situ. It is therefore necessary for preventative measures to be taken to reduce damage to the surrounding infrastructure by containing fragmentation and explosive blast effects. The methods, damage limitation techniques, protective works, estimates for the material requirements and methods of use should be detailed in the SOPs.

SAFETY PROCEDURES

RENDER SAFE PROCEDURES

6.14 Most mines and munitions have Render Safe Procedures (RSP) to conduct neutralisation and/or disarming drills of the fuze mechanism. The preferred procedure is to destroy all items in situ. There will be occasions when items will have to be moved. In this case, the recommended RSP, equipment and authorisation for each munition must be available and stipulated in an authorised SOP document.

6.15 EOD tasks that require the use of RSPs should only be undertaken by trained, qualified, and authorised personnel with the appropriate equipment.

DEMOLITION SAFETY PROCEDURES

6.16 Demolition safety procedures are explained in Annex B to Section One.

COORDINATION AND CONTROL

6.17 Demolition tasks must be planned with the local and national authorities. If no suitable national regulations exist UN standards must be applied.

6.18 The demolition tasks must be conducted in strict accordance with the sequence detailed in the SOP which must state the coordination function, site layout, explosive charge limits, methods for disposal to the relevant level of destruction, use of sentries or cordons and safety procedures. A qualified person must be responsible for the coordination, control and execution of the task.

MEDICAL SUPPORT

6.19 See Section Seven - Medical, for detail.