

14. DEMOLITION OF MINES AND UNEXPLODED ORDNANCE (UXO)

1. General

All mines/UXOs will be destroyed in situ using explosives, unless the on-site circumstances dictate removal. Demolitions on site will be conducted as soon as possible, at the end of working day or at a prescribed time.

2. Coordination and control

Authorization for all demolitions is to be coordinated by ANAMA HQ and mine clearance organizations.

Mine clearing organizations (Regional Offices) are to inform ANAMA HQ of any impending demolitions. This procedure should be carried out on weekly bases and are to include all planned demolitions for the coming week.

All clearance Team Leaders must have an approved qualification in demolitions. The Supervisor is ultimately responsible for safety, coordination and control of all demolition activities. This is to include the following:

- a) Selection and clearance of the demolition area;
- b) Handling of explosives;
- c) Testing of safety fuse and electrical cable;
- d) Preparation and placement of all explosive charges;
- e) Maintaining standards in accordance with safety regulations (including the coordination and control of sentries);
- f) Informing his organization (Regional Office) local authorities, military establishments, police stations and surrounding residences of the demolition;
- g) Control of the firing;
- h) Clearance of the demolition area after detonation of charges;
- i) Handling misfires and malfunctions;
- j) Forward of NOTAMs.

3. Conduct of demolitions

Demolitions are conducted in the following sequence:

- a) Identify target;
- b) Plan cordons, brief sentries and inform local people;
- c) Deploy the sentries and establish a safety cordon (when required);
- d) Prepare demolition charge and accessories;
- e) Place charges;
- f) Warn sentries and local people that a demolition is about to occur;
- g) Fix detonators and retirees to firing point;
- h) Observe area;

- i) When given the all clear by sentries, initiate the demolition;
- j) All personnel should look up and observe the demolition;
- k) Check demolition for total deflagration;
- l) Lift cordon.

4. Sentries

Sentries are important for the safety of demolition operations. They should be positioned at every possible entry point and ensure that dangerous areas are free from people, cattle and vehicles. Sentries will be carefully briefed about their duties, in particular about warnings and stand-down instructions. They are to be equipped with red warning flags (when applicable) and adequate communications to reach the Team Leader. If radios are to be used, they must not interfere with firing procedures and will be tested before the sentries are posted. If people /cattle / vehicle enter into the demolition site, actions are to be taken. If an accident/explosion occurs, procedures, detailed in relevant SOPs, must be followed.

5. Charges and placement

If mines/UXOs are buried, only the minimum amount of soil is to be removed to create access to the mine/UXO. The demolition explosive charge must be placed as close as possible, without touching the mine/UXO.

All explosive charges, used for the destruction of mines/UXOs in situ, are to be calculated to be of sufficient quantity to ensure complete destruction. The type, age and origin of used explosives may dictate the size of charge.

Ensure that shock-wave transmission is directed to the main charge of the mine/UXO, and also the charge is placed in such way to guarantee fragments are blown away from vulnerable areas. Whenever possible, use sandbags to minimize the spread of fragmentation, placing at least one sandbag adjacent to the mine/UXO on the side opposite to the charge.

6. Firing of demolitions

Non-electrical initiation will always be the primary method of firing explosive demolitions inside the working site (minefield or Battle Area). Electrical initiation will always be the primary method of firing explosive demolitions inside the residential area and where situation dictates the application of this procedure.

7. Safety

The following minimum safety rules will be observed during demolitions:

- a) The minimum number (2 men, one of which will supervise the work of another) of persons will be employed in the preparation of the charges;
- b) Smoking is prohibited during demolition works;
- c) A qualified person must be appointed by the Team Leader to be in charge of explosives and accessories at the site. He is to keep a record of issued explosives and quantify of explosives, returned after the demolition;
- d) In case of a misfire, wait ten (10) minutes for electrical misfire and thirty (30) minutes for non-electrical. After the appropriate time, the Team Leader/Supervisor will approach the

demolition pits and place a fresh charge/charges wherever explosive item still remains. Those explosive remains must never be touched;

e) Detonators are to be treated with care and always kept separately from explosives (including detonating cord). Storage and transport of detonators are contained in a separate chapter of these standards. Detonators must not be left unattended at any time. This is to include before and after attachment to detonating cord or safety fuse, pending attachment or insertion into a charge. Detonators are never to be bared or tamped;

f) If non-electric detonators are being used they must be crimped with specifically designed crimping pliers under the direct guidance of the Team Leader;

g) Detonating cord is an explosive and should be treated as such;

h) Safety fuse (SF) must be treated with care and protected from ingress of water and dampness at all times. When safety fuse is to be used, the first 30cm are to be cut off and discarded from each reel, and the second 30cm tested for the correct burning time (usually 27-33 seconds). It is cut from the reel immediately before use. Minimum length of two (2) meters will be used. The last 30cm of any reel must be discarded;

i) Electric firing cable must be a minimum of 500 meters in length, two-strand insulated cable, ideally twisted, with a resistance of 8 to 10 ohms. It will always be tested for continuity and discontinuity before use;

j) To determine the minimum safety distance, add the explosive weight of the item being destroyed and the demolition charge. The safety distance can be reduced by using sandbags . Minimum safety distances must always be carefully determined;

k) After demolitions, the Team Leader or Supervisor will go forward to check if the demolitions have fired correctly, and only after this he can give "ALL CLEAR" command. The details of how the demolition inspection should be carried out are to be formulated in SOPs.