

15. EXPLOSIVE ORDNANCE DISPOSAL (EOD)

1. General

Explosive Ordnance Disposal (EOD) is the detection, identification, rendering safe, recovery and final disposal of Unexploded Ordnance (UXO), which has become hazardous by damage or deterioration.

Procedures are contained in the relevant SOP.

2. Definitions

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

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 property or personnel and remains unexploded either by malfunction or design or for any other cause.

Explosive: An explosive is a chemical composition with its own oxygen bearer, which when initiated by heat, shock or friction, will produce an exothermic reaction together with considerable energy in the form of heat, pressure, light and sound. The term *explosives* are used throughout these standards to include all items that contain any explosive substance.

Detonation: Detonation is the act of disruption. Its medium being a shock, heat, etc. administered to a very sensitive explosive, which in turn disrupts a high or low explosive.

Burning: A method of disposal used to destroy propellant, loose or bagged charges, smoke and pyrotechnics items.

Render Safe Procedures (RSP): The Render Safe Procedures (RSP) are the required actions that enable the operator to neutralize and/or disarm mines and items of ordnance.

3. Safety

Safety procedures are contained in a separate chapter of these standards.

4. EOD organization

Explosive Ordnance Disposal operations will only be carried out by a fully trained EOD team. The minimum composition of an EOD team must be:

- 1 Team Leader/ EOD Operator;
- 1 EOD Operator;
- 1 Driver;
- 1 Paramedic.

5. Training

There are three levels of training leading to an EOD qualification:

- Level 1. Basic demolition procedures for destruction;
- Level 2. Development of Team Leaders and Supervisors destruction skills;
- Level 3. EOD Operator.

6. Qualifications and Responsibility

EOD Team Leaders and EOD Operators must be fully trained to Level 3 standards, with training from an approved course recognized by the ANAMA.

All members of the EOD team are responsible for safety. A safe and efficient team should be well-trained and disciplined. Team leaders are to supervise activities closely in order to control procedures and monitor safety. All EOD team members are to be aware of their responsibility for each other.

7. Authorization to conduct demolition/disposal work

Only Explosive Ordnance Disposal EOD qualified personnel are to dispose munitions or UXO, based on their qualification and experience. EOD personnel must be authorized in accordance with ANAMA regulations.

Only a qualified EOD Supervisor/Team Leader with a recognized Level 3 training is to conduct disposal of the following munitions and UXO:

- Booby traps;
- Large size ordnance (over 160 mm in diameter);
- Missiles;
- Rockets;
- Bombs;
- Bulk ordnance disposal, which includes more than one type of munitions;
- Disposal of munitions that contain or are suspected to contain a toxic element.

Personnel with Level 1 and/or Level 2 training may conduct demolition of only the following items:

- Single mines, in a main line or firing circuit;
- Mortars or Shells in situ up to, 160 mm in diameter;
- Multiple demolition of assorted UXO.

8. Technical standards

All UXOs will be blown in situ and will not be neutralized or disarmed, except in the following circumstances:

- When loss of life or injury is possible;
- Where there is a risk of serious damage to infrastructure and/or private property that cannot be reduced to an acceptable level by appropriate and reasonable measures.

All demolitions will use non-electric means of initiation, except in circumstances when safety requires electrical initiation. In such cases the danger of Electro Magnetic Radiation (EMR) should be considered.

The removal of ammunition or any part of ammunition from the field for any reason other than final disposal is strictly forbidden, except for the authorized production of essential training aids, which are not available from other sources. Authority for this activity will only be provided from the ANAMA HQ. Movement of any UXO from a task site is the responsibility of the EOD Team Leader. When circumstances require and UXOs are to be moved, they will be pulled remotely first and after two minutes of a soak-time they can be moved. Soak-times are detailed in the relevant SOP.

In order to prevent unnecessary movement of items in vehicles, the use of sandbags should always be considered when transporting items of UXO from a site.

All EOD equipment is to be in accordance with IMAS.

ANAMA will coordinate with Agencies prioritization of tasking and planning of EOD team deployment. EOD teams will be formally tasked in writing. Full details of EOD Planning and Tasking are to be detailed in the relevant SOP.

The disposal of UXO is to be carried out in a safe way, using protective works whenever required. EOD teams must at all times prevent structural damage to infrastructure and protect the lives of people and livestock. Full details of the activities carried out during Explosive Ordnance Disposal are to be detailed in the relevant SOP.

EOD teams are always to inform authorities, such as local police and military units and the Civil Aviation Authority of Azerbaijan by forwarding a NOTAM before commencement of an operation or demolition. Evacuation of civilians and road closure is the responsibility of the EOD team, but will be implemented by the local authorities.

9. Logistic support

Communication. EOD teams are to be equipped with radio communication equipment to maintain contact with each other and the Base Camp (Regional Office).

Medical. All EOD Team members are to be trained in first aid. A Paramedic will be attached to the EOD team during operations, and have a special vehicle nominated as an ambulance. The Paramedic will be equipped with a comprehensive medical kit to sustain a traumatic casualty for one hour.

10. EOD log

The Base Camp (Regional Offices) is to maintain an EOD log, which is to contain information of all EOD operations and their exact location. The log must include information of found items, their number and disposal method.

11. Report

All discoveries of new munitions must be reported with a new device report in accordance with the relevant SOP.

12. EOD Hazard and Protection

The EOD team must always realize the possible danger, when working with UXOs, and should always foresee/analyze the possible effects of its action. The following sub paragraphs must be addressed in SOP:

a) HE

High Explosives produce heat, light, sound and pressure (shock wave and blast) that can damage personnel, live stock, surrounding infrastructure and vehicles. Blast will accelerate surrounding sand, stones and other materials;

b) Fragments

Parts of the casing, that are produced during detonation or deflagration, can be projected with speeds up to 2000 m/sec (7.200 km/hr). Structures close to the UXO, but not in direct contact with it, will also produce fragments. These types of fragments are called "secondary fragments";

c) White Phosphorus (WP)

WP will start to burn if exposed to air. In order to stop its burning, submerge it in water. When disposing of WP-filled ammunition, there is a possibility that it could be projected from the demolition pit. WP covered by soil will ignite again, if exposed to air. WP smoke emissions are toxic to humans and animals;

d) Movement

Any unnecessary disturbances of a UXO may cause it to function;

e) Piezo Element

A crystalline material that is present in many explosive compounds, which can produce a chemical reaction, causing ignition and setting off the explosive train, when stressed;

f) Jet

Supersonic stream of hot gases and fluid metal in the central line of a detonating shaped charge;

g) Booby trap

A device that is designed meant to kill or wound someone, when a harmless looking item is moved or a presumed safe action is carried out. Until proven otherwise, suspect all mines, UXOs and unknown items to be booby-trapped.

A booby trap does not necessarily have to contain an explosive device.;

h) Spring Loaded

A striker or other part of an ignition system, which is detained under pressure by a spring. When the spring is aloud to expand the striker is released, and will impact a fusing mechanism;

i) Time

Consideration must be given to certain devices that incorporate a time fusing mechanism;

j) Ejection

Consideration must be given to certain devices that incorporate ejection systems, such as bounding fragmentation mines, smoke pots, illuminating pots, sub-munitions, rocket motors or any other kind of explosive payload;

k) Static Electricity

Electricity, which is produced when certain materials are coming in contact with each other, may cause Electro-Explosive-Devices (EED) to function through a discharge of the static electricity;

l) Electro Magnetic Radiation (EMR).

Electric magnetic energy that is produced by electric current, which flows through wires, radio waves (radio frequency hazard), radar, etc., and can cause Electro-Explosive-Devices (EED) to function;

m) Rocket motor.

During disposal of unfired rockets, precautions are to be taken to dispose both the motor and its warhead.