

## CHAPTER 6

**AREA CLEARANCE AND ROBOTICS****Section I****Area Clearance****DEFINITION**

Area clearance deals with transportation accidents, ammo plant accidents, and accidents at a storage facility. These accidents can happen during war or OOTW. When area clearance is required, EOD may be tasked to return the accident site to a safe condition. These accidents may require the team leader to work and coordinate with local authorities, civilian transportation authorities, the EPA, and other federal agencies.

**PLANNING CONSIDERATIONS**

Upon receiving an area-clearing tasking, EOD personnel need to take a number of factors into consideration. Regardless of the type of incident/accident they are responding to, EOD personnel need to consider the following:

- **Number of Teams.** Will a single EOD team be enough or will a forward CP and WPs be needed? Follow-on EOD response may be needed for additional support.
- **Transportation.** Select the best mode of transportation. An MOU between the military post and the EOD unit for air support, if needed, should expedite arrival at the incident/accident site.
- **Publications.** Determine which publications will be needed. Make sure they will be available.
- **Equipment.** Does everyone have the personal equipment and response kits needed for the initial response? Follow-on response can transport more equipment. Done this way, the initial response team is in transit more rapidly.
- **Explosives.** How much will be necessary? The amount taken will depend upon the incident.

- **Public Affairs.** Is the press likely to be at the site? If so, contact the PAO. He or she may want to send a representative.

- **Communications.** Are concerned parties communicating with each other? The initial response team, and subsequent EOD teams on-site, need to communicate with higher headquarters regularly.

Once the initial response team arrives at the accident/incident site, it needs to coordinate with the area commander or civilian authorities on the following:

- **Priorities.** What needs to be done and in what order? For example, remove the wounded and fatalities, act to prevent loss of life and property damage, and remove hazardous munitions or explosives.
- **Area Security.** What needs to be done to prevent further loss of life or injury? To secure publications, explosives, and procedures?
- **Medical Support.** What is needed?
- **Fire Fighting Support.** Will fire fighting support be needed?
- **Other.** What else is needed? Is there a need for heavy equipment, access equipment protective works, or communications?

Transportation accidents/incidents may present additional hazards normally not associated with an EOD incident. Fuels, battery acids, and electrical components are all hazards that should be factored into the plan of attack.

Ammo plant and storage facilities may present additional factors or hazards that need to be considered. Explosive dusts, high voltages, high-pressure bottles, gases, chemicals, hydraulic lines, and security and fire systems are some of the hazards or factors that may need to be considered in the plan of attack.

## RESPONSE PROCEDURES

When involved in an area-clearing operation, EOD teams should first perform a hasty recon. Guidance from the area commander and the situation itself will dictate how immediate hazards are to be minimized and how any wounded or fatalities are handled. A good overall view of the down-range situation is needed for further planning.

Accident investigators may want the incident site left basically "as is." If so, EOD may be asked to guide the investigators downrange. Make sure hazards have been minimized to a point that investigators can safely go downrange. EOD helps the investigators and supplies them with information.

After the hasty recon is finished, the RCP supervisor formulates the overall plan of attack. The senior EOD representative briefs the area commander on the situation downrange, types and numbers of munitions, and how best to conduct the clearance. The area commander (with input from EOD, police, investigators, and other sources) decides the priorities. The plan of attack should include a systematic way of

prioritizing the munitions and how they are to be dealt with. Other factors that may need to be included are:

- Adjustment and readjustment of exclusion area as necessary.
- Safe holding area site.
- Safe disposal site.
- Transportation of munitions to holding or disposal sites.
- Transportation of personnel.
- Sleeping and messing arrangements for personnel.
- Custodian of accident site and munitions.
- Security of tools and equipment restricted publications, and explosives.

Once the RCP supervisor determines that there is no longer a hazard on site, the senior EOD representative notifies the area commander, military representative, higher headquarters, and the on-site civilian authorities.

## Section II

### ROBOTICS

#### REMOTE ATTACK PHILOSOPHY

Life is irreplaceable. When planning an attack upon an IED or UXO, there is one overriding consideration. Simply stated: **Except when faced with a Category A incident, the safety of the EOD soldier is the first consideration. In all categories of incidents, the first aim will be remote neutralization.**

Robotic systems minimize the exposure of the EOD soldier to IEDs and UXO. Use them as much as possible when performing remote recon and render safe fictions. A well-trained operator and good questioning techniques are the keys to the successful employment of EOD robotic systems. Use robotics as the tool of first choice.

EOD robotic systems have explosively actuated tools (semiautomatic disrupter; .50 caliber dearmer) and the ability to place explosive charges. Attach a clearly

visible red streamer to an antenna or other fixture when the EOD robotic system is configured with explosively actuated tools.

When use of robotic systems is not possible, EOD soldiers use body armor to the maximum extent. The team leader may determine, under extreme circumstances, that the level of body armor be downgraded. Extreme circumstances include: handicaps that make continued wear inherently dangerous (fogging face shield, for example) or an IED that is inaccessible while wearing the body armor. Regardless of the incident or the size of the ordnance, EOD teams must wear, as a minimum flack vest helmets, and eye protection until all dangers are neutralized or eliminated.

#### ASSESSMENT TECHNIQUES

EOD response team success in dealing with an IED or UXO will depend on an accurate and logical

assessment of the situation. This requires the EOD team leader to do the following:

- Extract all information from all sources at the scene. Good questioning techniques will be useful here.
- Make a realistic assessment of the result if the IED or UXO was to function.
- Ask valid questions that will help him decide if the NP can be remotely accomplished and that will serve to reduce personnel risk to the absolute minimum.

## QUESTIONING TECHNIQUES

Interview witnesses individually because people tend to conform to the group. Above all, be firm and friendly and show no hostility. Do not ask questions until the witness finishes his story. Fully exploit each answer. Ask direct questions, but do not ask questions that may make the witness withhold information.

Answers and statements do not always provide all the information EOD needs. The EOD team leader must determine what other information is required. He must then ask the appropriate questions to get that information.

The team leader will probably need to ask many questions to get all relevant information. Thus, it is always in the EOD soldier's interest to develop a good questioning technique. As a minimum, ask the following questions:

- Where is the item?
- What is it?
- When was it placed thrown, dropped, launched, or projected?
- Why was it placed, throw dropped, launched or projected?
- Was anything seen or heard?

Each of these lines of questioning is more fully developed below.

**Where is the item?** It is not unusual for deployed security forces to be too close to the device. For this reason, "Where is it?" is the first question asked. This will allow the security cordon to be moved back if

necessary. The general location may already be firmly established before EOD arrives at the scene. However, in certain circumstances the precise location of the device may be required so that the EOD soldier can determine if robotics can be used (are doorways wide enough, are there any steps to negotiate?). The precise location is required in a manual approach, too, so that the least time is spent searching. A useful way to pinpoint the precise location is to have a diagram drawn and have it confirmed in detail during independent questioning of witnesses.

A subsequent, related question should be: "Has anyone been up to and returned from the device?" If so, they have inadvertently established cleared paths for EOD to use. If the answer is yes, did they notice anything unusual on the path taken (wires, boxes, disturbed ground, bomb fins, baseball-sized objects, or dead animals)? It may also be necessary to find out the position of the device. Is it near any material that is toxic, flammable, or of a chemical nature (petroleum oil, lubricants, fertilizers, or hazardous waste)? If it is, this material may add to the effect of the device should it function.

**What is it?** Specific evacuation action often depends on the device's size and the amount of explosives present. Witnesses may be able to tell what the device is constructed of. This may also help you select the EOD tools to use.

**When was it placed, thrown, dropped, launched, or projected?** The EOD team leader may wish to base the waiting time on this information. If he cannot accurately establish the true time of the IED placement or the impact of the UXO, the EOD team leader must begin the waiting period from when the security forces got on site and can guarantee that no one since has tampered with the device. If security forces have no input, use the time the EOD team was notified or arrived at the incident site.

**Why was it placed, thrown, dropped, launched, or projected?** The answer to this question may indicate the source of the device. If it is an IED, it may indicate the method of operation and degree of sophistication used in the construction of the device. If the item is a UXO, the answer may indicate the country of origin, the method of delivery, or if the UXO is a practice device or explosively filled and fuzed. The reason for targeting (why) may indicate the IED's likely method of operation. Remember though, the IED may be a trap

with the real target being the EOD response team. Inspect the safe area for the possibility of a secondary device.

**Was anything seen or heard?** Witnesses to IED placement or UXO impact may be able to give an account of what was seen and heard. Remember, however, eyewitness accounts are not always reliable.

Witness accounts can often aid the EOD team leader in deducing what type of fuzng is in the IED. For example, an account that a terrorist left the room and was away for a few minutes could indicate that the terrorist placed another device somewhere in the building in addition to the device placed where the witnesses stated. Often in this situation the terrorist gives only a warning without specifics. In this case, the security forces would enter the building after the first device functions to investigate. They are at risk because there may be a second, unreported device.

Witness accounts of military aircraft crashes and surface transportation accidents (including overturned

trucks and derailed trains) can help the EOD team leader reduce or eliminate the hazards.

## LIMITATIONS

Robotic systems of EOD application promise capabilities never before imagined. Systems designed specifically for the EOD mission have proliferated in the marketplace. Unfortunately, most have limited capabilities that restrict them to peacetime scenarios. No currently available commercial robotic system is battlefield-capable. The first EOD robotic systems that can operate under battlefield conditions are still under development.

Robotics have great potential for the EOD community, but there are limitations. It is envisioned that robots will assist in solving some of the critical and dangerous tasks facing EOD. The key word is “assist”; robotics is a force multiplier and not a force replacement.