

# LAO PDR NATIONAL UXO/MINE ACTION STANDARDS (NS)



## Chapter Sixteen

### Medical Support to UXO Clearance Operations

National Regulatory Authority for  
the UXO/Mine Action Sector in Lao PDR

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## Contents

Contents.....	2
Amendment Record .....	3
Medical Support to UXO Clearance Operations .....	4
1. Introduction .....	4
2. Scope.....	4
3. Minimum Age of Clearance Personnel and Support Staff .....	4
4. Minimum Medical Requirements for UXO Clearance Personnel.....	4
5. Medical Details of Clearance Personnel and Support Staff.....	5
6. Emergency Medical Support to UXO Clearance Operations.....	5
6.1. Medic.....	5
6.2. Medical Equipment .....	6
6.3. Ambulance/Safety Vehicle .....	6
7. Accident Response Plans.....	7
7.1. Identification of Suitable Medical Facilities .....	7
7.2. Vehicle Evacuation Routes .....	8
7.3. Responsibilities of Supporting Bases/Headquarters.....	8
7.4. Specific to Operations Requirements.....	8
7.5. Briefings and Practices .....	8
7.6. Travel on Waterways .....	9
8. Medical Training.....	9
8.1. Training in Use of Medicines.....	9
9. Communications .....	10
10. Accident Reporting and Post Accident Procedures.....	10
11. Medical Support to Non UXO Clearance Tasks.....	10
12. Vehicle Accidents.....	10
13. Non-Clearance Accidents.....	10
Annex A Minimum Requirements for TraumaMedical Kits .....	11



## Medical Support to UXO Clearance Operations

### 1. Introduction

UXO clearance has inherent dangers however, by ensuring UXO clearance personnel are adequately prepared and supported and that safe work practices are applied, the level of risk can be minimised. Provision of good medical support to UXO clearance operations is one of the ways of ensuring that UXO clearance personnel are adequately prepared and supported.

Medical support is not just about support for the tasks themselves. Medical support also includes all of the preparatory and preliminary requirements to ensure that UXO clearance staff are fit to work and have confidence in their organisations to look after them in an emergency.

The Lao PDR National Regulatory Authority (NRA) is the authority responsible for safety and efficiency in UXO/mine action in Lao PDR. This responsibility includes establishing the minimum requirements for medical support to UXO clearance operations and ensuring compliance with these requirements.

### 2. Scope

This chapter covers the minimum requirements for medical support to UXO clearance operations.

### 3. Minimum Age of Clearance Personnel and Support Staff

Article 41 of the **Labour Law (Amended), 27 December 2006** imposes restrictions on the employment of personnel between 15 and 18 years of age. These restrictions affect the suitability of personnel between 15 and 18 to be employed on UXO clearance operations in Lao PDR.

The minimum age for clearance personnel and support staff to be employed on clearance worksites in Lao PDR is 18 years of age. Clearance organisations are to confirm that prospective employees are over 18 years before commencing any recruitment process.

The only time that persons younger than 18 (child labour) can be used on clearance worksites is during the cutting of vegetation. This is covered in **Chapter 5 of NS, Worksite Preparation** which states:

“The age of casual staff employed by clearance organisations for the cutting of vegetation should not be less than 14 years in accordance with the requirements of Article 41 of the **Labour Law**.”

### 4. Minimum Medical Requirements for UXO Clearance Personnel

Personnel employed on UXO clearance operations should be fit for the work they undertake. They should also not have existing medical conditions that would affect their work or the support provided to or by them in an emergency.

All clearance personnel and support staff to be employed on clearance worksites in Lao PDR should be medically checked by a qualified doctor prior to employment. The medical check is to ensure that the prospective employee has no physical disabilities, illnesses, infections or allergies that would affect their ability to carry out their intended duties.

For clearance personnel, the pre-employment medical check should ensure that the prospective employee has:

██████ Good eyesight with no colour blindness.

██████ Good hearing in both ears.

## 5. Medical Details of Clearance Personnel and Support Staff

Clearance organisations should gather and maintain details of blood groups and allergies for all clearance personnel and support staff (and HQ staff) that may be in a position to donate blood.

Note: Due to the fact that there are very contentious confidentiality issues concerned with clearance organisations gathering and maintaining details of infectious diseases, and the fact that information is only as accurate as the most recent check, no further guidance will be provided in NS concerning the gathering and maintenance of information on infectious diseases. The responsibility for the checking for infectious diseases remains with the professional medical staff at any medical facility that is used to support a UXO clearance emergency.

Blood groups for clearance and support personnel should be available on UXO clearance sites.

## 6. Emergency Medical Support to UXO Clearance Operations

The minimum requirements for emergency medical support to UXO clearance operations in Lao PDR are shown below.

### 6.1. Medic

UXO clearance operations are not to take place without a dedicated trauma-qualified medic available within 5 minutes travel of the worksite. If for any reason the medic has to leave the location and is not able to provide the required medical support, then work on the site(s) supported by the medic is to cease until the medic returns.

For the purposes of this section, UXO clearance operations include:

██████ Searching for and excavating UXO.

██████ Any investigation of UXO that involves the movement of the item.

██████ Disposal of UXO.

██████ Cutting of vegetation, except when a surface search has been carried out and the ground surface confirmed as clear beforehand.

██████ Preparation of protective works that involves digging in UXO contaminated areas.

██████ Any other activity on the worksite where there is potential for contact with UXO.

Note: Technical surveys require the same operational support (medical and communications) as UXO clearance operations.

Note: Path finding operations (the surface and sub surface search of a walking route for geological survey), which focuses on UXO avoidance is not included under the definition of clearance.

Dedicated medics are not permitted to perform any of the tasks indicated above, or any other tasks that will place them in danger. They are not to be employed on any task that would compromise medical coverage to the operations.

Note: When more than one medic is employed in a location the extra medic(s) may be employed on UXO clearance operations provided that at all times when UXO clearance operations are ongoing, there is one dedicated medic on standby in case of an emergency.

## 6.2. Medical Equipment

Each medic is to have sufficient medical equipment, supplies and drugs to enable immediate first aid and stabilisation to be provided to two trauma casualties at the accident site, at any intermediate site and during evacuation through to the specified medical facility or air evacuation point. **Annex A** to this chapter shows the minimum medical equipment to be included in trauma medical kits that are to be available to medics on a UXO clearance site.

On each static clearance worksite where a medic is stationed a medical treatment post is to be established. This is the post at which the site medical equipment is to be positioned and from which the medic is to work. For mobile operations, medical treatment posts may be vehicle mounted.

## 6.3. Ambulance/Safety Vehicle

All clearance worksites are to have a designated ambulance/safety vehicle as near as practically possible to the site at all times whilst operations are ongoing. Ambulance/safety vehicles must:

■ Be appropriate for the site and road conditions in the area of operations, and to be followed during any accident response plan. Four-wheel drive vehicles with suitable ground clearance may be required on some worksites.

■ Be capable of carrying a casualty on a stretcher, escorted by a medic, 2 other people and a driver.

■ Be mechanically serviceable, including having at least one spare wheel and wheel changing kit.

■ Be ready to respond to an accident at all times whilst UXO clearance operations are ongoing. This includes:

- (1) Being located so that it can quickly deploy to an accident site. This may not always be possible and in some cases it may be necessary for the casualty to be brought to the safety vehicle/ambulance.
- (2) Having the driver on-site or with the vehicle.
- (3) Having sufficient fuel for any planned evacuation route.

Unless an alternative driver is available, ambulance/safety vehicle drivers are not permitted to carry out any of the UXO clearance tasks indicated in section 6.1 above.

For EOD roving or technical survey tasks the team vehicle may be the designated safety vehicle.

When a clearance organisations accident response plan requires a border crossing, the ambulance/safety vehicle must have current border crossing documentation.

## 7. Accident Response Plans

Clearance organisations are to develop accident response plans for each clearance worksite, including UXO disposal sites.

For organisations that have different worksites that carry out the same activities, the accident response plan may be developed in 2 parts. The general requirements may cover a number of worksites and specific-to-site details to cover each individual site. Accident response plans must be documented and copies held on each clearance worksite.

Accident response plans are to be reviewed when there are significant changes to any factors that may affect the plan. These may include changes to access routes to be used in the plan or the opening of new medical facilities.

Accident response plans are to cover the following:

- The preliminary requirements to ensure that all personnel with responsibilities in an accident are trained, briefed and practiced in accident response procedures. This should include any requirements specific to the type of operation being carried out.
- The on-site first aid, medical care and transferral of casualties to the ambulance/safety vehicle.
- The movement of casualties to specified medical facility(ies) or air evacuation point.
- The medical care of the casualties during movement from the accident site through to the final destination (medical facility).
- The specific responsibilities for reporting accidents, and procedures to be used.
- The specific responsibilities of bases and HQs to support the accident response plan.

### 7.1. Identification of Suitable Medical Facilities

Clearance organisations are to identify the closest suitable medical facilities to their area of operations for inclusion in their accident response plan. The identification of medical facilities should include details of the location, travel times, working hours and specific capabilities of the facility to cover:

- Numbers and qualifications of medical personnel.
- Type of injuries/illnesses able to be treated.
- Availability of medicines.
- Access to specialised equipment, X-rays etc.
- Access to an ambulance.

Where necessary, medical facilities are to be identified for both the road and air evacuation possibilities.

Contact details such as telephone numbers, radio frequencies/channels and call signs for medical facilities, air casualty evacuation operators and any other organisations providing support in the case of an accident are to be available on each clearance worksite to support the accident response plan.

## 7.2. Vehicle Evacuation Routes

Vehicle evacuation, including that from the accident site to an air evacuation point, is to include details of planned routes, means of transport, travel timings, requirements for passage through international borders, and where applicable, fuel, food and repair facilities en-route.

Timings for travel from the accident site to medical facilities or air evacuation points are to be determined based on the ambulance/safety vehicle actually carrying out the journey at a speed appropriate for a casualty evacuation.

## 7.3. Responsibilities of Supporting Bases/Headquarters

Clearance organisations are to ensure that bases or headquarters that are responsible for providing support to an accident response plan have the same work hours as UXO clearance teams in the field i.e. bases and headquarters are staffed from the time teams leave in the morning until they return at the end of a day. This includes having essential communication systems functioning whilst teams are working or moving to and from worksites.

## 7.4. Specific to Operations Requirements

If necessary, certain specific to operations requirements are to be considered in accident response plans:

Explosive Detection Dog (EDD) operations. Procedures for removing EDD casualties from contaminated areas and the inclusion of veterinary support requirements.

Mechanical operations. Drills for the extraction of a casualty from the inside of a machine. Different drills will be required for each machine and additional equipment may be required to be held on-site.

## 7.5. Briefings and Practices

Briefings on accident response plans are to be given by the clearance supervisor to all clearance and support personnel with responsibilities in the event of an accident, before the commencement of work on a new site. Briefings are to include:

The location of the medical treatment post and ambulance/safety vehicle.

Site specific responsibilities of the medic and ambulance/safety vehicle driver in the event of an accident. For the ambulance/safety vehicle driver this is to include the route to be taken during the evacuation.

Site specific responsibilities of clearance personnel in the event of an accident. This may include:

- (1) Locations for personnel not involved in the accident response plan.
- (2) The locations of sentry posts to keep local people away from the site and the duties of sentries.
- (3) Any site-specific communication requirements.
- (4) Responsibilities for securing equipment.

Accident response plans are to be practiced:

When a new clearance supervisor is appointed to a locality.

At least once every 2 months.

Accident response plan practices should only to be carried out to the stage where casualties are evacuated off a site or, where applicable, to the Helicopter Landing Site (HLS) or fixed-wing airstrip.

During accident response plan practices, accident reporting requirements are also to be practiced. However, clearance organisations are to ensure that staff not involved in the practice know that a practice is being conducted.

For mechanical operations involving crewed machines, the practicing of the accident response plan is to include the extraction of a casualty from the machine. This is to be done for all crewed machines on site.

Details of accident response plan practices are to be recorded in clearance worksite documentation.

## **7.6. Travel on Waterways**

When UXO clearance teams are required to work in localities that involve travel across or along waterways, specific procedures are to be included in accident response plans to ensure that boats, ferries or other means of travel on waterways are available, either dedicated or on-call, in an emergency situation. Such means of travel must be able to carry a casualty on a stretcher, with a medic and at least one other person.

Procedures must ensure that the means of travel on waterways is available at the point of embarkation prior to any casualty arriving at this point from an accident site. The point of embarkation is to be suitable for the loading of a casualty or an evacuation vehicle, and as close as possible to the location of the clearance worksite. Communications with the operator of waterway transport may be necessary to ensure that response times can be met.

When an evacuation plan requires both travel by road and on waterways, road transport, including a driver, is to be available at the disembarkation point of the waterway transport in order to continue an evacuation to a medical facility.

Road transport may be on-call or dedicated provided the evacuation plan is not delayed waiting for a vehicle to arrive. When on-call road transport is required a communication link between the clearance supervisor and the driver is to be available and functioning while UXO clearance operations are ongoing.

## **8. Medical Training**

Personnel employed on clearance worksites with specific responsibilities in relation to the accident response plan are to be adequately trained for the task. Specific requirements for medical training, which include objectives and standards to be achieved during training, for key UXO/mine clearance appointments, are included in the NS Support Document, **NRA Training Standards for Lao PDR**.

Records of accident response training are to be maintained by clearance organisations.

### **8.1. Training in Use of Medicines**

The training standards for trauma medics include specific training on the use of medicines provided in medical kits under control of trauma medics.

UXO/mine action organisations are to ensure that at no time are trauma medics placed in control of medicines that they have not been trained to use. This should be subject to checks during external monitoring by the NRA.

## 9. Communications

Communications are critical to an accident response plan. Details of operational communication requirements are covered in **Chapter 17 of NS, Communications**.

## 10. Accident Reporting and Post Accident Procedures

The requirements for accident reporting, and post accident procedures are covered in **Chapter 23 of NS, Reporting and Investigation of UXO/Mine Action Incidents**.

## 11. Medical Support to Non UXO Clearance Tasks

UXO/mine action organisations carrying out non-UXO clearance tasks are to ensure that its teams and personnel have medical support commensurate with the work they are undertaking and the conditions in which they are operating. As a minimum this is to include:

■ One person in a team trained and equipped to provide first aid in an emergency.

■ Having a team vehicle identified as a safety vehicle or, systems and procedures in place whereby external transport can be obtained in a timely manner.

## 12. Vehicle Accidents

UXO/mine action organisations should consider vehicle accidents as a normal part of accident response planning. The procedures to be followed in the event of vehicle accident are:

■ The senior person at the site is to take charge.

■ Casualties are to be removed from further danger and treated as best as possible with the medical equipment on site.

■ The location and details of the accident and further assistance required are to be reported to the UXO/mine action organisations operations base or HQ.

■ The accident site and any equipment or explosives are to be secured.

■ Personnel are to remain at the site and wait for assistance.

■ Personnel are to comply with the requirements of the Lao PDR Police.

## 13. Non-Clearance Accidents

If a non-clearance accident of a serious nature occurs on a clearance worksite, the procedures to be followed are the same as if it were a clearance accident. Non-clearance accidents on a clearance worksite that require the urgent evacuation of casualties to an advanced medical facility for treatment are to be reported in accordance with **Chapter 23 of NS, Reporting and Investigation of UXO/Mine Action Incidents**.

## Annex A Minimum Requirements for Trauma Medical Kits

### 1. General

UXO clearance organisation trauma medical kits are to have, as a minimum, the equipment and materials included in the table below in their trauma medical kits.

Equipment and materials are to be good quality medical grade in terms of durability, functionality and sterility.

Where applicable, various sizes to suit specific casualty conditions are to be included.

All materials and medications are to be within their manufacturers' use by date.

No	Item	Qty
1	Oral Pharyngeal Airway Set	1 set
2	Nasal Pharyngeal Airways Set	1 set
3	Manual Aspiration Suction Pump with Reservoirs (2)	1 set
4	Bag Valve Mask (BVM) (Ambu Bag)	1
5	Tourniquet – Velcro or Quick Release	1
6	Pressure Dressings 15 cm x 15 cm (minimum)	5
7	Pressure Dressings 30 cm x 30 cm (minimum)	5
8	Triangular Bandages Large	5
9	Chest Seals	2
10	Vaseline Gauze Dressing 7.5 cm x 22.5 cm (minimum)	4
11	Sterile Eye Pads (or equivalent)	4
12	Burn Dressing 10 cm x 10 cm	2
13	Burn Dressing 30 cm x 40 cm	2
14	Burn Dressing 45 cm x 55 cm	2
15	IV Drip Set 10 drop per ml	4
16	IV Cannulas 16 gauge	2
17	IV Cannula 18 gauge	2
18	IV Cannula 20 gauge	2
19	Ringers Lactate Solution 1000 ml	2
20	Saline Solution 0.9% 1000 ml	2
21	Arm Splints	1 set
22	Leg Splints	1 set
23	Adjustable Cervical Collar - Adult	1
24	Spinal Board	1
25	Fast Acting Severe Pain Opioid Analgesic (Pethidine/Tramadol)	Qty*
26	Broad Spectrum Antibiotic.	Qty*
27	Syringes (suitable for administration of nos 25 and 26 above)	10
28	Blood Pressure Cuff	1
29	Stethoscope	1
30	Thermometer - Oral	1
31	Essential miscellaneous items to ensure that the equipment and materials listed above can be used effectively.	Qty

\*Quantities of these medications held are to be based on drug manufacturers' dosage recommendations taking into account likely evacuation times. Organisations are to ensure that there will be no conflicts between the analgesic and the antibiotic.