

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



## Chapter Twenty Three Reporting and Investigation of UXO/Mine Action Incidents

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

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## Reporting and Investigation of UXO/Mine Action Incidents

### 1. Introduction

UXO/mine action has inherent dangers and there is always the potential for accidents to occur. It is the responsibility of UXO/mine action managers at all levels to ensure that this potential is reduced to the lowest realistic level. This is done by providing effective management, supervision and control; developing and applying safe work practices and operating procedures; selecting and using equipment with inherently safe design; providing appropriate education and training; and by the provision of effective Personal Protective Equipment (PPE) and protective clothing.

However, despite these efforts, UXO/mine action accidents do still occur. When they happen the first priority is the treatment and evacuation of the casualties. There is then a need to determine how and why an accident occurred in order to minimise the chance of a similar accident in future. It is a management responsibility to ensure a thorough investigation into an accident is conducted as soon as practicable. This management responsibility also applies to incidents that may have led to accidents.

The thorough investigation of accidents and incidents provide information that contributes to improvement to the quality of UXO/mine action and reduces the likelihood of future accidents occurring.

### 2. Scope

This chapter covers the procedures to be used in Lao PDR for the reporting and investigation of UXO/mine action incidents.

Note: The use of the term UXO/mine action ensures that this standard also applies to UXO/mine risk education and UXO/mine victim assistance.

### 3. Definition of Accident and Incident

An accident is “an undesired event that results in harm”.

An incident is “an event that gives rise to an accident or has the potential to lead to an accident”.<sup>1</sup>

As such, a UXO/mine action accident is an incident and reporting and investigation of incidents also covers reporting and investigation of accidents.

### 4. Incidents Required to be Reported

The following incidents are to be reported to the Lao PDR National Regulatory Authority (NRA):

- a. An accident in which a UXO or explosives harms a UXO/mine action employee, visitor or member of the local population at a UXO/mine action worksite.
- b. An incident in which a UXO or explosives damages equipment or property at a UXO/mine action worksite.
- c. An incident in which a UXO or explosives may have caused harm to people or damage to equipment of property.

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1. Definitions from IMAS 04.10.

- d. The discovery of a UXO on land released for use regardless of whether harm has resulted from the UXO. The land may have been released for use as a result of survey or clearance.

Note: For the purposes of these standards the term released for use means land that has been handed over in accordance with **Chapter 11 of NS, Released Land Handover Procedures**.

- e. Where UXO/mine action workers, visitors or the local population are exposed to intolerable risk that results from the application of NS or SOPs including the failure of equipment issued to employees.
- f. Any unplanned detonation of a UXO or explosives in an explosive store, in a vehicle or on a UXO/mine action worksite irrespective of the cause or outcome.
- g. A nonUXO or explosive-related accident on a UXO/mine action worksite that requires the urgent evacuation of a casualty to an advanced medical facility for treatment. These accidents may indicate a deficiency in procedures or equipment.

## **5. Action Required When an Incident Occurs**

The action to be undertaken by UXO/mine action organisations immediately after an incident occurs is dependent on the type of incident. Details are shown in the following sections.

### **5.1. UXO Clearance Accident**

In the event of a UXO clearance accident, the first priority is the treatment and evacuation of the casualties. Once casualties have been evacuated from the site, the following actions are to be undertaken by the UXO clearance supervisor or deputy:

- a. Provide an initial notification of the accident to the clearance organisation's HQ or operations base. The information required to be reported is the same as that to be reported by the clearance organisation to the NRA. See section 6.1 below and **Annex A**.
- b. Make safe any demolition circuits and ensure that any UXO located are clearly marked.

Note: The actions indicated in sub paragraphs a and b above may be carried out concurrently with the treatment of the casualties.

- c. Secure the location of the accident, to include areas where any detonation occurred and where casualties resulted, to prevent personnel and animals from disturbing them. Any equipment being used by the casualties at the time the accident occurred is to be left in place. Securing the site may involve the posting of sentries. The site is to remain secure until it is released by the head of the appointed investigation body.
- d. If possible, take photographs of the site to assist with any investigation and as a precaution against the unavoidable disturbance of the site by the weather.
- e. Identify any witnesses to the accident.
- f. Collect and secure any of the casualties' personal belongings and equipment not being used in the accident.
- g. Close down the site and await further instructions from the clearance organisation's HQ.

## 5.2. Incidents on Land Released for Use

In the event of an incident occurring on land that has been released for use, the UXO/mine action organisation hearing of the incident is to immediately notify the NRA.

The UXO/mine action organisation reporting the incident to the NRA is to provide all possible detail regarding the date and time, location and results of the incident. They are also to provide details of the location and means of contact for the individual who reported the incident to them.

Detail of the actions to be taken by the NRA are included in section 10 of this NS.

## 5.3. Other UXO/Mine Action Incidents

The procedures to be followed for other UXO/mine action incidents are similar to the procedures for a UXO clearance accident. These include:

- a. Treating and evacuating any casualties.
- b. Reporting the incident.
- c. Securing the site of the incident.
- d. Taking photographs and identifying any witnesses.
- e. Following any instructions from the NRA.

## 6. Incident Reporting Procedures

Two reports are required from the UXO/mine action organisation involved, in the event of an incident. The first is an **Initial UXO/Mine Action Incident Report** to be submitted a short time after the occurrence of the incident. The second is a **Detailed UXO/Mine Action Incident Report**, to be submitted on completion of an internal investigation into the incident.

### 6.1. Initial UXO/Mine Action Incident Report

The Initial UXO/Mine Action Incident Report is to be made in 2 parts:

- a. Part 1 is the formal notification of the incident to the NRA by whatever communication means are available. The formal notification advises of the incident and as many details as possible. All incidents are to be reported within 1 hour of the incident occurring.
- b. Part 2 is a written report, providing all possible details, and is to be submitted to the NRA within 24 hours of the incident occurring. The written report is to be submitted by the fastest possible means such as email or facsimile.

Submission of the complete **Initial UXO/Mine Action Incident Report** is not to be delayed in an effort to collect and analyse information regarding the incident.

**Annex A** to this chapter of NS details the information to be provided in parts 1 and 2 of the **Initial UXO/Mine Action Incident Report**.

## 6.2. Detailed UXO/Mine Action Incident Report

The **Detailed UXO/Mine Action Incident Report** is to provide the results of the internal investigation carried out by the UXO/mine action organisation involved in the incident. The internal investigation is to be carried out by an appropriately qualified and experienced member of the UXO/mine action organisation but is not to be a member of the team directly involved in the incident.

**Annex B** to this chapter of NS provides an example of a **Detailed UXO/Mine Action Incident Report**. The **Detailed UXO/Mine Action Incident Report** is to be submitted to the NRA within 14 days of an incident occurring.

A **Detailed UXO/Mine Action Incident Report** is to be submitted for all reportable incidents and, subject to a decision by the NRA, may satisfy the requirements of a formal investigation. If the NRA determines that an independent formal investigation is warranted, the UXO/mine action organisation's detailed report will become part of the formal investigation.

## 7. Formal Investigations

The sole aim of a UXO/mine action incident investigation is to identify problems or opportunities to improve the safety and quality of UXO/mine action. It is neither a criminal investigation nor an investigation to assist in the assessment of a current or possible future insurance claim. As such, all employees of UXO/mine action organisations are to be encouraged to provide complete and accurate information about the circumstances surrounding the incident and opinions on ways to improve procedures that may assist in preventing a similar incident occurring.

### 7.1. Levels of Investigation

There are three levels of formal investigations of UXO/mine action incidents within Lao PDR:

- a. An investigation board, the composition of which is to be 3 people; a representative from the NRA, an independent person from the Lao PDR UXO/mine action community and a representative, other than a member of the team directly involved, from the organisation involved in the incident.
- b. An appropriately qualified and experienced independent investigation officer appointed by the NRA.
- c. An appropriately qualified and experienced internal investigation officer appointed by the UXO/mine action organisation involved in the incident provided it is not a member of the team directly involved in the incident.

### 7.2. Incidents to be Externally Investigated

The NRA will decide on a case by case basis which incidents are to be externally investigated and the level of investigation required.

### 7.3. Convening External Investigations

On those occasions in which external investigations are warranted, the NRA will formally convene the investigation in writing. Copies of the written convening order will be provided to the investigation board/officer and the UXO/mine action organisation involved in the incident. Convening orders provide Terms of Reference (TOR) for the investigation board/officer. The convening order will also provide deadlines on the conduct of an investigation and any requirements for interim reports.

An example of TORs for a formal investigation is included at Appendix 2 to Annex D to **IMAS 10.60 S&OH Reporting and investigation of demining incidents**.

#### 7.4. Internal Investigations

UXO/mine action organisations are to commence their own investigation, in the form of a **Detailed UXO/Mine Action Incident Report**, as soon as practicable after the incident and are to submit it to the NRA within 14 days of the incident occurring. The NRA will determine whether this investigation satisfies the requirements of a formal investigation.

### 8. UXO/Mine Action Organisation Responsibilities Towards External Investigations

In addition to its initial responsibilities in the event of a UXO/mine action incident, UXO/mine action organisations are to:

- a. Provide access and, if necessary, administrative support to incident investigation boards/officers. The administrative support may be provided on a cost-recovery basis.
- b. Make all relevant records available to the investigation board/officer.
- c. If requested, provide qualified staff to assist with investigations.
- d. Comply with the directions of the NRA in implementing the recommendations of the investigation.

### 9. Actions Following External Investigations

Once an external investigation has been completed and the report accepted by the NRA, the UXO/mine action organisation involved in the incident will be given a copy of the report to view and comment upon. This will be done before the report, or any part of it, is released. If acceptable to the NRA, the UXO/mine action organisation's comments may be included in the final report.

#### 9.1. Distribution of the Report

The confidentiality of an investigation report will be decided by the NRA; however some parts of it may be distributed to other clearance organisations at the discretion of the NRA. If any report identifies new hazards, then the dissemination of this information will be immediate.

Note: **IMAS 10.60 S&OH Reporting and investigation of demining incidents** states "National Mine Action Authorities (NMAA) shall disseminate the findings of all investigation reports to all demining organisations operating in the country, and importantly to UNMAS, who can then extract information for other NMAA".

### 10. Investigation of Incidents on Land Released for Use

Regardless of the source of notification, on receipt of notification of an incident on land released for use, the NRA will send an investigation officer to the site to confirm the location and outcome of the incident.

The investigation officer is to confirm or collect all necessary detail and compile an **Initial UXO/Mine Action Incident Report** to cover all the requirements of the full report as covered in section 6.1 above. The investigation officer is also to identify the UXO clearance organisation that released the land. All information is then to be reported to the NRA.

Based on the results of the **Initial UXO/Mine Action Incident Report** the NRA will decide what further action, if any, is required. Options include:

- a. No action. The movement of UXO by local people may have contributed to the incident.
- b. Further investigation. The type and level to be determined by the NRA. This will depend on whether the **Initial UXO/Mine Action Incident Report** was able to conclusively determine the cause of the incident.
- c. Further clearance of the affected land by the relevant clearance organisation.

Where considered appropriate, the NRA may invite the HQ of the responsible organisation to participate in any investigation carried out. Such participation is to be at the organisation's own expense.

## Annex A Initial UXO/Mine Action Incident Report

From: UXO/Mine Action Organisation Name. Date & Time Report Submitted:

To: NRA, Vientiane.

### UXO/Mine Action Incident Initial Report

1. Organisation, sub unit, team name/number.
2. Location (province, district, village, task number).
3. Time of incident.
4. Type of incident.
5. Details of casualties to include:
  - a. Names. **See note 2.**
  - b. Description of injuries. **See note 3.**
  - c. Treatment given.
  - d. Current condition of casualty(ies).
6. Evacuation methods, routes, destinations, departure time and estimated arrival times.
7. Equipment or property damaged. **See note 4.**
8. Describe how the incident occurred. **See note 5.**
9. Contact details of key personnel. **See note 6.**
10. Any other information including: **See note 7.**
  - a. Did the incident occur on land released for use?
  - b. UXO type (if known).
11. Any other relevant information. **See note 8.**

Note 1: The highlighted information is to be sent in the first part of the report by whatever communication means are available within 1 hour of the incident occurring. The full **Initial UXO/Mine Action Incident Report** (including all information) is then sent by facsimile or email within 24 hours of the incident occurring.

Note 2: For non **UXO/mine action** personnel include the names of the casualties or the contact details of a person who can be a point of contact. Contact details for non **UXO/mine action** personnel do not need to be sent with the first part of the report but the fact that non **UXO/mine action** personnel were injured, does.

Note 3: List injuries for each casualty separately referenced to the name.

Note 4: List the equipment or property damaged. Include a short description of the extent of the damage. Where appropriate, include the name and contact details of equipment or property owners.

- Note 5: Include a short description of how the incident occurred. In the case of a UXO located on land released for use, a deficiency in standards or SOPs or a failure with equipment include details of how the UXO was discovered or the deficiency/failure was identified/occurred.
- Note 6: Provide contact details of the person(s) responsible for the coordination of the immediate response to the UXO/mine action incident and investigation activities, for example the clearance supervisor and the operations manager. Provide radio call signs or telephone numbers as appropriate.
- Note 7: Provide as much information as possible about the circumstances surrounding the incident, specifically information which would assist in making decisions on the requirement to send out a general warning about a new device found or the inadequacies of equipment, NS or SOPs.
- Note 8: Submission of the complete **Initial UXO/Mine Action Incident Report** is not to be delayed in an effort to collect and analyse information regarding the incident.

## **Annex B**

### **Example of a Detailed UXO/Mine Action Incident Report**

Note: Not all of the parts in this example are applicable to all incidents required to be reported.

From: UXO/Mine Action Organisation Name.

Date report submitted.

To: NRA, Vientiane.

#### **UXO/Mine Action Incident Detailed Report (Incident Description)**

References:

- A. Initial UXO/Mine Action Incident Report (copy attached).
- B. Lao PDR National UXO/Mine Action Standards (NS).
- C. UXO/Mine Action Organisation SOPs.

**Part one – background** (This is a summary of some of the information from the Initial UXO/Mine Action Incident Report)

- 1. UXO/mine action organisation name.
- 2. Organisation sub unit, team name/number.
- 3. Name of team supervisor.
- 4. Location of incident (province, district, village, task number).
- 5. Date and time of incident.
- 6. Type of incident.

#### **Part two – details of incident**

7. Provide a general description of how the incident occurred including locations; timings; UXO/mine action personnel and any non UXO/mine action personnel involved; UXOs or explosives involved; and vehicles/equipment involved. Attach photographs, diagrams and incident plans (location plan and detailed site plan) as Annexes to the report to assist in clarifying the circumstances surrounding the incident.

Note 1: For accidents include details of the activities being carried out when the accident occurred.

Note 2: For a deficiency in NS or SOPs or a failure with equipment, provide details of the procedures or equipment involved, how the deficiency/failure was discovered/occurred and potential consequences of the problem if not rectified.

#### **Part three – incident site conditions**

8. Describe the conditions on the incident site at the time of the incident in terms of worksite layout and marking, ground and terrain, vegetation and weather:

- a. Worksite layout and marking. Describe the layout of the worksite in relation to the location of the incident, covering administration and control areas, general worksite markings and specific worksite markings in the location of the incident. Include dimensions and cross reference to SOPs where appropriate. Include details of the worksite layout on incident location and site plans attached as an Annex to the report.
  - b. Ground and terrain. Describe the ground in terms of type of soil, density or hardness and moisture content. Describe the terrain in terms of flat, undulating or hilly. If required use slope ratios (i.e. 1 in 25) to identify maximum/minimum slopes.
  - c. Vegetation. Describe the vegetation in terms of type, density, size and root structure. Provide dimensions such as height of grass/crops/bush and maximum size of the vegetation stems. Indicate if the roots had an effect on the work or if the vegetation had been burned or cleared in any way.
  - d. Weather. Describe the weather at the time of the incident.
9. Provide photographs of the site to highlight the incident site conditions.

#### **Part four – team and task details**

10. Team details. Provide details of the size and composition of the team (clearance technicians, supervisors, medics etc); the qualifications (formal and on the job training) and experience (types of work carried out, locations, worksite conditions and UXOs encountered); the most recent refresher training and subjects covered; the last period of leave/stand down; the results of recent monitoring (both internal and external) carried out on the team; and any known problems with the team. Provide a comparison between the team in general and any individuals involved in the incident.
11. Task details. Provide details of the task to include the survey work carried out (general and technical); clearance plan for the task, which should include area to be cleared and depth of clearance; types of UXO expected to be found; the planned use of the land after clearance; time worked on the task; progress in terms of area cleared as a percentage of the total area to be cleared; types and numbers of UXO found; and any problems encountered with the task.
12. Where relevant, include copies of training records, monitoring reports, technical survey reports, task folders, task progress reports or any other clearance organisation or worksite documentation as an Annex.

#### **Part five – equipment and procedures used**

13. Equipment used. Provide details of the equipment being used on the site relevant to the incident. This may cover metal detection equipment, clearance technician's toolkits, demolition equipment, communication equipment, medical equipment and vehicles. For metal detection equipment provide details of on-site testing requirements. This may be referenced to SOPs.
14. Procedures used. Provide an overview of any procedures used related to the incident. This may be referenced to SOPs.

15. Work routines. Provide details of the work routines being followed on the task at the time of the incident and the number of hours worked by personnel (including those involved in the incident) on the days prior to the incident occurring. If work routines involve handovers between personnel, provide details of when the last handover occurred prior to the incident and the details of what is covered during handovers for example, metal detection equipment checks, briefings etc. This may be referenced to SOPs.

#### **Part six – explosive hazards involved**

16. Provide details of any UXOs or explosives that were involved in the incident:
- a. For UXO that were located or explosives that were known to be used provide details such as; (1) UXO - common names; (2) explosives - the names, type, size or weight of the items used. For items located also include the position in/on the ground i.e. surface or buried and if buried, the depth and attitude in the ground.
  - b. For incidents involving a detonation provide details of blast holes (size and depth); UXO or other debris located and any known or suspected items involved. Provide explanations as to why an item is either known or only suspected.
17. Provide photographs and technical details for any items located or photographs of blast holes and debris as an Annex to the report.

#### **Part seven – details of injuries**

18. Provide details of all personnel (including non UXO/mine action workers) injured as a result of the incident. Include names, occupation, details of injuries and cross reference the names to the activities that the personnel were carrying out at the time of the incident. All injured personnel no matter how minor the injuries they received are to be included. Also include copies of medical records as Annexes to the report. The location of the injured personnel, immediately after the incident occurred, should be shown on the incident detailed site plan.

#### **Part eight – equipment/property/infrastructure damage**

19. Provide details of all equipment, property or infrastructure damaged as a result of the incident:
- a. For equipment include detailed descriptions to include owner, make, model, age, serial numbers; and where applicable, current value (if known), details of damage, insurance held by the owner/organisation and if possible, an assessment of the cost of repair/replacement.
  - b. For property and infrastructure provide details of the owner(s), damage incurred, insurance held by the owner(s) and if known, the cost of restitution or repair.
20. Include photos of damaged equipment, property or infrastructure and copies of any other supporting evidence (ownership papers, property deeds, insurance details, repair quotes etc) as Annexes to the report.

### **Part nine – medical and emergency support**

21. Provide details of the medical and emergency support (communications and evacuation transport) available at the incident site prior to the incident occurring. This may be cross referenced to SOPs. Also if applicable to the incident, include details of the frequency of UXO clearance accident response plan practices and the date the last practice was carried out.

22. Provide timings for key activities during the casualty evacuation for example the evacuation of the casualties off the incident site, the arrival at the initial medical facility, departure from the initial medical facility and arrival at the final medical facility.

23. Comment on the effectiveness or otherwise of the medical and emergency support in terms of planning and preparation, medical equipment and supplies, communications, evacuation transport, medical treatment facilities and external support (from other UXO/mine action organisations) to the casualty evacuation. Where deficiencies were identified provide details and recommendations for improvements.

### **Part ten – reporting procedures**

24. Comment on the effectiveness or otherwise of the initial incident reporting procedures carried out.

### **Part eleven – any other matters of relevance.**

25. Include any other matters relevant to the incident that have not already been covered in this example.

### **Part twelve – discussion, conclusions and recommendations**

26. Provide any additional discussion, conclusions and recommendations.

Signature of Investigating Officer  
Name of Investigating Officer

Annexes:

- A Copy of the Initial UXO/Mine Action Incident Report.
- B. Witness statements.
- C. Incident location and detailed site plans.
- D. Site photographs.
- E. Training records, monitoring reports, technical survey reports, task folders, task progress reports or any other organisation or worksite documentation required.
- F. Photographs and technical details of items located, blast holes or UXO debris.

- G. Medical records.
- H. Photographs of damaged equipment, property or infrastructure.
- I. Copies of equipment/property ownership documentation (ownership papers, property deeds, insurance details etc).
- J. Damage repair quotes/estimates.