

LAO PDR NATIONAL UXO/MINE ACTION STANDARDS (NS)



Chapter Nineteen Quality Management (QM)

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

15 October 2012

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Amendment Record

Management of Lao PDR National UXO/Mine Action Standards(NS) Amendments

The Lao PDR NS series is subject to formal review on a three-yearly basis; however this does not preclude amendments being made within these three-year periods for reasons of operational safety and efficiency or for editorial purposes. As amendments are made to this NS they will be given a number, and the date and general details of the amendment shown in the table below.

As formal reviews of each NS are completed new editions may be issued. Amendments up to the date of the new edition will be incorporated into the new edition and the amendment record table cleared. Recording of amendments will then start again until a further review is carried out.

| Number | Date | Amendment Details |
|--------|-----------|--|
| 1 | 30 Jun 12 | Section 3, minor changes to paragraphs 1 and 2 and the inclusion of a new last paragraph. Section 6, note added. Section 7.1.1, changes to the wording in the second paragraph. Section 7.1.2, minor change to sub paragraph a and a new paragraph added at the end of the section. Section 7.4, first paragraph, wording change. Section 8, complete change with four new paragraphs and two sub paragraphs added. Section 8.2.1, complete change to section. Section 8.3, one paragraph moved to section 8 and wording change to last paragraph. Section 8.4, wording change. Section 8.7 d, wording change. Section 8.9, wording change to 2 nd paragraph. Section 8.12, new section added. |
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Quality Management (QM)

1. Introduction

The effective management of UXO/mine action is achieved by developing and applying appropriate management processes, by establishing and continuously improving the skills of managers and personnel, by applying safe and effective procedures, and by using appropriate and efficient equipment. But management is not just about planning and supervising current tasks. It is also about continually reviewing current practices and procedures to improve safety, effectiveness and efficiency.

The process and procedures that aim to achieve a continuous improvement to an organisation's management system and operational practices are commonly referred to as Quality Management (QM).¹

The Lao PDR National Regulatory Authority (NRA), as the authority for UXO/mine action within the country, is responsible for developing the requirements for QM of UXO/mine action in Lao PDR and for ensuring these requirements are met by UXO/mine action organisations.

2. Scope

This chapter describes the requirements for QM within UXO/mine action in Lao PDR.

3. Statutory Requirements

The document **Resolutions of the Lao PDR Government on National Strategic Plan for the UXO Programme in the Lao Peoples Democratic Republic 2003 – 2013** provided the initial framework for the establishment of the NRA with the responsibility for the external Quality Assurance of all UXO/Mine Action activities.

In addition, Article 2 of the Lao PDR **Prime Ministers decree 33/PM of 17/3/2004** on the establishment of the NRA for the UXO Programme in Lao PDR stated:

“The National Regulatory Authority will have the following responsibilities:

6. *The external Quality Assurance of all UXO/Mine Action activities.”*

These statutory requirements have been superseded by more recent decrees; however the authority of the NRA for ensuring the quality of UXO/mine action activities remains unchanged. Refer to **Prime Minister's decree 406/PM dated 8/11/2011**.

4. Elements of Quality Management (QM)

QM refers to coordinated activities to direct and control UXO/mine action with regard to quality. QM comprises both Quality Assurance (QA) and Quality Control (QC):

- a. The purpose of QA in UXO/mine action is to confirm that management practices and operational procedures for UXO/mine action are appropriate, are being applied and will achieve the stated requirement in a safe, effective and efficient manner.
- b. QC is the part of QM focused on fulfilling quality requirements. QC relates to the inspection of a finished product. In the case of UXO clearance, QC relates to the inspection of land that is cleared or otherwise released for use.

1. Adapted from IMAS 07.10 Guide for the management of UXO clearance operations, introduction.

When the abbreviation QM is used in this NS it is to be taken as covering both QA and QC. If only QA or QC is being referred to, then the abbreviations QA and QC will be used.

5. Definitions

The key terms used within QM of UXO/mine action in Lao PDR are shown below.

5.1. Non-Conformities

A non-conformity is the “non-fulfilment of a requirement, i.e. a need or expectation that is stated, generally implied or obligatory”.²

In terms of UXO/mine action in Lao PDR, the requirements to be fulfilled are those detailed in the Lao PDR National UXO/Mine Action Standards (NS) and in the approved operating procedures (SOPs) or project plans of an individual organisation.

As such a non-conformity is the non-compliance with a requirement of NS or an organisation’s documented and approved operating procedures or project plan.

5.2. Preventive and Corrective Action

Preventive action aims to prevent a non-conformity from occurring while corrective action aims to remedy the cause of a non-conformity once it has occurred. The explicit definitions of these terms are:

- a. Preventive action is proactive action to eliminate the likelihood of a nonconformity or other undesirable situation occurring.
- b. Corrective action is reactive action to eliminate the cause of a detected nonconformity or other undesirable situation.³

In addition to the corrective action indicated above to eliminate the cause of a non-conformity, it may also be necessary on UXO/mine action operations to put right any deficiencies caused by the non-conformity. This will depend on the nature of the non-conformity and type of UXO/mine action being carried out. Action to put right a deficiency may include:

- a. Reclearing of areas of land.
- b. Correcting any misleading or erroneous messages delivered during UXO/Mine Risk Education (UXO/MRE).

6. Concept of QM in UXO/Mine Action in Lao PDR

QM in UXO/mine action in Lao PDR is built upon two mutually supporting components. These are:

- a. Internal QM by UXO/mine action organisations.
- b. External QM by the NRA.

2. EN ISO 9000:2000 Quality Management Systems – Fundamentals and vocabulary.

3. Both definitions adapted from EN ISO 9000:2000 Quality Management Systems – Fundamentals and vocabulary.

Note: External QM may also be carried out by UXO clearance organisations contracted to conduct QM inspections on commercial UXO clearance; however these will be in addition to any inspections that the NRA may carry out.

7. Internal QM of UXO/Mine Action Organisations

As part of the accreditation process described in **Chapter 2 of NS, Accreditation of UXO/Mine Action Organisations**, all UXO/mine action organisations are to provide documented detail of their internal QM system. This QM system is to cover both internal QA and QC procedures. It may be either a stand-alone document or part of the organisation's SOPs.

The documented QM system should include the following:

- a. Details of the appointment or person in Lao PDR with the overall responsibility for quality within the organisation.
- b. A description of the process and responsibilities for internal QA and QC checks within the organisation, including:
 - (1) The responsibility for internal QA checks on the organisation's worksites by persons other than the worksite supervisor.
 - (2) The responsibility of worksite supervisors to conduct internal QC checks on their own tasks.
 - (3) Detail of the scope and frequency of checks to be conducted for each UXO/mine action activity undertaken by the organisation and for each operational asset employed by the organisation.

Note: Normally organisations will develop standard check lists for each type of check it conducts. The check lists developed by the NRA and included in the NS Support Document **NRA Quality Management Procedures for Lao PDR**, are available to UXO/mine action organisations, and organisations are free to adapt them for their own use.

- c. Detail of the criteria used to determine Pass/Fail for each type of internal inspection. If standard QM check lists are used, these criteria are to be clearly indicated on the check list.
- d. The organisation's procedures for responding to and managing non-conformities should they arise.
- e. The requirement for records of internal QA and QC checks to be retained on worksites for the duration of the task.

7.1. UXO/Mine Clearance Operations

7.1.1. Internal Quality Assurance (QA)

Internal QA inspections should be carried out both by clearance supervisors and clearance organisation management staff, but as a minimum are to be carried out by clearance supervisors. Informal QA inspections should be a normal part of a clearance supervisor's duties.

Formal internal QA inspections are to be carried out on all task supervisors (these may be EOD 2, 3 or 4) on a two weekly basis. Inspections are to check that the UXO/mine clearance activities that the task supervisor is supervising are being carried out in accordance with the organisation's approved operating procedures.

7.1.2. Internal Quality Control (QC)

Clearance organisations are to implement internal QC procedures appropriate to the UXO/mine clearance operation being conducted. The minimum requirements for such QC are detailed below:

- a. UXO area clearance and mine clearance, including clearance carried out during the survey process. A minimum of 10% of the total area cleared is to be physically checked by the clearance supervisor using the same detection equipment that is being used during the task. These checks are to be carried out to cover the entire area being worked.
- b. Explosive Detection Dog (EDD) operations. Each area searched by EDD is to be covered by a minimum of 2 EDD. In addition to this, clearance organisations conducting EDD clearance or technical survey are to conduct internal QC on at least 10% of the area cleared or surveyed. The 10% is to be spread over the total area worked.
- c. Mechanical UXO clearance. For mechanical UXO clearance operations using machines that have been tested and evaluated as leaving no residual risk, a minimum of 10% of the ground processed in any day is to be reprocessed as a QC check. For mechanical UXO clearance operations where ground is physically removed for processing, 10% of the processed ground is to be reprocessed as a QC check.

Note: The risks associated with putting a clearance machine into a UXO contaminated area are well understood, however that does not preclude a mechanical system, with good risk assessment and operating procedures being used in Lao PDR in the future.

In addition to the physical inspections detailed above, UXO clearance organisations are to implement their own internal procedures to QC check land that is released using the risk management approach. These checks may involve an independent review of the land release documentation or actual physical checks on some of the activities (and results) carried out during the survey process.

7.2. UXO/Mine Risk Education (UXO/MRE) and UXO/Mine Victim Assistance (VA)

Details of the requirements for internal QM for UXO/MRE or UXO/mine Victim Assistance (VA) are included in the relevant chapters of NS.

7.3. Management of Deficiencies Identified During Internal QM

When internal QM identifies any deficiencies with the management or conduct of a UXO/mine action activity, the organisation concerned is to take appropriate action to correct these deficiencies.

7.4. Recording and Reporting of Internal QM Inspections and Non-Conformities

Records of all internal QM inspections are to be retained at the worksite for the duration of the task and are to be made available to NRA national or provincial staff or to external QM inspection teams on request.

Non-conformities identified during internal QM inspections are to be recorded with clearance worksite documentation. The records are to include:

- a. Detail of the non-conformity.
- b. The corrective action taken to ensure the non-conformity does not occur in future.
- c. The action taken to put right any deficiencies that may have been caused by the non conformity.

8. External QM Inspections of UXO/Mine Action Organisations

External QM inspections of UXO/mine action organisations will be carried out by the NRA and may be carried out by UXO clearance organisations contracted to conduct QM inspections on commercial UXO clearance.

When external QM is carried out under contract, the specific conditions and standards for the work will be laid down in the relevant contract documents however; organisations conducting contracted external QM on UXO/mine clearance are still required to:

- a. Have personnel with qualifications and experience relevant to UXO/mine clearance in Lao PDR in accordance with section 8.3 below.
- b. Be accredited by the NRA in accordance with Chapter 2 of NS, Accreditation of UXO/Mine Action Organisations.

The remainder of this section concerns external QM carried out by staff from or controlled by the NRA.

NRA external QM inspections will be conducted against standard QM check lists. Copies of the standard QM checklists are included in the NS Support Document **NRA Quality Management Procedures for Lao PDR** included with these NS.

8.1. External QA Inspections

External QA inspections will be carried out by observing the work of the organisation concerned and checking that the work is in accordance with operational procedures or project plans.

8.1.1. External QA for UXO/Mine Clearance Operations

External QA inspections will be carried out on clearance organisations to confirm that they are applying their approved operational procedures in a manner that will result in the safe, effective and efficient clearance/release of land and/or disposal of UXO.

8.1.2. External QA for UXO/MRE and UXO/Mine VA

External QA inspections will be conducted on UXO/MRE and UXO/mine VA organisations to ensure that activities are being carried out effectively and in accordance to the project plan approved/endorsed by the NRA.

8.2. External QC Inspections

8.2.1. External QC for UXO/Mine Clearance Operations

All clearance organisations carrying out UXO/mine clearance operations will be subject to external QC inspections. These inspections may be carried out on working tasks or on completed tasks and will involve:

- a. The physical inspection of land that has been subject to full clearance to check if clearance requirements are/have being/been achieved. This includes land that has been subject to full clearance during the survey process.
- b. Checking land released using the risk management approach to see whether:
 - (1) The conditions for the release of land as specified in **Chapter 6 of NS, Survey** have been complied with.
 - (2) The activities recorded on the land release documentation were actually carried out and the recorded results are accurate and correct.

Physical inspections will cover no less than 2% of the area cleared or released, representative of the whole area cleared or released at the time of the inspection. All signals detected by the inspection team will be investigated to the extent necessary to ensure that clearance requirements or land release conditions are/have being/been achieved.

Inspections on working tasks may be carried out using the clearance teams own detection equipment.

Inspections for land released using the risk management approach should only cover enough of the activities recorded on the land release documentation to confirm that the information recorded on the land release documentation is accurate and correct.

External QC requires the same operational support; medic, medical equipment, safety vehicle, communications and accident response plan as for UXO clearance operations. These may be provided by the organisations being inspected; however if an external QM team is conducting external QC on completed work, operational support is to be integral to the team.

8.2.2. External QC for UXO/MRE and UXO/Mine VA

External QC for UXO/MRE and UXO/mine VA activities is linked to an external evaluation of a project, both in the effectiveness of the project in achieving its objectives (outcomes), and the impact that the project has. Further aspects of a project may also be examined during evaluation.

The requirements for UXO/MRE and UXO/mine VA organisations to include external evaluation as part of their project design and development are included in the respective UXO/MRE and UXO/mine VA chapters of NS. Further guidance on the scope of evaluations is also provided in these chapters.

The results of external evaluations of UXO/MRE and UXO/mine VA are to be forwarded to the NRA.

The NRA reserves the right to carry out other external QC activities on UXO/MRE and UXO/mine VA activities as required.

8.3. Qualifications and Experience of External QM Inspection Personnel

The NRA will ensure that all personnel carrying out external QM inspections have qualifications and experience relevant to the type of UXO/mine action operation being inspected.

Such experience must include practical work within Lao PDR in the sub sector concerned, UXO/mine clearance, UXO/MRE or UXO/mine VA.

In addition, inspection teams carrying out external QM inspections on UXO/mine clearance tasks are to have one person in the team with a Level 4 EOD qualification in accordance with **Chapter 8 of NS, Explosive Ordnance Disposal (EOD)**.

8.4. Restrictions on the Activities of External QM Teams

When conducting external QC inspections on UXO/mine clearance tasks, external QM teams are to ensure that they only carry out inspections on land that has already been released (i.e. a **Completion Survey Report** has been submitted to the NRA, or in the case of ongoing work, has been presented to them by the clearance organisation concerned as cleared or ready to be released for use.

8.5. Frequency of External QM Inspections

The frequency of external QM inspections will be determined by the NRA dependant on the resources available and the work commitments of the standards section of the NRA.

Specific visits to confirm that corrective action to remedy non-conformities has been effectively implemented will be in addition to routine inspections.

8.6. Notification of External QM Inspection Visits

The NRA will generally notify organisations of external QM inspections, however it retains the right to make unannounced inspections, as it deems necessary.

8.7. Action on Identification of a Non-Conformity

Should a non-conformity be identified during an external QM inspection, the external QM inspection team is to note the details on the relevant external QM check list to include the following:

- a. Details of the non-conformity.
- b. The corrective action to be taken to ensure the non-conformity does not occur in the future.
- c. The action to be taken to put right any deficiencies that may have been caused by the non conformity.
- d. A time limit within which the action required is to be completed. This is to be agreed between the external QM inspection team and the task supervisor.

8.8. Corrective Action

If the non-conformity involves a critical safety matter, then the action required is to occur before work continues on site. All other non-conformities identified by external QM inspections are to be remedied by the UXO/mine action organisation as a matter of urgency.

Note: Critical safety matters are included on the inspection check lists.

8.9. Post External QM Inspection Procedures

On completion of the external QM inspection, the external QM inspection team leader is to debrief the supervisor of the worksite being inspected before leaving the site. The debrief will be against the inspection check list. The supervisor is to acknowledge having been debriefed by signing the check list.

Note: When training monitoring is carried out, the course manager is to be debriefed.

On completion of inspection the original copies of the inspection check list and any other relevant documentation will be passed to the NRA standards section. The NRA will then forward a copy of the check list and any other relevant documentation to the headquarters of the UXO/mine action organisation concerned. This may include directed action to rectify deficiencies.

Original copies of all external QM inspection documentation, including that of any follow-up action, is to be retained by the NRA.

8.10. Authority of External QM Inspection Teams to Halt Operations

An external QM inspection team has the authority to halt UXO clearance operations if a non-conformity is identified that either currently or potentially affects safety and it cannot be immediately corrected. Should it be necessary to halt operations, the external QM inspection team is to notify the NRA standards section as soon as practically possible, describe the action taken and provide justification for doing so.

UXO clearance operations at the worksite are not to recommence until the non-conformity has been remedied.

External QM inspection teams are to exercise this authority with discretion and in a spirit of co-operation rather than confrontation.

8.11. Redress

UXO/mine action organisations may seek redress if they feel the assessments or actions of an external QM inspection team are unwarranted. Requests for redress are to be submitted in writing to the Director of the NRA within 30 calendar days of the organisation receiving the inspection report.

8.12. Quality Management of Mine Clearance

Personnel who carry out Quality Management on mine clearance operations are to be qualified in both the mine clearance technician and mine clearance supervisor training in accordance with the NRA Training Standards for Lao PDR.

QM teams carrying out QC on mine clearance operations are to have the same operational support as teams carrying out mine clearance operations. (See section 8.2.1 above).

When conducting QC on mine clearance, QM teams are to treat cleared mined areas as unsafe until proven otherwise.