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Monitoring of stockpile destruction programmes

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Foreword

International standards for humanitarian demining programmes were first proposed by working groups at an international technical conference in Denmark, in July 1996. Criteria were prescribed for all aspects of demining, standards were recommended and a new universal definition of 'clearance' was agreed. In late 1996, the principles proposed in Denmark were developed by a UN-led working group and the International Standards for Humanitarian Mine Clearance Operations were developed. A first edition was issued by the UN Mine Action Service (UNMAS) in March 1997.

The scope of these original standards has since been expanded to include the other components of mine action and to reflect changes to operational procedures, practices and norms. The standards were re-developed and renamed as International Mine Action Standards (IMAS) with the first edition produced in October 2001.

The United Nations has a general responsibility for enabling and encouraging the effective management of mine action programmes, including the development and maintenance of standards. UNMAS, therefore, is the office within the United Nations responsible for the development and maintenance of IMAS. IMAS are produced with the assistance of the Geneva International Centre for Humanitarian Demining.

The work of preparing, reviewing and revising IMAS is conducted by technical committees, with the support of international, governmental and non-governmental organisations. The latest version of each standard, together with information on the work of the technical committees, can be found at <http://www.mineactionstandards.org/>. Individual IMAS are reviewed at least every three years to reflect developing mine action norms and practices and to incorporate changes to international regulations and requirements.

Introduction

An overview of the stockpile destruction process can be achieved through the accreditation and monitoring of destruction organisations before and during the Anti-Personnel Mine (APM) destruction process, and by the inspection of the explosive safety and verification systems being used.

Most national authorities already have the capability to apply some form of external monitoring. The form and extent of such monitoring varies from country to country, but the aim is similar; to confirm that destruction organisations are applying their approved management processes and operational procedures in a manner that will result in the safe, effective and efficient destruction of stockpiled APM. Monitoring is, essentially, a passive activity conducted by or on behalf of the national authority. It involves observation, recording and reporting. It is an essential element of the overall quality process.

The aim of this standard is to provide an internationally consistent framework for the implementation of a monitoring system as part of the APM destruction process. The goal is to promote a common and consistent approach to the external monitoring of destruction organisations.

Monitoring of stockpile destruction programmes

1. Scope

This standard provides guidelines for the implementation of a system for the monitoring of stockpile destruction programmes.

For reasons of consistency and simplicity of implementation, this standard is generically based on the principles and systems developed in IMAS 07.40 Monitoring of demining organisations.

An overview of demining Quality Management (QM) emphasising the importance of monitoring is included in clause 4 of IMAS 07.40. While this clause specifically relates to demining operations, thorough and comprehensive monitoring is equally as important for stockpile destruction operations.

2. References

A list of normative references is given in Annex A. Normative references are important documents to which reference is made in this standard and which form part of the provisions of this standard.

3. Terms, definitions and abbreviations

A list of terms, definitions and abbreviations used in this standard is given in Annex B. A complete glossary of all the terms, definitions and abbreviations used in the IMAS series of standards is given in IMAS 04.10.

In the IMAS series of standards, the words 'shall', 'should' and 'may' are used to indicate the intended degree of compliance. This use is consistent with the language used in ISO standards and guidelines:

- a) 'shall' is used to indicate requirements, methods or specifications that are to be applied in order to conform to the standard;
- b) 'should' is used to indicate the preferred requirements, methods or specifications; and
- c) 'may' is used to indicate a possible method or course of action.

The term 'national authority or authorities' refers to the government department(s), organisation(s) or institution(s) in each mine-affected country charged with the regulation, management and coordination of mine action. In most cases the national Mine Action Centre (MAC) or its equivalent will act as, or on behalf of, the 'national authority' for all aspects of mine action, but will not usually have direct responsibility for stockpile destruction. The planning and management of stockpile destruction will generally be undertaken by the Ministry of Defence, in liaison with the Ministry of Foreign Affairs.

The term 'destruction organisation' refers to any organisation (military or commercial entity) responsible for implementing stockpile destruction projects or tasks. The destruction organisation may be a prime contractor, subcontractor, consultant or agent.

The term 'monitoring body' refers to an organisation, normally an element of the national authority, responsible for the management and implementation of a national monitoring system.

4. General principles

Monitoring is an essential part of the destruction process. It provides the national authority with the necessary confidence that the destruction organisation has destroyed the Anti-Personnel Mine (APM) stockpile in accordance with its contractual obligations, and that the destruction process was conducted in a safe, effective and efficient manner. The national authority is then in a position to submit their Article 7 reports to the United Nations, confident that a fully auditable trail for the destruction process exists to support their submission.

To achieve this, monitoring shall examine the destruction organisation's capability (people, equipment and procedures) and observe how this capability is being applied. External monitoring complements the destruction organisation's own internal Quality Management (QM) system. It verifies that the destruction organisation's Quality Assurance (QA) procedures and internal Quality Control (QC) inspections are appropriate and are being applied – but it does not replace the destruction organisation's responsibility for ensuring the application of safe, effective and efficient operational procedures.

Monitoring will also be used, particularly at the beginning of a destruction programme as on-site verification, which is part of the initial accreditation of a destruction organisation. Guidance on accreditation is given in IMAS 07.30.

5. General requirements

5.1. Planning and preparation

The role and responsibilities of the monitoring body, including the frequency and form of site visits, should be defined in the destruction contract or other formal agreement.

Site visits should be well prepared. Prior to any visits the monitoring body should have read all relevant documentation including the destruction contract, accreditation agreements, documented management practices and operational procedures, reports from previous visits by the monitoring body, the results of previous national inspections, incident and investigation reports, and all other information which will assist the monitoring body develop a plan and programme for its site visit.

Prior to the visit, the monitoring body should inform the destruction organisation of the objectives and programme, and any preparation required (such as ensuring the availability of certain documents or key staff). The actual date and timings of site visits may be given in advance or visits may be unannounced. Both have advantages and disadvantages. Unannounced visits tend to observe destruction organisations in their normal working mode, but such visits may be disruptive and key members of staff may be absent. Announced visits tend to be more productive and less disruptive, but some problems may be hidden from the monitoring body. A combination of both may be appropriate.

5.2. Monitoring

5.2.1. General

The national authority shall monitor the destruction organisation and its sub-units to confirm that the management systems and operational procedures are consistent with the terms of accreditation. Such monitoring should be random, non-intrusive and should not interfere with the conduct of planned destruction activities.

On-site monitoring should include:

- a) visits to management, logistic and administrative offices or facilities including explosive storage areas, medical facilities and equipment maintenance areas;
- b) visits to sub-unit locations including worksites and supporting workplaces;

- c) observing destruction activities, including internal QA and QC procedures; and
- d) if appropriate, observing the Testing and Evaluation (T&E) of destruction equipment.

5.2.2. Management practices and documentation

Monitoring should include the inspection of destruction management documentation, for example: qualifications, training records, insurance cover, and general occupational health practices and records. Routine administrative documents and confidential personal information on employees, should not normally be inspected.

Samples of all documentation and records referred to above should be selected randomly. Samples should be representative of all relevant documentation.

5.2.3. Worksite safety

The provision of a safe working environment includes the design and layout of a destruction worksite by marking hazardous areas, controlling the movement of workers and visitors, enforcing safety distances, and providing effective medical cover and casualty evacuation procedures. The worksite procedures shall be consistent with national policy and conducted in accordance with the destruction organisation's own Standard Operating Procedures (SOPs). The monitoring body should assess the suitability of the worksite layout and safety procedures, and should assess how effectively the procedures are being applied.

5.2.4. Medical support

Developing an appropriate medical support capacity requires good planning, well trained staff and the availability of medical services able to provide effective emergency treatment. The monitoring body should assess the medical support available on site including the qualifications of the medical staff, medical equipment, stores, supplies and drugs provided to the medical staff, and vehicles for casualty evacuation. Documented procedures for treatment and casualty evacuation should be examined. The monitoring body should invite the destruction organisation to demonstrate its treatment and casualty evacuation procedures at least once every three months, or as required by the national authorities.

IMAS 10.40 provides guidance on the minimum requirements for medical support to demining operations; elements of IMAS 10.40 will be equally as valid for destruction operations, and it should be consulted during the development of the destruction organisation's medical plan.

5.2.5. Storage, transportation and handling of explosive

The provision of a safe working environment includes the safe storage, transportation and handling of explosives and explosive materials. This requires appropriate storage facilities, equipment and vehicles to be made available, and for destruction organisations to develop and maintain appropriate procedures. The monitoring body should assess the suitability of the destruction organisation's procedures for the safe storage, transportation and handling of explosives, and should assess how effectively the procedures are being applied. The monitoring body should also confirm the availability of documented procedures for the accountability and transfer of explosive items and accessories, and should confirm that these procedures are being applied. IMAS 10.50 provides guidance on the safe storage, transportation and handling of explosives.

5.2.6. Investigations of incidents

The monitoring body should assess the suitability of the destruction organisation's procedures for reporting incidents and conducting post-incident investigations. Reports of recent incidents should receive special attention.

IMAS 10.60 provides guidance on the minimum requirements for reporting incidents and conducting post-incident investigations. Although geared primarily towards demining operations, the principles and procedures in the IMAS are equally as valid for stockpile destruction operations.

5.2.7. Equipment

The monitoring body should assess the effectiveness and suitability of equipment. This should include the inspection of a sample of critical equipment (such as incineration and pollution control systems), and examining records of equipment maintenance, repairs, upgrades and modifications. Repair facilities and tools should be inspected.

5.2.8. Destruction activities

The monitoring body should observe destruction activities to ensure that they are consistent with the destruction organisation's SOPs.

Where specialist destruction activities are being used, such as the use of rotary kiln furnaces, the monitoring body shall include staff with the necessary specialist knowledge.

5.3. Reporting

Wherever possible, the head of the monitoring body should debrief the head of the destruction organisation or sub-unit being monitored on site prior to departure, drawing attention to any major concerns, particularly those involving safety.

The monitoring body shall prepare and submit a report in accordance with procedures established by the national authority, and other reports required by the destruction contract. Reports shall be copied to the monitored destruction organisation. Reports should normally be 'in-confidence' at this stage, especially if they criticise the management and/or operational activities of the destruction organisation.

5.4. Corrective action

Any problems identified by the monitoring body should be addressed by the destruction organisation. If the problems are sufficiently serious, the destruction organisation should be invited to present its corrected management or operational procedures to the national authority, and demonstrate that it is in full compliance with the stated requirements.

6. Monitoring body - general obligations

6.1. General

The national authority may accredit and appoint a body to carry out the monitoring on its behalf. Any monitoring body appointed by the national authority shall be adequately staffed, equipped and trained to monitor the destruction organisation and its sub-units in an effective and appropriate manner.

The monitoring body, however named, shall have the necessary documentation that describes its responsibilities, the methods to be used in the monitoring process, and the technical scope of its activities.

Where the monitoring body also acts as a national accreditation body and/or an inspection body, the relationship between its functions shall be clearly defined.

6.2. Organisation

The monitoring body shall have an organisation that enables it to maintain the capability to perform its technical functions quickly and satisfactorily. The body shall have a technical manager, however named, who is qualified and experienced in the operation of the monitoring process and who has overall responsibility for ensuring that the monitoring activities are carried out in accordance with IMAS and other relevant standards.

The monitoring body shall have a sufficient number of permanent personnel with the range of expertise required to carry out its normal functions.

6.3. Management system

The monitoring body shall define and document its management system and procedures (including its internal QM systems) and shall ensure that its management policy is understood and its procedures are implemented and maintained at all levels in the organisation. Where its systems and procedures affect the conduct of the destruction programme, the working relationship between the body and the destruction organisation should be agreed, and form part of the contractual arrangements.

The monitoring body shall establish and maintain procedures for site visits.

The monitoring body shall prepare and maintain records of all site visits, and any information needed to understand and interpret them. All records shall be safely stored for a period of at least five years, held secure and in confidence to the applicant, unless otherwise required by law.

6.4. Independence, impartiality and integrity

The personnel of the monitoring body shall be free from any political, commercial, financial and other pressures which might affect their judgement. Policies and procedures shall be implemented to ensure that persons or organisations external to the monitoring body, cannot influence the results of observations, inspections and evaluations carried out by the monitoring body.

The monitoring body and its staff shall not engage in any activities that may conflict with their independence of judgement and integrity in relation to their observations, inspections, and evaluations. In particular they shall not become directly involved in organisations that design, manufacture, supply, install, use or maintain services or equipment for destruction organisations operating in the mine action sector, or similar fields.

All interested parties shall have access to the services of the monitoring body. The procedures under which the body operates shall be administered in a non-discriminatory manner.

The monitoring body shall ensure confidentiality of information obtained in the course of its activities. Proprietary rights shall be protected.

7. Responsibilities

7.1. National authority

The national authority, or an organisation acting on its behalf, shall:

- a) establish a system for the monitoring of destruction organisations which complements the procedures for accreditation and explosive safety inspections;
- b) specify the national standards and provide guidelines for the monitoring of destruction organisations;

- c) monitor the work of the monitoring body, ensure that the monitoring system is being applied in a fair and equitable manner, and that monitoring does not interrupt or delay stockpile destruction projects; and
- d) ensure appropriate follow-up action is taken on the monitoring body's recommendations.

The national authority, or an organisation acting on its behalf, should:

- a) accredit and appoint a monitoring body; and
- b) conduct periodic external QA audits on the monitoring body.

7.2. Destruction organisation

The organisation undertaking destruction shall:

- a) apply management practices and operational procedures which aim to destroy the APM stockpile to the requirements specified in the destruction contract or other formal agreement;
- b) maintain and make available documentation, reports, records and other data on destruction activities to the monitoring body; and
- c) provide the monitoring body with access to all sites, buildings and other facilities which need to be visited as part of the monitoring requirement.

In the absence of a national authority or authorities, the destruction organisation should assume additional responsibilities. These include, but are not restricted to:

- a) agree with the donor a system of monitoring the destruction activities; and
- b) assist the host nation, during the establishment of a national authority, in framing national standards for monitoring.

7.3. Monitoring body

The monitoring body shall:

- a) gain (from the national authority) accreditation to operate as a monitoring body;
- b) monitor the destruction organisation and its sub-units; and
- c) monitor and make available documentation on site visits and inspections as required by the national authority.

7.4. Donors

When the contract or other formal agreement has been framed by the donor organisation, it shall be responsible for including details of the national monitoring requirements. In the absence of a national authority or authorities, the donor shall be responsible, directly or through an agent, for ensuring the effective monitoring of each destruction project it is funding.

Annex A (Normative) References

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this part of the standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of the standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid ISO or EN:

- a) IMAS 04.10 Glossary of mine action terms, definitions and abbreviations;
- b) IMAS 07.30 Accreditation of demining organisations and operations;
- c) IMAS 07.40 Monitoring of demining organisations;
- d) IMAS 10.40 S&OH - Medical support to demining operations;
- e) IMAS 10.50 S&OH - Storage, transportation and handling of explosives; and
- f) IMAS 10.60 S&OH - Reporting and investigation of demining incidents.

The latest version/edition of these references should be used. GICHD hold copies of all references used in this standard. A register of the latest version/edition of the IMAS standards, guides and references is maintained by GICHD, and can be read on the IMAS website: (See www.mineactionstandards.org). National authorities, employers and other interested bodies and organisations should obtain copies before commencing mine action programmes.

Annex B (Informative) Terms, definitions and abbreviations

B.1.

accreditation

the procedure by which a destruction organisation is formally recognised as competent and able to plan, manage and operationally conduct APM destruction activities safely, effectively and efficiently.

Note: For most stockpile destruction programmes, the national authority will be the body that provides accreditation. International organisations such as the United Nations or regional bodies may also introduce accreditation schemes.

B.2.

audit

a timely process or system inspection to ensure that specifications conform to documented quality standards. An audit highlights discrepancies between the documented standards and the standards followed and might also show how well or how badly the documented standards support the processes currently followed.

B.3.

demilitarization

the process that renders munitions unfit for their originally intended purpose.

Note: Definition from NATO Maintenance and Supply Agency (NAMSA), Peter Courtney-Green, May 2000.

B.4.

destruction

the process of final conversion of munitions and explosives into an inert state whereby they can no longer function as designed.

B.5.

destruction organisation

refers to any organisation (government, military or commercial entity) responsible for implementing stockpile destruction projects or tasks. The destruction organisation may be a prime contractor, subcontractor, consultant or agent.

B.6.

inspection

the observation, measurement, examination, testing, evaluation or gauging of one or more components of a product or service and comparing these with specified requirements to determine conformity.

B.7.

licence

in the context of mine action, the term refers to a certificate issued by a NMAA in relation to the capacity or capability of a facility, for example a demolition site may be licensed for certain explosive limits and explosive storage areas may be licensed for certain types and quantities of munitions. Demining organisations receive organisational or operational accreditation from an accreditation body authorised by a NMAA.

B.8.

monitoring body

an organisation, normally an element of the national authority, responsible for management and implementation of the national monitoring system.

**B.9.
national authority**

in the context of stockpile destruction the term refers to the government department(s), organisation(s) or institution(s) in each country charged with the regulation, management and coordination of stockpile destruction.

**B.10.
quality**

degree to which a set of inherent characteristics fulfils requirements. [ISO 9000:2000]

**B.11.
Quality Assurance (QA)**

part of QM focused on providing confidence that quality requirements will be fulfilled. [ISO 9000:2000]

Note: The purpose of QA in stockpile destruction is to confirm that management practices and operational procedures for the demilitarization cycle are appropriate, are being applied, and will achieve the stated requirement in a safe, effective and efficient manner. Internal QA will be conducted by destruction organisations themselves, but external inspections by an external monitoring body should also be conducted.

**B.12.
Quality Control (QC)**

part of quality management focused on fulfilling quality requirements. [ISO 9000:2000]

Note: QC relates to the *inspection* of a finished product. In the case of stockpile destruction, the 'product' is a safe system of work resulting in the final destruction of APM.

**B.13.
Quality Management (QM)**

coordinated activities to direct and control an organisation with regard to quality. [ISO 9000:2000]

**B.14.
Standard Operating Procedures (SOPs)**

Standing Operating Procedures (SOPs)

instructions that define the preferred or currently established method of conducting an operational task or activity.

Note: Their purpose is to promote recognisable and measurable degrees of uniformity, consistency and commonality within an organisation, with the aim of improving operational effectiveness and safety. SOPs should reflect local requirements and circumstances.

Amendment record

Management of IMAS amendments

The IMAS series of standards are 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 IMAS they will be given a number, and the date and general details of the amendment shown in the table below. The amendment will also be shown on the cover page of the IMAS by the inclusion under the edition date of the phrase *'incorporating amendment number(s) 1 etc.'*

As the formal reviews of each IMAS 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.

The most recently amended IMAS will be the versions that are posted on the IMAS website at www.mineactionstandards.org.

Number	Date	Amendment Details
1	1 Dec 2004	1. Formatting changes. 2. Minor text editing changes. 3. Changes to terms, definitions and abbreviations where necessary to ensure that this IMAS is consistent with IMAS 04.10. 4. Substantive changes: a) Clause 6.3. Text change in first sentence. b) Clause 7.1. Text change to sub clause 'd', and a new sub clause 'e'.
2	23 Jul 2005	1. Clause 5.2.2, first paragraph, changes to the wording of the last sentence. 2. Clause 5.3, second paragraph, second sentence, change of a 'should' to a 'shall'. 3. Clause 7.1, inclusion of a new second paragraph that changes two of the responsibilities of a NMAA previously indicated as 'shall', to 'should'. 4. Annex B, change to the definition of 'Quality Assurance (QA)' to be consistent with IMAS 04.10.
3	1 Aug 2006	1. Minor changes/additions to the first and second paragraph of the foreword. 2. Clause 1, inclusion of new third paragraph to the scope.