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Management of training

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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

In almost all mine action programmes there will be a requirement for the training of staff for operational and management tasks. Training can be carried out in two ways, informal or on-the-job training, and formal training. On-the-job training is normally carried out with small numbers of staff or on a one-to-one basis. It tends to be on-going and provided on an 'as required' basis by more senior staff. Formal training is normally delivered to a group of trainees over a finite period of time in the form of, for example, a training course or a workshop. Formal training may be directly conducted by mine action organisations themselves; by a central training facility established by the National Mine Action Authority (NMAA), or by international training institutions or experts.

Training should be developed in response to confirmed needs and so a training needs analysis should be conducted first. Training should then be delivered by qualified trainers taking into full consideration the different needs of the students e.g. gender and diversity issues. To ensure good quality training the NMAA should set national guidelines for the management of training, to monitor the progress and delivery of training and to assess the outcome. The NMAA should specify the requirements for the management of training in national standards.

Note: On-the-job training can sometimes also be conducted as formal training

Management of training

1. Scope

This standard provides guidelines for the management of training for mine action staff. It specifically applies to training conducted by mine action organizations for personnel to carry out mine risk education (MRE), explosive ordnance disposal (EOD) and operations including survey, marking, clearance, monitoring and evaluation, and quality control activities.

It does not cover other training conducted for mine action staff including victim assistance related activities and training in support of administration, logistic or finance related tasks, although similar principles may be applicable.

This standard does not address informal training in detail.

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 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 Mine Action Authority (NMAA)' refers to the government entity, often an inter-ministerial committee, in a mine-affected country charged with the responsibility for the regulation, management and coordination of mine action.

Note: In the absence of a NMAA, it may be necessary and appropriate for the UN, or some other recognised international body, to assume some or all of the responsibilities, and fulfil some or all the functions, of a MAC or, less frequently, an NMAA..

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

4. Training – general requirements

The NMAA should establish procedures for the management of training within their programmes. Such procedures should be laid out in national standards and cover the following requirements:

a)   training should be based on a Training Needs Analysis (TNA);

b)   training should be included in strategic and annual planning as part of the development of national capacity;

c)   training should be properly designed and developed and guided by comprehensive Training Management Packages (TMP);

d)   unless training is carried out centrally under the control of the NMAA, mine action organisations should be required to submit their TMPs to the NMAA for approval prior to any training taking place.

Note: During the accreditation process, mine action organisations should be required to submit details of their management training schemes and also their employee skills development programmes. See IMAS 07.30 for details.

e)   training should only be delivered by capable trainers. The NMAA should specify how qualifications will be checked;

f)   evaluation and testing of training should be carried out;

g)   training should be subject to internal and external monitoring; and

h)   training administration procedures should be developed.

5.   Training Needs Analysis (TNA)

The primary intention of conducting training for mine action staff is to acquire basic, or enhance existing, knowledge, skills, and competencies in order to satisfactorily fulfil the duties and responsibilities assigned to them. In ideal circumstances, mine action organizations should already know the need for training they undertake. When it is not known, a TNA should be carried out prior to developing and conducting any training. A TNA will help to:

a)   confirm whether training is needed;

b)   determine content and scope of training;

c)   determine desired training outcomes;

d)   establish a basis for measuring success;

e)   determine causes of poor performance in the organization; and

f)   gain management support;

A wide variety of methods, such as questionnaires, focus group discussions, interviews and analysis of job performance should be used to conduct a TNA.

The need for training should be based on the actual requirements of the potential trainees in the training, *and* on the organizational context in which they are to apply what they have learned. 'Actual requirements' refers to the Knowledge, Skills and Attitudes (KSA) required to perform the job. 'Organizational context' points to aspects within the organization that limit performance of individual staff members, such as poorly written Terms of Reference, or a lack of leadership. A TNA helps to analyze which performance issues are caused by a lack of KSA on the part of a staff member, and which are due to constraints in the organizational context. Those that are caused by a lack of appropriate KSA on the part of staff members can be addressed through training, whereas those caused by constraints in the organizational context will have to be resolved through other means. Without a TNA, an organization may be inclined to train their staff members, without realizing that the real issue limiting performance lies in the organizational context.

A TNA should follow the following steps:

Step 1: Organizational analysis

This analysis should consider the major organizational performance issues and the expected contribution the training is to make. From this analysis it should be clear which issues can be dealt with through training, and which require a change in the functioning of the organization, such as a change in strategy, staffing or management systems.

If the TNA indicates that performance is being limited by issues within the organization, the organization should devise a plan for addressing these issues.

If the TNA indicates that training *can* contribute to increasing organizational performance, the organizational analysis should indicate which position (s) requires training.

Step 2: Task analysis: identifying performance discrepancies

This analysis is a skill audit and should involve the following:

a)   a detailed examination of the duties and responsibilities of each position under review;

b)   determination of the separate tasks to be fulfilled the duties and responsibilities related to each position;

c)   determination of the Knowledge, Skills and Attitudes (KSA) required for each of the tasks to be satisfactorily carried out; and

d)   determination of the current level of KSA of each staff member in positions for which performance needs to be enhanced, i.e. *'what staff is doing now'* (actual performance on task and related KSA).

The result of the task analysis should be a summary of tasks and related KSA required for a staff member to satisfactorily fulfil the duties and responsibilities of a particular position.

Step 3: Identify training needs

Training needs should be formulated based on the difference between *'what staff is doing now'* and *'what they should be doing'* (i.e. required performance).

The resulting training needs can be divided in larger overarching training needs, such as 'How to conduct mine clearance operations', but should also be broken down into smaller training needs, such as 'How to operate current metal detectors safely', 'How to set up separate MRE sessions for men and women' and 'How to do gender sensitive community mapping'.

After the TNA has been completed, and if training is found to be the suitable response to the performance issues, the training shall be designed and prepared.

6.   Training design and preparation

6.1.   General

To design and prepare training adequately it is necessary to:

a)   decide what type of training will best meet training needs;

b)   establish objectives for the training, sessions and possibly, lessons;

c)   design session plans; and

d)   decide on a method for evaluating and testing the training.

6.2. Types of training

6.2.1. General

In the context of mine action, training may be classified as on-the-job training (OJT), or formal training in the form of either basic, refresher or continuation training.

6.2.2. OJT

OJT is normally ongoing and facilitated while the staff member is carrying out duties and responsibilities commensurate with their current level of KSA.

OJT does not require the complete range of training design, however, training objectives should be established (see 6.4), and a way to assess whether the objectives of the training have been achieved.

6.2.3. Formal training

6.2.3.1. General

Formal training is normally delivered in the form of a training course or workshop, to a group of trainees, for a finite period, often in a location away from an operational worksite. Formal training should be designed and prepared according to the four tasks in Clause 6.1. Three levels of formal training are discussed below.

6.2.3.2. Basic training

Basic training aims to give a recruit the KSA required for each of his/her tasks to be satisfactorily carried out. This type of training is applicable for newly recruited staff e.g. a basic demining course for newly recruited deminers.

6.2.3.3. Refresher training

Refresher training aims to update and/or maintain KSA levels over time. This type of training can be used on a regular basis, after periods of absence from a task or when there are signs that KSA levels have dropped. These signs may be identified through routine monitoring and inspection or as a result of an incident.

6.2.3.4. Continuation training

Continuation training is training that builds on previous training and provides additional KSA. This type of training is applicable when there are changes to work methods, procedures and equipment or when staff are being given additional skills to advance their careers.

The decision to choose one level of training over the other should be informed by the training needs, but also by:

a)   the position, tasks and related KSA;

b)   the number of trainees involved; and

c)   the availability of human (trainers), physical (training equipment and facilities) and financial resources necessary to design, prepare and deliver the training.

6.3. Training, session and lesson objectives

Training should be designed with specific and measurable training objectives. A training objective is a brief, clear statement of what a trainee should know or be able to do at the completion of the training. They serve to guide the design of the training content and methods and provide a means against which the results of the training can be compared. Training objectives should be based on the training needs established by the TNA, and describe the KSA a trainee should gain as a result of training.

Each training objective should be then broken down into a number of specific and measurable session objectives. Session objectives describe the specific KSA that should be acquired by trainees in one session. For example: for the training objective, 'facilitate mine/ERW community mapping with affected communities', three session objectives can be formulated; one related to knowledge, one to skills and the other to attitudes. A session should generally last no more than half a day and be comprised of several lessons.

Attitude objectives should be used where there is a need for trainees to conform to certain standards of behaviour, such as for example safety. Attitude objectives cannot be tested, they can only be assessed. For a training subject such as safety there should be two complementary enabling objectives. The first would involve an understanding of safety requirements, which can be tested but the second, the attitude objective, would involve 'demonstrating' an attitude towards safety. There could be some specific indicators provided for 'safe' and 'unsafe' behaviour and criteria for passing and failing, but the assessment would involve observing trainees throughout training to ensure that they do demonstrate safe behaviour. See Annex B for an example of tasks, training and session objectives for a basic mine action training.

In addition to designing training and session objectives, individual lesson objectives that focus specifically on one or the other KSA may be developed. These objectives should be equally specific and measurable and their design should adhere to the same rules as training and session objectives.

Objectives should be numbered in a logical sequence taking into account which objective is a prerequisite for another. Annex B shows an example of such a logical a numbering system.

6.4. Session plan

Training should be broken down into a number of sessions. All training sessions should be developed with clear session plans. These plans provide overviews of each session. Training should therefore be accompanied by a set of session plans arranged in the order in which the sessions will be delivered. Sequencing should be logical to ensure that any sessions that are a prerequisite for others are arranged appropriately

Session plans provide much of the detail required to run the training and permit trainers to prepare and satisfactorily deliver each session. Consequently, the entire training will be more effective. An example of a session plan is included at Annex C.

6.5. Training Test

The last step in preparing for the training should be the development of training tests. These tests should be applied at the end of the training, by which time the training objectives should have been achieved.

For practical tests or on-the-job assessments, the conditions should be safe and as close to the conditions a trainee could expect on the job as possible.

The final part in the development of training objectives is the determination of results statements, which describe how a trainee can demonstrate that the training and/or session objective(s) has/have been achieved. A result statement may simply be a pass mark for a written test, or the successful completion of a practical test. In demining training, safety is often relevant in this test.

The conditions and results statements for the evaluation should be listed on a training test plan. Trainers can also include remarks on administrative or other details on this form. An example of such a plan is included at Annex D.

Provision should be made for the retesting of trainees who do not pass an initial test.

Details of the management of training tests and possible re-test should be included in the Training Administration Procedures. If a trainee fails an initial test, they should be given a short period of extra training and then be given another test to complete. The fact that a retest was required should also be included on the training report for that individual. If the trainee fails the re-test, alternative arrangements may be made. These may include OJT for the trainee, followed by participation in a future training on the same subject.

While testing the achievement of the training objectives at the end of the training is important, the trainer should also conduct 'confirmatory testing' throughout the training. This involves checking that the trainees have understood the lesson and are on their way to complete the objective to the standard required. This type of testing should be prepared by the trainer as part of lesson planning.

7. Training Management Package (TMP)

A TMP is a set of documents that provide all the information necessary to run formal training. The NMAA should specify what should be included in a TMP within their programmes. A TMP should include, where relevant:

a)   training, session and lesson objectives;

b)   set of session plans and schedule;

c)   description of activities and practical exercises;

d)   practical exercises;

e)   training testing tools;

f)   power point presentations and overhead sheets;

g)   list of training equipment;

h)   list of training aids;

i)   hand-outs;

j)   reference materials; and

k)   training administrative procedures (see clause 10 below).

A comprehensive TMP should permit a trainer to efficiently and effectively plan and deliver formal training and at the same time should provide the manager with a concise overview of the entire training.

When mine action organisations run their own training, the TMPs should be submitted for approval to the NMAA in accordance with the procedures set by the NMAA

8. Qualifications and experience of training staff

Mine action organisations should ensure that all trainers have the appropriate qualifications and experience necessary to provide effective and technically sound training.

The NMAA may require mine action organisations to submit trainers' Curriculum Vitae (CV) for approval prior to training, unless the qualifications and experience of the trainer have already been covered as part of the accreditation process.

9.   Monitoring of training

9.1.   General

Monitoring of training should be conducted to ensure that the training is effective and technically sound, that it is being conducted in accordance with the TMP and that it achieves the stated objectives. Plans for internal and external monitoring of training should be included in the training administrative procedures.

Monitoring of training can be done internally by the person, or the organization responsible for the training, e.g. training provider, training organizer or training manager, and/or externally by a person, or an organization other than the training provider/organizer.

Whether monitoring is conducted internally or externally, it should:

a)   be specific in where the training does or does not meet the on-the-job requirements and what has to be included or changed to improve the training;

b)   include comment on the good and bad points of training; and

c)   obtain input from a wide range of personnel, including past trainees who can provide comment on where the training met or failed to meet on-the-job conditions.

9.2.   Internal monitoring

Internal monitoring of the training may include:

a)   assessing trainees perceptions of the training through a process of trainee self-assessment and feedback during the training; and

b)   visiting the site of operations to observe the conditions under which the trainees apply acquired KSA in their work and; to discuss with supervisors and co-workers how the trainees are able to fulfil the requirements of the position. It may also be possible, to obtain comment from past trainees on assimilating acquired KSA.

9.3.   External monitoring

External monitoring may include:

a)   an interview with the trainees at the end of the training to discuss the completed training. Topics covered during these interviews should include:

  (1)   training administration;

  (2)   training content and likelihood of assimilation of acquired KSA;

  (3)   instructor knowledge and skills;

  (4)   training equipment;

  (5)   training facilities; and

  (6)   trainee support;

b)   periodic assessment of the general training skills and methods of trainers. This assessment should be conducted on a regular basis and should consider whether TMPs are being followed, the quality of theoretical and practical aspects of the training, and whether trainees are achieving expected results in accordance with objectives;

c)   visiting the site of operations to observe the conditions under which the trainees apply acquired KSA in their work, to discuss with the end-users, i.e. supervisors, or co-workers how the trainees are able to fulfil the requirements of the position, and possibly, to obtain comment from past trainees on the assimilation of acquired KSA;

d)   unsolicited comment from end users either in writing or verbally; and

e)   discussions at meetings or working groups.

The findings of external monitoring visits should be formally presented to the trainers and the organisation delivering the training. Where internal and/or external monitoring identifies deficiencies in training, the trainer should make the necessary adjustments to the training. Adjustments, however, should not be automatically made on the basis of information from one source alone.

10.   Training administration procedures

10.1.   General

Training administration procedures should be included in the TMP. Examples of some of the detail that may be included in these procedures are:

a)   trainer requirements including specific knowledge and skills;

b)   translator support;

c)   accommodation requirements;

d)   transport requirements including safety vehicles;

e)   medical support;

f)   communications;

g)   procedures for the management of re-tests;

h)   procedures for any pre-assessment of students who may already have the KSA covered in a lesson; and

i)   internal and external monitoring requirements; and examples of training documentation such as student duty lists, equipment issue forms and sample training reports.

In some cases, the NMAA may stipulate the inclusion of certain requirements included in administration procedures. Some examples are discussed below.

10.2.   Criteria for the selection of trainees

The mine action organisation should ensure that staff selected to attend training are suitable and have the prerequisite knowledge and skills necessary for them to assimilate the KSA to be taught on a particular training. When preparing selection criteria, the mine action organization should ensure that the criteria includes elements to encourage women trainees, and does not discriminate against people with disability who are suitable and have the prerequisite qualification. Where possible, gender balance should be ensured in selection of trainees.

10.3.   Training equipment and materials

Equipment and materials used during training should be gender sensitive and should reflect the same as those used on actual operations as much as possible.

10.4.   Training mines and ERW

The use of training mines and ERW shall be strictly controlled to avoid accidents/incidents. The use of inert, drill, instructional or replica mines and ERW shall be in accordance with the requirements of IMAS 10.50 S&OH Storage, transportation and handling of explosives.

10.5.   Training facilities and areas

Training shall be conducted safely without risk of harm to the trainees, trainers or local population. Separate training sessions for women and men might be needed in certain contexts in order to guarantee the meaningful participation of all groups. If an initial training is conducted in the field, it should be in areas known or proven to be safe. After initial training is complete, and a satisfactory level of competence has been achieved, it may be permissible to continue further training in hazardous areas. Such training should only be conducted under close supervision and only with the approval of the NMAA. Locations for training should be gender sensitive, ensuring availability of separate facilities for women and men, if needed.

Consideration shall always be given to the safety of the local population and the environment when conducting training, especially when live explosives or ordnance are used. See IMAS 10.70 S&OH protection of the environment.

10.6.   Management of training records

For each training course or period of OJT, records should be maintained by the organisation that conducted the training. Training records should include details of the training received, who received it, who were the instructors and the standard achieved by each individual trainee. A training report should also be issued to each trainee.

The organization conducting the training should maintain records of training for the life of the programme. If the organisation ceases to work in a particular country, the training records should be transferred to the NMAA. Records of training are to be made available to the NMAA on request.

11.   Responsibilities

11.1.   United Nations

Where the UN is acting on behalf of the NMAA or supporting NMAA/MAC in the development of national mine action capacity, the UN shall, where applicable, ensure that organizations conduct mine action training in accordance with the TMP and that planned results are being achieved.

11.2.   National Mine Action Authorities (NMAA)

The NMAA shall:

a)   establish and maintain national standards, regulations and procedures for the management of training within their programmes. These procedures should be consistent with the relevant national and international standards, regulation and requirements;

b)   ensure that capacity development forms an essential part of the work of each NMAC, NMAA, and mine action organization, as well as Senior/Chief Technical Advisor (S/CTA) providing support to any of these organizations;

c)   approve TMPs and the CVs of trainers before training begins, when these have not already been covered as part of the accreditation process; and

d)   perform periodic external assessment of training conducted by the mine action organizations to ensure the training is in accordance with the TMP and the national standards.

11.3.   Mine Action Organizations

The organizations conducting mine action training shall;

a)   ensure that capacity development forms an essential part of their work and the work of Technical Advisors providing support to any training;

b)   produce comprehensive TMPs;

c)   ensure that their TMP is in compliance the organization's SOPs and with the national standards;

d)   ensure that training is based on a Training Needs Analysis;

e)   ensure training activities, whether formal or on the-job, are written into the strategic and work plans of the organization;

f)   submit TMPs to the NMAA for approval prior to any training taking place, unless the training is carried out centrally under the control of the NMAA;

g)   conduct internal monitoring and evaluation as an essential part of the training;

h)   maintain records of training for the life of the programme. If the organisation ceases to work in a particular country, the training records shall be transferred to the NMAA; and

i)   ensure the training is being delivered by qualified and experienced trainers and that the needs of both men and women are being addressed. In some circumstances it may be necessary to use male and female trainers.

11.4.   Donors

Donors, where relevant, should ensure that capacity development is a key activity of each organization they fund and that they conduct training in accordance with the national requirements.

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 05.10 Information management;

c)   IMAS 07.30 Accreditation of demining organisations and operations;

d)   IMAS 08.50 Data collection and needs assessment for mine risk education;

e)   IMAS 09.30 Explosive Ordnance Disposal;

f)   IMAS 09.41 Operational procedures for mine detection dogs;

g)   IMAS 09.42 Operational testing of mine detection dogs;

h)   IMAS 09.50 Mechanical demining;

i)   IMAS 10.50 S&OH - Storage, transportation and handling of explosives;

j)   IMAS 10.70 S&OH – protection of the environment;

k)   IMAS 11.10 Guide for the destruction of stockpiled APM;

l)   IMAS 11.20 Principles and procedures for OBOD operations;

m)   IMAS 11.30 National planning guidelines for stockpile destruction; and

n)   IMAS 12.10 Planning for mine risk education programmes and projects.

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 (http://www.mineactionstandards.org/). NMAA, employers and other interested bodies and organisations should obtain copies before commencing mine action programmes.

Annex B
(Informative)
An example of training & session objectives for a basic demining training

Training objective:
1.1.　　　Demonstrate an appropriate attitude towards mine and ERW, including unexploded sub-munitions safety.

　　　Session objectives:
　　　1.1.1　Understand the threat posed by mines and ERW.
　　　1.1.2　State mine clearance operations safety requirements.

Training objective:
1.2.　　　Understand the organisation of (organisation's name) demining assets.

　　　Session objectives:
　　　1.2.1　Understand the organisation of (organisation's name) demining assets.

Training objective:
1.3.　　　State the responsibilities of a Deminer, Section Commander and Team Leader.

　　　Session objectives:
　　　1.3.1　State responsibilities of a Deminer, Section Commander and Team Leader.
　　　1.3.2　Take personal preventative measures to prevent injury.

Training objective:
1.4.　　　Identify mines and ERW.

　　　Session objectives:
　　　1.4.1　State general mine and ERW hazards.
　　　1.4.2　State mine and ERW recognition factors
　　　1.4.3　Identify anti-personnel mines and fuzes.
　　　1.4.4　Identify anti-tank mines and fuzes.
　　　1.4.5　Identify common ERW.

Training objective:
1.5.　　　Operate and maintain current metal detectors safely.

　　　Session objectives:
　　　1.5.1　Operate metal detectors A.
　　　1.5.2　Operate metal detector B.
　　　1.5.2　Maintain both metal detectors.

Training objective:
1.6.　　　Use and maintain mine clearance equipment other than metal detectors.

　　　Session objectives:
　　　1.6.1　Use mine clearance equipment.
　　　1.6.2　Maintain mine clearance equipment.

Training objective:
1.7.　　　Operate and maintain current VHF communication equipment.

　　　Session objectives:
　　　1.7.1　Operate current VHF communication equipment:
　　　1.7.2　Maintain current VHF communication equipment

Training objective:
1.8.　　　Conduct mine clearance operations.

Session objectives:

1.8.1 Conduct mine clearance operations.

Annex C
(Informative)
An example of a Session Plan: Operate current metal detectors

Training: Formal basic demining training for future Deminers - February 11 – 15 2008
Training objective: Operate and maintain current (A and B) metal detectors safely (see Annex B 1.5)

Training session: **Operate metal detector A safely**
Date of session: February 12 2008
Time for session: 8.00 – 12.00
Location: Class room and mine training field at mine action training centre
Number of trainees: **25**

Time	Method for lesson	Content and Activity of lesson	Teaching points	Equipment/Support/references
8.00-9.00	Lecture, discussion and Q&A	Theoretical session on mechanics of the metal detectors.	1. Packaging of metal detectors for storage. 2. Identify parts of metal detector. Includes the serial numbers. Cover the importance of keeping serial numbered parts together. Cover battery maintenance regime (rechargeable batteries) or replacement regime (disposable batteries).	Equipment: 1. Metal detectors complete with batteries and test piece (if required). One detector per two trainees
9.00-10.00	Practical demonstration in class room	First take apart both detectors, demonstrate mechanical functioning as well as parts and components. Second, ask trainees to reassemble both detectors.	3. Set up for operation. Assembly with batteries. Cover use of the earpiece/headphones (when supplied). Demonstrate range of signals, when possible. 4. Setting sensitivity, sound volume and testing of metal detectors against test piece. Preparation metal detector for operations following sequence in manufacturer's guide or detailed SOPs.	2. Lane marking equipment. Pegs, tape and hammer 3. Metallic objects for trainees to locate 4. Marking materials for marking readings
10.00-10.30	Coffee break		5. Cover frequency of testing required to ensure confidence in performance. Periodic recalibration and testing is required during a working day, and can be critical in areas with high temperature variation over the working period. The same is true when moving between varied soil conditions, either wet or dry, and over areas with variable electromagnetic disturbance.	5. Tape measure Support: Five Instructors. See test instruction for staff assistance during testing
10.30-12.00	Practical demonstration of metal detectors in mine training field Practice with Metal detectors	Demonstrate how to operate the detector in practice mine clearance lane. Trainees clear lane with practice mines while	6. Determining the rate of search-head advance; explain the area searched under the search-head and how the shape and depth of the area interrogated varies according to the target 7. Operation in clearance lane: a. Speed of search-head movement (especially when using	References: Current metal detector SOPs.

| | | using the metal detector A. | a detector in "dynamic" mode. b. Height of search-head above ground c. Minimum distance between working metal detectors. (This distance will vary between detector models, and some models can switch frequency to avoid any interference.) d. Overlapping lane sides e. Moving forward in the lane (Rate of search-head advance.) f. Detection positions, standing, squatting or kneeling. 8. Pinpointing and marking indications Remind trainees of safety requirements (training objective 1.1.2) | |

	Title	Doc. Number
Documents	1. Metal detector operations and service manual and/or relevant section of SOPs. (metal detector manuals are guidelines and should be adapted and expanded as required.) 2. Operations SOPs.	1. metal detector manual 2. SOP
Audio Visual materials	Power Point presentation on mechanics to support theoretical session on mechanics of the metal detector and its principle of operation (static/dynamic/switch-able); search-head configuration (loop/double-D); and the area interrogated under the ground surface related to the targets being sought (dictates search-head advance).	1. PowerPoint presentation 2. Videos
Other materials needed	Flipchart and crayons	1. charts 2. diagrams
Remarks	Correct use of the metal detectors is to be monitored during the practical exercises conducted during the training	
Observations		

Annex D
(Informative)
An example of a Training Testing Plan

Training: Formal basic demining training for future Deminers - February 11 – 15 2008
Training objective: Operate and maintain current (A and B) metal detectors safely (see Annex B 1.5)

Date of test: February 15 2008
Time for session: 8.00 – 9.00
Location: Mine training field at mine action training centre
Number of trainees: **25**

Training Objective	Conditions for Testing	Result Statement	Remarks
Operate current (A and B) metal detectors safely	1. In a practical test: conduct mine clearance drills – specify a realistic time per trainee per metal detector. 2. Given: a. Metal detector complete with batteries and test piece (if required). b. Demining toolkits complete. c. One metre wide clearance lane laid out 10 metres long containing five relevant metallic targets (accurate stimulants or FFE mines with simulated detonators). d. No more than the time specified per metal detector. 3. Without access to reference material. 4. Without assistance.	1. Safely operate each one of the two current metal detectors by demonstrating the ability to: **Criteria:** a. Assemble and prepare the metal detectors for operation. b. Carry out the one-person clearance drill to locate all five metallic objects in the lane. c. Carry out the signal excavation drill to uncover the objects. d. Mark the location if a mine or metal signal is located. e. Operate each of the detectors without breaching safety.	1. Practical testing on the operation of current metal detectors is carried out at the same time as testing on the use of current mine clearance equipment i.e. training objective 1.6.1. One day is allocated for this test. 2. Final practical test - Conduct mine clearance drills.

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	01 Mar 2010	1. Updating definition of NMAA. 2. Updating UNMAS address. 3. Minor changes throughout to ensure gender and cluster munitions issues. 4. Removal of Annex B from IMAS series. Re-naming Annex C to B, D to C, etc.
2	01 Aug 2012	1. Reviewed for impact of IATG development. 2. Minor typographical amendments.