



**PROPOSAL AND JUSTIFICATION
FOR
AMMENDING AN EXISTING INTERNATIONAL MINE ACTION STANDARD,
DEVELOPING A NEW STANDARD,
OR
A NEW TECHNICAL NOTE FOR MINE ACTION**

This form is intended to provide the start point in a process that identifies both shortcomings and improvements needed in International Mine Action Standards (IMAS) and their accompanying Technical Notes on Mine Action (TNMA).

After it has been properly completed and submitted, the proposal will be reviewed by the Chairman and the Secretary of the IMAS Review Board who will then include their comments, if any, and circulate it to the Review Board. If there is support for the proposal from at least 25% of the Review Board's members the process will continue.

Note 1: When the Review Board supports the subject matter, the proposal for a new IMAS will be submitted to the IMAS Steering Group for approval.

Note 2: In the event of amendments to an existing IMAS, this form will only be used when the amendments are substantial (e.g. NMAA and Mine Action Organizations may need to amend their National Standards and/or SOPs).

Note 3: When the Review Board cannot agree on a proposal, the issue will be put to the IMAS Steering Group for a final decision.

Emanuela Elisa Cepolina, Snail Aid – Technology for Development (after having extensively discussed with Pehr Lodhammar, GICHD and Mikael Bold, GICHD) wishes to propose that the following is considered within the framework of International Mine Action Standards:

Theme or subject matter? (*Give brief description of the topic you wish the IMAS Review Board to consider*)

The topic to consider is a new Technical Note for Mine Action on the Acceptance Test and Evaluation of Demining Machines. It suggests a system for testing and evaluating all types of demining machines other than machines designed to detonate hazards in mine affected countries, in realistic conditions. The system allows national mine action authorities (NMAAs) to compare different machines on the basis of their performance in similar environments, allowing choices on which machines to employ and where to employ them on the basis of quantitative, realistic data. The system, once adopted as a baseline for evaluating machines performance in mine affected countries, could serve as reference for local machine producers to aim at the right target while designing their products, promoting local innovation and development.

Rationale as to why there is a need? (*Be as specific as possible. Include where this might improve such things as safety, productivity, be beneficial to a community or a host Government – include relevant data / calculations / research as back-up information.*)

CWA 15044:2009 (E) states in paragraph 4, Scope:

"For the purposes of this document, demining machines are defined as those machines whose stated purpose is the detonation, destruction or removal of landmines. This does not necessarily imply a fully demined area following passage of the machine. Ground preparation machines are those, which are primarily intended to improve the efficiency of subsequent demining activities such as manual demining. This may include breaking of hard ground, vegetation cutting, fragment removal, or rubble removal. It may or may not involve the detonation, destruction or removal of landmines.

*It is recognised that this CWA concentrates on the testing of machines employed to clear mines, and there is a need to expand future work to address a number of issues, including:
Appropriate testing for ground preparation devices, including test of....."*

State the current shortcoming and/or need for improvement of existing IMAS/TNMA that this new topic will seek to address? (max 200 words)

IMAS 09.50 clearly states that "each demining machine and mechanical tool shall be Tested and Evaluated (T&E) to determine its suitability for the task(s) it is expected to carry out in the conditions in which it will work" and that T&E for demining machines should be designed to: "identify the operational limitations and the optimal operating conditions of the machine, identify the effectiveness in disrupting, destroying, detonating or otherwise removing different types of landmines or ERW from hazardous areas in different operating environments, identify the residual risk remaining from each potential hazard to be targeted in the operating environments in which the machine(s) will work, identify any limitations in the employment of a machine,.. and identify any potential environmental damage caused through the use of demining machines e.g. soil erosion"

So far there are no guidelines for T&E machines in realistic conditions in mine affected countries helping NMAAs to highlight scenarios where machines perform better and to state their limitations, nor to identify the best follow-up. The choice of adopting one machine or another in a specific environment should be based on realistic, quantitative data, possibly also including cost as variable to consider and evaluate to allow a better management of resources.

This will in particular be very important as the mine action community moves to a greater focus on technical survey.

Explain the negative impact on field operations that this shortcoming will or has caused and/ or the improvement that is expected? (max 200 words)

The system suggested in the new TNMA would allow NMAAs to allocate better the money at their disposal, choosing the right tool for the right task.

It is expected that a considerable amount of money will be saved and operational efficiency will be improved by consciously use the right tool in the right place.

Explain the negative impact on the mine affected community that this shortcoming will or has caused and/ or the improvement that is expected? (max 200 words)

Introducing guidelines on how to test and evaluate demining machines during the acceptance trials would allow NMAAs to introduce a statistically valuable system "to ensure the proper T&E of demining machines prior to their deployment on demining operations" (IMAS 09.50). Moreover it would serve a system for "demining organizations to maintain detailed records of their mechanical and follow-up operations to establish a statistical database of information that can be used for operational decision making" (IMAS 09.50).

At the end, by supporting operational decision making toward a better use of resources, the system would allow mine affected communities to have their land released in a shorter time. It might even open up the road for an honest competition between locally built machinery and expensive machines sold on the international mine action market, therefore, potentially fostering local development.

Are there any existing publications already dealing with this topic? (max 100 words)

“Demonstration Trial of Bozena-4 and MV-4 Flails – ITEP Trial at International Mine Action Training Centre, Nairobi, Kenya” by G.G. Coley et alter, published by Defence R&D Canada in 2007, underlines that “CWA15044 is primarily focused on the performance and survivability tests of machines for demining operations. By comparison, it deals with acceptance tests, or in-country tests in a much briefer and more general manner.”

“A new tool for evaluating demining machine cost-efficiency on the basis of realistic data: application to LCOOSTRAv2”, presentation given by E. E. Cepolina at the 2014 MA Technology Workshop, presents the concepts exposed here. To the presentation a vivid debate followed, underlying the fact that the issue is hot. Most of the people agreed on the need of tackling the problem of systematizing the acceptance test and evaluation trials.

State why this issue is best addressed through IMAS/TNMA and may not be adequately covered by support and/or endorsement of an existing or under draft publication? (max 200 words)

Existing IMAS on the topic, such as IMAS 03.40 on Test and Evaluation of Mine Action Equipment and IMAS 09.50 on Mechanical Demining address the problem of T&E demining machines against their intended use in conditions in which they will work, but only generally.

Therefore a new Technical Note, giving details about how to use the new system proposed for T&E of demining machines other than machines designed to detonate hazards during acceptance trials in realistic conditions in mine affected countries is deemed as appropriate tool. Moreover, since the system could benefit from the support of an excel based file, the technical note could also specify in details how to deal with data entry to the excel based file.

Date:

Comments of the chairman of the IMAS Review Board:

Date:

The above proposal is submitted to the IMAS Review Board with a view to seeking at least 25% of the Review Board’s members who support it.

The following members of the IMAS Review Board support the above Proposal: *(To be prepared by the Secretary or the Chair of the IMAS Review Board)*

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

Summary and recommendations of resulting discussion within the Review Board: *(To be prepared by the Secretary or the Chair of the IMAS Review Board)*