



NMAS 10.60

Safety and Occupational Health (S&OH) - Reporting and Investigation of Demining Accidents and Incidents

March 2020

Edition 2.1

Lebanon Mine Action Center-LMAC

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Foreword

The National Mine Action Standards (NMAS) of Lebanon were first developed in the form of Technical Standards and Guidelines (TSG). After the Lebanon Mine Action Policy was released in 2007, these TSG were edited into the first edition of the NMAS in 2010 and were written to concurrently comply with the first edition of the International Mine Action Standards (IMAS). Since then, the scope of the IMAS has been expanded to include more components of mine action and amended to mirror the most recent changes to standards as required in today's operations. These changes, as well as changes in the local context of Lebanon, have necessitated a review and update of the NMAS.

As detailed in the National Mine Action Policy of 2007, the Lebanon Mine Action Center (LMAC) has the responsibility to execute and coordinate the Lebanon Mine Action Program (LMAP) on behalf of the Lebanon Mine Action Authority (LMAA), including the development and amendment of standards. Such standards shall be developed in a participatory approach that shall involve international, governmental, and nongovernmental organizations.

The NMAS shall be reviewed as needed to reflect amendments in the IMAS as well as incorporate changes to international obligations and local requirements. Such revisions shall be regularly made available on the LMAC's website www.lebmac.org or can be obtained through contacting the LMAC via the email info@lebmac.org.

Acronyms

CASEVAC	Casualty Evacuation (also MEDEVAC – medical evacuation)
CHA	Confirmed Hazardous Area
ERW	Explosive Remnants of War
TSG	Technical Standards and Guidelines
EO	Explosive Ordnance (of all kinds)
EOD	Explosive Ordnance Disposal
HMA	Humanitarian Mine Action
IA	Implementing Agency
IMSMA	Information Management System for Mine Action
LMAA	Lebanon Mine Action Authority
LMAC	Lebanon Mine Action Center
LMAP	Lebanon Mine Action Program
NMAS	National Mine Action Standards
QA	Quality Assurance
QC	Quality Control
QM	Quality Management
S&OH	Safety and Occupational Health
SHA	Suspected Hazardous Area
SOPs	Standard Operating Procedures
UXO	Unexploded Ordnance
VHF	Very High Frequency

Introduction

Working with explosive hazards involves risks that are managed by ensuring that all staff are appropriately trained and supervised and that they use procedures and equipment that are designed to minimize an accidental explosion. The procedures and equipment are also designed to minimize the injurious consequences of an accident explosion should one occur. By definition, an accident is an unplanned event. It may be caused by a coincidence of events that was not predicted, by errors in management, training or activity, by a lack of knowledge or by apparent carelessness.

Risk management within the LMAC and the IA shall be designed to avoid accidents and to learn from those that occur in a cycle of continuous assessment and improvement. See NMAS 07.14 Risk Management. To assist with the risk management cycle, structures must be in place to investigate and report both accidents and incidents. Investigation and reporting shall be conducted in a timely, coherent, and comprehensive manner, according to the standards and guidelines outlined in this NMAS.

Objective investigation and standardized reporting allow all relevant information to be collected and presented in an accessible format that allows evaluation and analysis leading to conclusions that are an essential part of the risk management cycle that the LMAC uses in its pursuit of excellence in QM. Identification of the causes of accidents/incidents allows for evidence based analysis leading to improvements that avoid or mitigate risk. Accordingly, the main purpose of accident/incident investigation in HMA is not to apportion blame, it is to identify causes and ensure that they are addressed so that the circumstances surrounding the accident are not repeated in future.

Safety and Occupational Health – Reporting and Investigation of Demining Accidents/Incidents

1. Scope

This NMAS provides standards for the reporting and investigation of incidents and accidents that occur during demining activities.

This standard applies to the investigation and reporting of :

- accidents/incidents involving explosive hazards that occur at a demining worksite or to IA staff during working hours;
- any accident/incident involving explosive hazards that occurs at a demining worksite when the IA's staff are not present;
- any accident/incident involving an explosive hazard that occurs on land that has been released to the public; and
- all non-explosive accidents involving an IA's demining staff that occur at work and cause injury requiring surgical treatment.

All of the above shall be reported to the LMAC as demining accidents/incidents.

Non-explosive accidents during demining that cause minor injury shall be investigated by the IA in a manner detailed in the IA's SOPs and need not be reported as demining accidents to the LMAC.

In addition to the requirements of this NMAS, the Lebanese Police Authorities may investigate injurious accidents and/or serious incidents that occur within Lebanese territories as they see fit. The LMAC shall provide all possible assistance to the Lebanese Police Authorities on request. Any IA involved in an accident or incident (whether or not it involves an explosive hazard) shall provide all reasonable help to the civil authorities and any investigation that they conduct.

Implementing Agencies (IAs) intending to engage in humanitarian mine action (HMA) interventions shall abide by the NMAS and shall present detailed Standing Operating Procedures (SOPs) covering accident/incident investigation to the LMAC for assessment and approval before engaging in their intended HMA activities.

2. References

A list of normative and informative references is provided in Annex A.

Normative references provide cross-referencing to other standards referred to in this standard and which form an integral part of the provisions of this standard.

Informative references provide a list of documents that may be consulted for a clearer understanding of this standard.

3. Key Terms and Definitions

The following key terms and definitions relate to the reporting and investigation of demining incidents/accidents and are used in this NMAS:

- *Demining accident*: any accident involving an explosive hazard that occurs at a demining worksite or involves demining staff during working hours. Any non-explosive related accident that causes injury requiring surgical treatment that occurs during demining activities. Also, any injurious accident involving an explosive hazard that occurs at a former SHA/CHA that has been 'released'.
- *Demining accident response plan*: a plan that outlines the response to be adopted in case of a demining accident including the procedures to be applied for casualty evacuation to an appropriate medical care facility.
- *Demining incident*: an incident involving an explosive hazard that occurs at a demining worksite or to demining staff during working hours that does not result in injury. Also, any non injurious incident involving an explosive hazard that occurs at a former SHA/CHA that has been 'released'.
- *Mine accident*: an injurious accident involving an explosive hazard that occurs away from a demining worksite and does not involve demining staff. This term is used to refer to accidents involving civilians that occur on land that has not been declared 'released'.
- *Mine incident*: a non-injurious incident involving an explosive hazard that occurs away from a demining worksite and does not involve demining staff. This term is used to refer to incidents involving civilians that occur on land that has not been declared 'released'.
- *Tolerable risk*: for the purposes of the Lebanon NMAS, tolerable risk is defined as the risk remaining after all reasonable effort has been applied to managing and mitigating risk. The 'tolerable risk' remaining after an area has been searched, cleared and released is the risk of explosive hazards being beneath the required search depth in that task area. The 'tolerable risk' to demining staff is the risk remaining after all reasonable efforts have been made to train, equip and supervise staff in the conduct of inherently safe demining procedures. All reasonable effort includes the production of a formal task risk assessment designed to ensure that appropriate measures to mitigate risk are taken. All formal risk assessments must be updated as work progresses and new information becomes known. The LMAC shall determine the level of risk that is tolerable at any task. In the event of disagreement, the final arbiters of what is 'all reasonable effort' shall be the Government and Courts of Justice in Lebanon.

In addition to the above terms, NMAS 04.10 provides a glossary of terms and definitions used across all standards.

As in the IMAS, the terms 'shall', 'should' and 'may' are used across all standards to indicate the required degree of compliance. For any organization working in Lebanon, the use of 'shall' indicates a compulsory requirement. The term 'should' indicates the national preference which may be varied with LMAC approval. The term 'may' indicates a suggestion that is not obligatory.

4. Reporting and Investigation Requirements

4.1 General Requirements

The following accidents and incidents at a demining workplace or involving demining employees during working hours shall be reported to the LMAC in the required format:

- an accident in which an explosive hazard harms a demining employee, visitor, or member of the civilian community;
- any incident in which an explosive hazard detonates unintentionally at a demining worksite or in the presence of demining staff during working hours that does not result in injury, whether or not equipment or property is damaged;
- the discovery of an explosive hazard in an area previously cleared, recorded as cleared, marked as cleared or 'released' for public use, regardless of whether harm or damage has resulted from the hazard;
- whenever IA workers, visitors, or members of the civilian community are exposed to intolerable risk that results from the application of the IA's SOPs or the NMAS, including the failure of equipment issued to employees; and
- a non-explosive related accident on a demining worksite that requires the evacuation of a casualty to a surgical medical facility for treatment. Non-explosive accidents involving minor injury shall be investigated by the IA in a manner detailed in the IA's SOPs with a view to identifying causes and avoiding repetition but shall not be reported to the LMAC.

4.2 Incident/ Accident Reporting

4.2.1 Initial Demining Incident/ Accident Reports

Immediately following a demining incident or accident, the IA involved shall ensure that any casualties are safely evacuated from the site, close the worksite and secure the area where the incident or accident occurred, then complete a two-part initial report to the LMAC, comprising:

- an immediate report by the fastest means (usually VHF radio or telephone) should be sent within 30 minutes of the incident or accident; and
- a demining accident/incident initial report which shall be submitted in writing to the LMAC by email or fax.

The demining incident/accident initial report (in its two parts) provides the LMAC with essential information about the event, so allowing the LMAC to enlist support and assist with the emergency response. The initial report may also provide the LMAC with enough information regarding unanticipated risk to enable the LMAC to share this information with other IAs when appropriate.

Examples of the current IMSMA Mine Accident Report and IMSMA Mine Incident Report can be requested from the LMAC. IA's should ensure that they use the most up-to-date format.

4.2.2 Demining Incident/Accident Detailed Internal IA Report

Following the IA's submission of the initial reports to the LMAC, and within a maximum period of 5 days, the IA should conduct a detailed internal accident or incident investigation and submit their report to the LMAC when required. The IA's internal investigation shall not be conducted by any member of staff who was involved in the event. An example format for an IA's internal accident report can be provided by the LMAC on request.

In cases of a minor incident or accident, the internal report prepared by the IA may be the only investigative report made. When the LMAC authorizes the conduct of an independent investigation, the internal IA's internal report should form part of the Independent Investigation Report.

When serious injury occurs in a non-explosive related accident, the LMAC shall determine whether or not a detailed demining accident report is to be submitted by the IA on a case-by-case basis.

When any non injurious accident/incident occurs and any damage to property or equipment has a low value, the IA's internal investigation may be accepted by the LMAC as the only investigation required.

5. Investigation of Demining Incidents and Accidents

5.1 General Requirements

When an accident/ incident does not involve serious injury or damage to property, the IA's internal investigation may, when it is sufficiently detailed and apparently objective, be accepted by the LMAC without requiring any independent investigation. When the IA's report fails to identify causes and indicate measures they will take to avoid repetition, a formal independent investigation of the accident/incident should be conducted. An example format of headings for an IA's internal accident/incident investigation is given in Annex E.

When appropriate, the LMAC shall require a formal independent investigation of an accident/incident to be conducted. At the LMAC's discretion, independent investigations may be led by LMAC staff or by an LMAC authorized third party.

LMAC instigated independent investigations are not formally part of any police investigation and are not necessary for insurance claim purposes. LMAC instigated independent accident/incident investigations are conducted in order to determine the detailed circumstances surrounding the event and so identify possible or probable causes with a view to preventing recurrence. Although not conducted to apportion blame, an IA that is found to have permitted its staff to work in breach of the NMAS or of its own LMAC approved SOPs may have its accreditation to work in Lebanon suspended or withdrawn.

The IA shall ensure that the accident/incident site is secured until the LMAC has formally authorized its release. When injury or damage has occurred, the site will not be released until the relevant police authorities have decided that they do not need it to be secured. Generally, an authorization for the release of the site is granted by the LMAC when it is satisfied with the IA's internal report so has decided not to conduct an independent investigation, or after an independent investigation team has visited the site.

Staff conducting the IA's internal investigation shall only enter into areas that have been cleared and marked. Photographs of the scene of the incident/accident should be taken before and during the internal investigation. Photographs, sketches and relevant measurements should be included in the internal report as appropriate. Written statements should be taken from all witnesses to the incident or accident, including any casualties whenever possible. The internal investigation report should be submitted as soon as possible and be complete, honest and accurate. The report should identify causes, draw conclusions and make recommendations for avoiding repetition based on its findings.

Any incidents or accidents on areas of land that have been formally 'released' and handed over shall have access lanes cleared from a designated safe area before any investigation team approaches the specific site.

5.1.1 Independent accident/Incident Investigations

The LMAC may, at its discretion, arrange for an independent investigation of any demining accident or incident. The LMAC may invite one or more independent specialists to be part of the LMAC's investigation team, or may authorize a third party to conduct the investigation.

Independent investigations should be conducted by a team of at least three people with appropriate experience. Generally, a representative of the IA involved in the events being investigated should be permitted to accompany the independent investigation team as long as the IA's representative shows commitment to discovering the facts surrounding the event under investigation and is not obstructive.

Independent investigations should be started as soon as possible after the event, but may be instigated after the LMAC has received the IA's internal investigation report and found that it is in any way unsatisfactory. The independent investigators should visit the demining worksite where the incident/accident occurred and conduct a comprehensive, objective and

unbiased investigation into the circumstances surrounding the event so that probable causes can be identified.

5.1.2 Obligatory Independent Investigations

While a formal independent investigation may be required by the LMAC after *any* demining accident or incident, an independent investigation shall be conducted when:

- a demining accident results in a death, or in severe injury to more than one person;
- a demining incident results in significant damage to property not belonging to the IA;
- a demining incident involves the discovery or detonation of an explosive hazard on land which has been 'released' by the LMAC;
- the IA's internal report is not prepared and submitted appropriately or displays a clear lack of objectivity; and
- when asked to assist with a Police investigation.

5.2 Investigation Reports

The IA's internal investigation report should be presented to the LMAC Operations Officer and the LMAC Director within 5 days of the event under investigation. The LMAC Director may permit an extension to this time period when the IA can show good reason for the delay. Failure to comply with this requirement may result in the suspension or revocation of an IA's accreditation to work in Lebanon.

An independent investigation report should be completed as soon as possible and should be completed within 5 days of the investigation being instigated unless otherwise agreed with the LMAC Director.

All investigation reports should be signed by the persons who conducted the investigation and delivered to the LMAC QA/QC section in hard copy and as a digitized computer file.

All independent incident/accident reports shall be signed by the investigators and distributed as below:

- one hardcopy and one digitized copy shall be delivered to the LMAC Director,
- two hardcopies and one digitized copy shall be delivered to the LMAC QA/QC Section; and
- one hardcopy and one digitized copy shall be delivered to the offices of the IA involved.

An international IA's head office may also be included in the distribution list.

6. Post-Investigation

After any accident/incident investigation report has been received at the LMAC QA/QC section, the LMAC should arrange a meeting with the IA to discuss the report and its

findings. The probable causes should be discussed with a view to agreeing ways of avoiding any repetition. Commonly, corrective actions involve:

- enhanced or improved training at management, supervisor or deminer levels;
- variations to procedures or the use of alternative procedures;
- the use of other equipment; or
- an adjustment to the supervisory regime in place.

Although all events have causes, it may be decided that the events surrounding an accident or incident show that everything reasonable had been done to identify and mitigate the risk of the event and so it was unavoidable given the information that was available before the event. In this case, the event itself adds to the information available and some changes to training, procedures or equipment may have become necessary because the event itself has added to the evidence on which to base risk assessments and manage risk effectively.

The probable causes of any accident/incident provide the evidence base on which to conduct risk assessments and mitigate risk. New risks and newly suggested ways of mitigating risk should be entered in the LMAC's and the IA's risk registers to inform future task risk assessments.

The LMAC may require the IA to take action, within a specified time-frame, to ensure that the causes of the accident/incident are addressed so that repetition can be avoided.

An independent investigation of an accident or incident should not set out to attribute blame but, when serious failings are discovered, the LMAC may suspend or terminate the appropriate accreditations to work in HMA in Lebanon without warning.

Suspension or termination of accreditation may involve one or more of the following:

- The suspension of an individual worker's LMAC accreditation for a specified timeframe. This may be appropriate when a person has been found not to have the skills required of a person in their position or to have been negligent in the application of the IA's LMAC approved SOPs or the NMAS. An individual's operational accreditation is suspended for a fixed period of time and if they fail to rectify the problems that led to the suspension to the satisfaction of the LMAC, their operational accreditation should be terminated.
- The LMAC may suspend or terminate the IA's demining team that was involved in an incident/accident. This may be appropriate when an entire team is found not to have the skills necessary to conduct their work safely, have failed to recognize the causes of an accident/incident, have obstructed an independent investigation or have failed to take the necessary actions to avoid repetition. If the IA does not ensure that the issues involving the demining team are resolved within a specified time-frame, the team's operational accreditation shall be terminated (which should involve terminating the individual accreditation of demining team members).

- The LMAC may suspend or terminate the operational accreditation of the entire IA. This should occur when the investigation finds that gross negligence or mis-management was a primary cause of the demining incident/accident, or when the IA fails to provide an objective investigative report as required, or when an independent investigation of the event has been obstructed by the IA in any way.

7. Responsibilities

7.1 Role of the LMAC

The LMAC shall:

- ensure adherence to the reporting and investigation procedures laid out in this NMAS;
- appoint appropriately experienced staff and independent specialists to conduct independent accident/incident investigations in accordance with this standard;
- objectively assess all demining accidents and incidents with a view to identifying risks and risk mitigation measures that may prevent repetition; and
- distribute the findings of investigation reports to all demining IAs operating in Lebanon, and to international organizations for the distribution and dissemination of relevant information to other mine affected communities.

7.2 Role of the IAs


The IA shall:

- provide a timely medical response to all accidents as detailed in the IA's LMAC approved SOPS and in NMAS 10.40;
- report all required demining incidents and accidents to the LMAC without delay;
- conduct an internal investigation of all incidents/accidents as required in their LMAC approved SOPs and this NMAS;
- take photographs of the incident/accident site as soon as it is safe to do after the event;
- do everything reasonable to ensure that the incident/accident site is secured until it is authorized for release by the LMAC;
- assist any LMAC authorized persons making an independent investigation of a demining incident or accident by providing safe site access, administrative support and making the original worksite records, the task risk assessment, SOPs, training records, and communications log available for their inspection when asked to do so; and
- co-operate fully with the effort to identify root causes of accidents/incidents and the identification of risk management measures that could prevent repetition.

7.3 Role of Demining Employees

Demining employees shall:

- abide by the IA's LMAC approved SOPs and the NMAS, doing everything reasonable to avoid or mitigate risk and so avoid demining incidents/accidents;
- report any unnecessary risks that they perceive resulting from the equipment, training, or procedures in place;
- report all incidents/accidents to their supervisor and to the LMAC QA/QC staff if they have any doubt that a report of the event has been passed to the IA's senior management; and
- assist fully and truthfully in the investigation of incidents/accidents.

	LEBANON NATIONAL MINE ACTION STANDARDS		Edition 2.1	NMAS 10.60
	ANNEX A: Normative and Informative References			
				March 2020

The documents listed below constitute normative references and form an integral part of the provisions of this standard:

- Current LMAC and IMSMA reporting formats (request copies from the LMAC);
- NMAS 05.10 Information Management;
- NMAS 07.14 Risk Management;
- NMAS 10.10 S&OH - General Guidelines for the Development of Safety and Occupational Health Systems;
- NMAS 10.20 S&OH - Demining Worksite Safety;
- NMAS 10.40 Medical Support to Demining Operations; and
- NMAS 04.10 Glossary of Mine Action Terms, Definitions, & Abbreviations used in the Second Edition of the NMAS.

In addition to the normative references listed above, the following informative references may be consulted:

- Lebanon National Mine Action Policy
- The LMAC database of accidents and incidents in Lebanon; and
- IMAS 10.60 S&OH – Reporting and investigation of demining incidents.

An example IMSMA accident report form is shown below. IAs shall ensure that they use the latest version.

¹General information:

1.1 ID:	1.9 Confirmed: <input type="checkbox"/> Yes <input type="checkbox"/> No
1.2 Owner LMAC:	1.10 Reliability: Information: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
1.3 Reported by:	1.11 Source: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F
1.4 Position:	
1.5 Organization (Address & Tel):	
1.6 Duty officer:	
1.7 Data entry date:	1.12 Date of report:
1.8 Data entry by:	1.13 Date report received:
1.14 Date of demining accident:	1.18 Was area marked? <input type="checkbox"/> Yes <input type="checkbox"/> No
1.15 Kind of area where demin. acc. occurred:	1.19 Was mine/UXO marked? <input type="checkbox"/> Yes <input type="checkbox"/> No
1.16 Identification of Area: _____	1.20 Number of persons involved: _____
1.17 Clearance in progress? <input type="checkbox"/> Yes <input type="checkbox"/> No	1.21 Number of casualties: _____
1.22 Demining accident occurred as part of a tasked mine action activity: <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes: <input type="checkbox"/> Impact survey <input type="checkbox"/> Technical survey <input type="checkbox"/> Clearance <input type="checkbox"/> Completion survey <input type="checkbox"/> Quality control	
<input type="checkbox"/> Other: _____ ID: _____	

²Geographic reference

2.1 Province:	2.6 Coord. system:	2.11 Map name:
2.2 District:	2.7 X/ Easting/ Long.:	2.12 Map series:
2.3 Sub-district:	2.8 Y/ Northing/ Lat.:	2.13 Map edition:
2.4 Nearest town:	2.9 MGRS Coord. ¹ :	2.14 Map sheet:
	2.10 Coord. fixed by: <input type="checkbox"/> DGPS <input type="checkbox"/> GPS	
2.5 Municipality:	Map with <input type="checkbox"/> <30m <input type="checkbox"/> >30m accuracy	2.15 Map scale: 1 :
2.16 Demining accident coordinates description:		

³Location of demining accident

3.1 Distance from nearest town: Less than 500m 500 m – 5 km More than 5 km

3.2 Direction from nearest town: North South North – East South – East
 East West North – West South - West Unknown

Continued...

^{3.3}Type of area

- City Field Pasture land On or near coastline Forest In/Near governmental building
 Near military installation In/Near residential building On/Near riverbank
 Roadside Road for vehicles Path Unknown Other

⁴Demining accident details:

- ^{4.1}Cause of dem. acc.: Incorrect procedure Booby trap Mine/UXO malfunction
 Anti-lift device Equipment malfunction Unknown
 Other: _____

^{4.2}Property damage: US\$ _____

^{4.3}Equipment damage: US\$ _____

^{4.4}Reference to inquiry report:

^{4.5}Demining accident description.

⁵Device that caused the demining accident

- ^{5.1}Unknown

^{5.2} Device category (Landmines, bombs...)	^{5.3} Device type (AP, AT etc.)	^{5.4} Model	^{5.5} Qty	^{5.6} Anti-lift fitted	^{5.7} Booby trapped
				<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

⁶Attach explanatory map and/or sketch:

**ANNEX C: Example Mine Incident Report format**

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An example IMSMA incident report form is shown below. IAs shall ensure that they use the latest version.

¹General information:		
1.1 ID:	1.9 Confirmed: <input type="checkbox"/> Yes <input type="checkbox"/> No	
1.2 Owner LMAC:	1.10 Reliability: Information: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6	
1.3 Data gathered by:	1.11 Source: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F	
1.4 Reported by:		
1.5 Organization (Address & Tel):		
1.6 Data entry date:	1.12 Date of report:	
1.7 Data entry by:	1.13 Date of report received:	
1.8 Date of mine incident:		
1.14 Was area marked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
Nearest town from mine incident		
1.15 Province:	1.16 District:	
1.17 Subdistrict:	1.18 Nearest town:	
1.19 Municipality:		
Distance and direction from nearest town (Not necessary, if coordinates are known):		
1.20 Distance from nearest town:	<input type="checkbox"/> Less than 500m <input type="checkbox"/> 500 m – 5 km <input type="checkbox"/> More than 5 km	
1.21 Direction from nearest town:	<input type="checkbox"/> North <input type="checkbox"/> South <input type="checkbox"/> North – East <input type="checkbox"/> South – East <input type="checkbox"/> East <input type="checkbox"/> West <input type="checkbox"/> North – West <input type="checkbox"/> South - West <input type="checkbox"/> Unknown	
²Coordinates of mine incident (Only provided as an alternative to distance and direction):		
2.1 Coord. system:	2.5 Coordinates fixed by: <input type="checkbox"/> DGPS <input type="checkbox"/> GPS or Map with: <input type="checkbox"/> <30m <input type="checkbox"/> >30 m accuracy	
2.2 X/ Easting/ Long.:	2.6 Map name:	
2.3 Y/ Northing/ Lat.:	2.7 Map series:	2.9 Map edition:
2.4 MGRS Coord. ¹ :	2.8 Map sheet:	2.10 Map scale: 1 :
2.11 Mine incident coordinates description:		
³Device that caused the mine incident:		
<input type="checkbox"/> ^{3.1} Unknown <input type="checkbox"/> ^{3.2} Anti-personnel mine <input type="checkbox"/> ^{3.3} Anti-tank mine <input type="checkbox"/> ^{3.4} Cluster ammunition <input type="checkbox"/> ^{3.5} other UXO <input type="checkbox"/> ^{3.6} Booby trap <input type="checkbox"/> ^{3.7} Fuse <input type="checkbox"/> ^{3.8} Specify device, if it is known:		

**ANNEX D: Initial Casualty Report Requirements**

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Whenever there is a demining accident, the initial casualty report below should be completed and reported by radio or telephone to the LMAC as soon as possible.

INITIAL CASUALTY REPORT BY RADIO OR TELEPHONE			
SERIAL	EVENT	COMPLETED ON SITE	NOTES
ALPHA	Time of Accident		24 Hr Clock
BRAVO	Location of Accident		Nearest Village & Minefield/CBU No
CHARLIE	Grid Ref of Accident		UTM 8 Figure Grid Ref
DELTA	Type of Incident		Brief Description Of What Happened
ECHO	Number of Casualties		
FOXTROT	Name (S) of Casualties		
GOLF	Type of Injuries		
HOTEL	Receiving Hospital		
INDIA	Time of Evacuation		
JULIET	Other Assistance Required		
KILO	Contact Person & Phone Number		

	LEBANON NATIONAL MINE ACTION STANDARDS		Edition 2.1	NMAS 10.60
	ANNEX E: Example Internal Accident Investigation Format			
March 2020				

A suggested internal IA accident/Incident report format is given here. This format need not be used, but all of the information required below should be included in the IA's internal accident report.

1. General details

Accident date:	[Date on which the accident occurred.]	Accident time:	[Time of day that the accident occurred]
Investigators:	[Names of those who wrote the accident investigation]	Date of main report:	[The date on which the report was completed.]
Date of investigators visiting accident site:	[The date(s) when the investigators visited the accident site.]	Time spent at the accident site:	[The total time spent by investigators at the accident worksite.]
Accident report number:	[a unique number for this accident, usually assigned by management/IMSMA)	Where it occurred:	[The address of the worksite where the accident occurred]
Name of demining organization:	[The name of the demining organization working at the accident worksite.]	Explosive hazard:	[The name of the explosive hazard involved in the accident.]
Ground condition:	[The ground conditions at the worksite where the accident occurred.]	Weather:	[The weather conditions at the worksite when the accident occurred.]

MAP details (coordinates of accident site, when available)			
Longitude:		Latitude:	
Alt. coord. system:			
Map east:		Map north:	
Map name:		Map series:	
Map edition:		Map sheet:	

Details of victim(s) and damage:			
Name:		Work title:	
Age:		Gender:	
PPE issued:		PPE used:	
Summary of injuries:	[List all injuries, including minor injuries.]		
Summary of Victim's work experience:			
Summary of damage to equipment:	[List all equipment damaged.]		

Continued.

2. Accident report

Reactions to accidents may include guilt and fear of punishment, so investigators should expect the people involved to be defensive and evasive. The purpose of the accident investigation is to establish in detail:

- *what happened before, during and after the accident;*
- *why the accident happened; and*
- *whether anything can be done to minimize the risk of it happening again.*

The aim is not to apportion blame. Conclusions about causes may indicate apparent failings of persons and equipment, but should not aim to do so.

The investigators should pursue the facts surrounding the accident and avoid judgment of those involved during the investigation.

The following headings provide a guide for use when gathering information and evidence that will be used when compiling a full accident report.

2.1 Description of the events surrounding the accident

[The description of the events surrounding an accident should cover the topics mentioned below. It may do this within a written statement or as answers to each point in turn.]

2.2 History of the worksite

[Explain why the worksite was contaminated with EO hazards, who by, and what EO are expected at the worksite.]

2.3 Description of the worksite

[Write a detailed description of the worksite where the accident occurred: include a photograph whenever possible.]

2.4 Describe the demining methods used at the worksite at the time of the accident

[Write a summary of the procedures and tools being used at the worksite when the accident occurred.]

2.5 Record the activity of each person involved at the time of accident

[Describe what each person involved in the accident was doing at the time.]

2.6 Record the procedures and equipment in use at the time of the accident

[Describe the procedures and equipment that were being used when the accident happened.]

2.7 Describe the day's events at the worksite leading up the accident

[Write a summary of the work completed before the accident on that day.]

2.8 Describe the events following the accident

[Write down how supervisors, medics and others involved responded and record the timings of the CASEVAC.]

3. Statements

[Interview witnesses and those involved separately and in private, so allowing them to speak freely. Ask well structured questions to prompt the content of the statement to cover all appropriate issues. When appropriate, use a translator who will not report the content of the statements to others. Statements should be signed and dated by those interviewed and any translations attached to the Accident Report.

Statements should be taken from victim(s), site supervisors, deminers nearby, medic(s) and any individual who witnessed or played a part in the events surrounding the accident and any CASEVAC that occurred.]

Continued.

4. Investigator's summary

[The investigators should agree an understanding of the events that they believe closely represents what really happened before, during and after the accident. If agreement is not possible, the various possible versions of the events should be recorded.]

5. Probable causes

[Investigators should identify probable causes of the accident. There are often several contributory causes for any one accident.]

6. Investigator's recommendations

[The investigators should agree on any recommended actions that should be taken to reduce the likelihood of the accident being repeated and/or to reduce the severity of injuries in similar accidents. If agreement is not possible, the various opinions about recommendations should be recorded.]

7. Appendices

[Photographs, sketch maps, site maps and any other documents of relevance should be appended to the report. A medical report for each victim should be included.]

NMAAS 10.60, Edition 2.1: Amendment Record

The NMAAS are subject to a comprehensive or partial review by the Review Board periodically. Changes in the context as well as safety requirements and efficiency considerations may necessitate amendments to individual NMAAS standards more frequently. If this occurs, such amendments shall be given a number, dated, and detailed in the table below. The amendment should also be indicated on the header under the NMAAS edition number.

Whenever the formal review of the NMAAS is completed, a new edition shall be issued. Amendments that have taken place before the review date shall be incorporated in the new edition and the amendment record table cleared. Consequently, the recording of amendments shall start again until the next review.

The most recent revisions of the NMAAS shall be posted on the Lebanon Mine Action Center (LMAC) website on www.lebmac.org.

Number	Date	Amendment Details
1	March 2020	Minor revisions throughout.