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DDAS Accident Report

Accident details

Report date: 19/05/2006	Accident number: 348
Accident time: 10:20	Accident Date: 09/08/2001
Where it occurred: Ward 7, Kabul	Country: Afghanistan
Primary cause: Inadequate training (?)	Secondary cause: Management/control inadequacy (?)
Class: Handling accident	Date of main report: 22/08/2001
ID original source: FP	Name of source: FP/DDG
Organisation: Name removed	
Mine/device: Fuze	Ground condition: not applicable
Date record created: 21/02/2004	Date last modified: 21/02/2004
No of victims: 1	No of documents: 2

Map details

Longitude:	Latitude:
Alt. coord. system: MF# 01/0101/007/0603	Coordinates fixed by:
Map east:	Map north:
Map scale:	Map series:
Map edition:	Map sheet:
Map name:	

Accident Notes

inadequate training (?)
no independent investigation available (?)
visor not worn or worn raised (?)

Accident report

The demining group involved made available their own internal accident report. Their report is reproduced below, edited for anonymity.

Objectives.

The objectives with the current report are to:
Establish a plausible cause to the accident
Evaluate and review relevant SOPs within the [Demining group].

Produce beneficial information to the demining community within MAPA [MAC].

General Information:

Team/Site description: Section 1, Team No. 2, Kabul
Location of accident: MF# 01/0101/007/0603, Ward 7, Kabul
Date and time of accident: On 09 August 2001 at 1020 hrs local time
Cause of the accident: Disarming AT Fuse

Brief description of injuries:

Right Hand:

Thumb: Amputation of distal phalanx
Fore finger: Amputation of distal phalanx
Middle finger: Amputation of middle phalanx

Left Hand:

Little finger: Amputation of distal phalanx
Ring finger: Amputation of distal phalanx

Minor injuries around mouth and on cheeks and chin.

Chronological Overview of the accident:

Following describes actions taken and the instructions given directly after the accident:

One deminer in team two notified his Section Leader that he had found a fuse in his lane. The Section Leader removed the fuse by lifting it and left the lane. Once back to his control point he decided to disarm the fuse by using a needle. When he opened the booster the fuse detonated. (See Annex B)

The 2nd Section Leader of team No. 2 contacted the Team Leader (who was at the briefing area) by VHF about the accident and informed him about the name of Section Leader. **+ 10 Sec.**

The Team Leader announced that an accident has happened in Section No.1, Team No. 2, instructed all the teams to stop operations and instructed the ambulance to get to the Pick Up Point D. In addition he ordered the nearest Paramedic to reach the accident point from the safe cleared routes. **+ 20 Sec.**

Field operations of all 3 teams immediately stopped and all field personnel were instructed to remain in their positions until further orders. **+ 25 Sec.**

The nearest deminer and the second Section Leader performed first aid to the injured. **+ 1 min.**

The Paramedic arrived to the accident point and started further treatment. **+ 2 min.**

The ambulance and Paramedic Supervisor arrived to the Pick Up Point D. **+ 5 min.**

The Team Leader informed the Operations Centre about the accident. **+ 6 min.**

The injured reached the ambulance and the Paramedic Supervisor applied life saving procedures and first aid to the injured that took 6 minutes. **+ 12 min.**

The injured went up to Pick Up Point by his feet with the assistance of two de-miners, a Section Leader and a Paramedic. He reached the ambulance in 3 minutes. **+ 15 min.**

The 2nd Section Leader of team No.2 was appointed acting Team Leader by the Team Leader of team No. 2 and the Team Leader joined the injured and Paramedic Supervisor in the ambulance. **+ 15 min.**

Islamabad Office was informed about the accident by Operations Centre. **+ 15 min.**

The ambulance with Paramedic Supervisor and Team Leader left for Karti-Se Hospital and reached there in 15 minutes. **+ 30 min.**

The ambulance, Kabul and Islamabad offices were standby at the same HF channel from the minefield up to the Hospital.

All field staff left for the site compound after the departure of the ambulance. **+ 45 min.**

Explosive Ordnance Disposal Officer, Operations Officer, Training Control Officer and Medical Supervisor arrived to the hospital and then to the minefield for initial investigation. Initial information and technical evidence relevant of the accident was collected. **+130 min.**

Injuries of the Casualty

The Section Leader has the following injuries:

Right Hand:

Thumb The distal part distal phalanx is amputated
Forefinger The distal part of distal phalanx is amputated
Middle finger The distal part of distal phalanx is amputated
Ring finger The distal phalanx is totally amputated
Little finger Ok
Palmer view Minor wounds

Left Hand:

Thumb The distal part distal phalanx is amputated
Forefinger Amputated from proximal end of middle phalanx (amputated 4/5
Middle finger Amputated from distal end of proximal phalanx (4/5 part of
Other fingers Ok
Deltoid Muscle: Minor injury
Middle Side Palmer View: On tenor muscle has small wounds.

General Condition of the injured:

Head: Ok
Lips: Small wounds
Chin: Small wounds
Cheeks: Small wounds
Teeth and mouth cavity: Ok
Eyes: One eye has hemorrhagic Congectiva
Ears: Ok
Neck: Small wounds on anterior view on coracoids cartel age level
Chest: Ok
Abdominal: Ok
Inguinal Area: Ok
Lower Extremity: Ok

Equipment Damaged and Technical Evidence:

Equipment Damaged:

The Section Leader was wearing the protective suit properly. He was not wearing his visor.

The blast had effect on the collar and shoulder parts of protective suit; small fragments penetrated the nylon cover and were stopped by the first layer of Kevlar. Six metal fragments penetrated into five layers and two fragments penetrated out all 15 layers of the protective suit at the bottom of both shoulders and caused minor injuries to the Section Leader

Technical Evidence: (See Annex D)

The MVZ 57 AT fuse was found at the accident point that was taken by the injured Section Leader from a deminer working 120 meters away from the accident point.

Evaluation:

In order to accumulate experiences within the SOP of The [Demining group], it is of great importance to evaluate and review all actions taken during and after the accident.

Following SOPs are relevant to evaluate and review with regard to the current accident:

- Operations SOP
- Medical SOP

In addition to the above, the [Demining group] will distribute the report to the mine action organizations within MAPA. It is the [Demining group]'s intention to contribute in a constructive and critical manner with its experiences of the current accident. This will enable us to assist other mine action organizations to hopefully eliminate or reduce risks that are common in the process of de-mining undertaken by the other mine action organizations.

Demining SOP**Relevant factors:**

The injured has been working with the [Demining group] since 20 July 99 and he is 41 years old.

The injured is an experience Section Leader and has 9 years experience with the Mine Action Program in Afghanistan. He had worked with [two other demining groups] before joining the [Demining group].

The injured was not wearing the complete protective ensemble used within the [Demining group]. He was only wearing the protective suit and was not wearing the visor.

A deminer in his section found an AT fuze and informed him. He went and removed the fuze out of the lane without informing his Team Leader and started to disarm it.

The injured said that he was not tasked by anyone to disarm the fuse. He wanted to give the disarmed fuse to the Training Control Officer for teaching purposes.

Neither the Training Control Officer nor the Team Leader instructed him to disarm the fuze.

The accident occurred in the control point of the Section Leader. 25m from the nearest working deminer.

Injured's own version of the accident:

The injured is in a fairly good and stable condition and was able to answer questions related to the accident. The following describes how the accident occurred from the injured own point of view:

Q. How did the accident happen?

At 1000 hrs I was at the control point when a deminer of my section yelled "Mine". I reached the said deminer and saw that an AT fuze was lying in his lane. I removed the fuze and took it to the control point and started disarming. I opened the booster explosive and detonator from the fuze. I had a pin and started to remove the booster explosives with it. When the pin touched the detonator the accident happened.

Q. Refer to the [Demining group] OPS SOP you are not entitled to disarm or move dangerous things from their locations. Why did you take and move the fuze and started to disarm it?

This was the first time that my section found an AT fuze. I was thinking that it might be better to disarm the fuze and show it to all deminers in order to be familiar with this kind of fuze and to be used for future training purposes within the [Demining group].

Summary

Summarizing all factors mentioned above, procedures and regulations have been violated according to the current OPS SOP within the [Demining group].

The Section Leader was not authorized to disarm the fuze or move it from one place to another and had to report it to the Team Leader.

The Team Leader should have enough command and control over his Section Leader in order to enforce safety thinking not only to the Section Leader but also to the whole team.

Medical SOP

Relevant Factors

All deminers within the [Demining group] have received a basic first aid course.

Paramedic was situated approximately 200 meters from the accident point.

To put the medical treatment given after the accident in right perspective it is relevant to give an overview of the [Demining group] reporting SOP with regard to an accident:

Section Leader calls the Team Leader to announce an accident has taken place (where and who).

Team Leader orders, "STOP" in the entire minefield.

Team Leader orders Paramedic Supervisor and ambulance to the nearest Pick Up Point.

Team Leader/Section Leader orders the nearest breaching party to clear the area around the injured and perform the first aid to the injured (if in un cleared area).

Team Leader orders the nearest Paramedic to the accident point.

Team Leader moves to the accident point.

Treatment

The 2nd Section Leader of Team No. 2 and a de-miner, Paramedic and Paramedic Supervisor performed first aid, stabilized and prepared the injured for evacuation and more specifically:

- Stopped bleeding
- Bandage the wounds
- Stabilized the hands
- Injected various painkillers
- Prevented shock
- Performed psychological first aid

The whole process of the medical treatment and stabilization from the time of the accident to the hospital took 30 minutes.

Summary

The medical treatment and evacuation was adequate and contributed to keep the patient in a good and stable condition up to and during the evacuation to the hospital. However, the medical reporting of injuries was not accurately reported at the initial stage from the field due to stress from both sender and receiver.

The Medevac and Casevac exercises will take place continuously among Paramedics, Paramedic Supervisors and deminers to obtain the highest possible level of individual medical skills and to particularly emphasize on the recognition of injuries in the initial stage for reporting.

Review and briefing of the accident to the organization

On 10th August 2001, the [Demining group] staff (Operations Officer, Training Control Officer, Medical Supervisor) conducted evaluation and briefing sessions in the site compound in order to:

Review in details what happened during and after the accident
Discuss the cause of the accident
Discuss the medical treatment given to the injured
Emphasize that OPS and Medical SOPs are to be strictly followed and respected
Further enforce rules and regulations for disarming or moving items from the minefield.

Conclusion:

Following is the conclusion made by the [Demining group] internal investigation board:

Accident:

The accident was found to be caused by a clear violation of the OPS SOP.

Cause:

The Section Leader removed the fuze and started to disarm it. During the disarming process the accident occurred. The type to device was a MVZ 57 fuze from AT mine TM57.

Medical:

As a whole the medical treatment and evacuation was conducted and performed satisfactory. However, the recognition of injuries by the Paramedics and Paramedic Supervisors should be emphasized.

Protective Equipment:

The use of protective suit was adequate and satisfactory. But unfortunately the visor of the Section Leader was up during the disarming that caused him minor injuries to his face.

Reporting:

Further radio training for both sender and receiver should be emphasized, in order to get an adequate statement already in the first radio transmission.

Disciplinary Action:

The disciplinary action is under evaluation and will be revised once the Section Leader has recovered from his injuries.

Islamabad, August 22nd 2001.

Victim Report

Victim number: 440	Name: Name removed
Age: 41	Gender: Male
Status: supervisory	Fit for work: not known
Compensation: not made available	Time to hospital: 30 minutes
Protection issued: Frag jacket Long visor	Protection used: Frag jacket

Summary of injuries:

INJURIES

minor Eye

minor Face

minor Neck

AMPUTATION/LOSS

Fingers Both hands

COMMENT

No medical report was made available.

Analysis

The primary cause of this accident is listed as *"Inadequate training"* because the victim was apparently not aware that he should not attempt to disarm the AT mine fuze. It seems likely that he did not understand the risk that he was taking by prodding into a detonator.

The investigators identified a failing of discipline higher in the field management (the Victim was low in the control chain), but did not identify any actions to prevent a recurrence. They expressed an intention to "discipline" the Victim after he had recovered, but not to improve training of supervisors or to discipline those in direct charge of the Victim. The secondary cause is listed as a *"Field control inadequacy"* because the Victim should not have been allowed to act as he did.

Related papers

The demining group made available their Accident report form, which is reproduced below (edited for anonymity).

ACTIONS TO BE TAKEN ON MINE INCIDENT

An Accident is termed as "Mine Incident", when a Mine or UXO initiated during mine action operations causes injury or death to personnel or damage to equipment.

At Work Site

- The nearest man gives first-aid until paramedic arrives.
- All deminers suspend work and sit in the work lane until asked to move to the rest area.
- The wounded man is moved to cleared area. Photographs of site and casualty are taken.
- All out effort is made to stabilise the wounded person within 15 minutes.
- The patient is sent to hospital within 60 minutes from the time the patient is evacuated in to the safe area on the site. The primary method of evacuation is by road.
- On the next day, the team will discuss the accident in detail and do refresher training.

Further details are available in SOPs of [Demining group].

Incident Reporting

Interpreter/Driver at site establishes radio contact with [Demining group] Kabul Office and reports the accident. The [Demining group] Kabul Office in turn reports by radio to [Demining group] Islamabad and RMAC Kabul.

The [Demining group] Kabul Office must submit written accident report within 2 hours to local RMAC and META HQ. The [Demining group] Islamabad office should inform MACA Islamabad within 3 hours. Example of written report is at **Annex A**.

Evacuation by Air

The following priorities describe the casualty's condition to ascertain the mode of evacuation:

Priority 1: Casualty may die if hospital treatment is not received within 6 hours; or, Road evacuation is highly likely to worsen the casualty's condition to such an extent that death may result.

Priority 2: Casualty is seriously injured and may die if hospital treatment is not received within 6 to 12 hours; or, Casualty may lose eyesight if hospital treatment is not given within 6 hours.

Priority 3: The condition of casualty is not life threatening. He will be moved to a medical facility external to [Demining group].

Priority 4: The condition of casualty is not life threatening. He can be treated within [Demining group].

The Medical Officer at site assesses the priority and advises [Demining group] Kabul and Islamabad of any requirement for air evacuation or any changed circumstances.

An air evacuation request (**Annex B**) is to be forwarded to MACA and nearest RMAC.

The evacuation is monitored and the concerned hospital is advised about the ETA of casualty. At all stages of the evacuation process, the casualty is to be accompanied by a paramedic or doctor.

If air evacuation takes place to a destination in Pakistan, the concerned airport is to be approached in advance for permission to take the ambulance to the apron. Advance arrangement for an ambulance from airport to hospital are to be made.

If the air evacuation is not approved, keeping in view the availability of aircraft, condition of landing strip, weather condition, security clearance and time frame; then either the evacuation will take place by road or the treatment will continue at local hospital.

Incident Investigation

Investigation will be conducted by:

- a) A formal "board of inquiry" if the accident involves death of personnel.
- b) The META, in most other cases involving injury or damage.
- c) The [Demining group] will carry out primary investigation in all cases. A detailed Mine Accident Report (**Annex C**) will be compiled as soon as possible after the accident.

Insurance

All [Demining group] staff are covered by insurance. The coverage is trauma oriented and in addition it covers natural death.

An injury and Treatment Record (**Annex D**) is to be compiled as soon as the treatment has started. On completion of treatment of the injured person, a certificate is issued by the treating specialist giving the details of disability. In the event of death, a death certificate will be issued by the hospital concerned or the local authorities when the dead cannot be evacuated or is buried locally at the field location.

Insurance claim is initiated supported by treating specialist's certificate and a photograph identifying the injured and showing his injuries or losses. See **Annexes E and F** for insurance claim. The original forms provided by the insurance company are to be utilized.

The final claim document is forwarded to the medical advisor at MACA who will send it to the insurance company.

Please refer to following MACA SOPs for further details:

Incident Reporting: OPS 7.2.6
Incident Investigations: OPS 7.2.7
Medical Evacuation: OPS 12.5

Annex A

URGENT

URGENT

URGENT

Date and Time:

From: NGO HQ

To: MACA, Islamabad, META, Peshawar

Subj: **MINE INCIDENT REPORT**

1. **Agency:** NGO name
2. **Team/Site description:**
3. **Location:** Task No.
4. **Date & Time:**
5. **Particulars of injured person:**
6. **Description of injuries:** Traumatic amputation of left leg and Serious injuries to right leg.
7. **Treatments given:** .
8. **Current condition of casualty:**
9. **Priority:**
10. **Evacuation routes/destination:**
11. **Equipment damaged:**
12. **Brief of accident:**
13. **Other information:**
 - a. Accident occurred in
 - b. Device type: PMN
 - c. Further details will follow.

Annex B

URGENT

URGENT

URGENT

Date & Time:

From: Site Office Kabul

To: RMAC Kabul

[Demining group office] Islamabad

Subject: **AIR EVACUATION REQUEST**

1. **Agency, Site Office, Team Number:**
2. **Location** (Province, District, Village):
3. **Date and Time of accident:**
4. **Name and father's name of personnel requiring evacuation** (including doctor/medic):
5. **Description of injuries:**
6. **Current condition and priority of casualties:**
 - a. Condition (Critical, Serious, Satisfactory)
 - b. Priority (see list of priorities mentioned above)
 - c. Can patient sit or is a stretcher required:
7. **Proposed evacuation routes:**

- d. Pick-up point:
- e. Destination:
- 8. **Condition at proposed pick-up airstrip:**
 - f. Security:
 - g. Weather:
 - (1) Rain: (Light rain five hours ago. No rain since.)
 - (2) Cloud: (10 % cloud cover; mostly clear skies)
 - (3) Wind: (Light wind from north-east direction)
 - (4) Visibility: (10 Km)
 - h. Airstrip:
 - (5) Runway Length: (1300 m)
 - (6) Runway Width: (15 m)
 - (7) Runway Type: (unsealed dirt)
 - i. Clearances:
 - Local authorities have approved the use of airstrip.

9. **Any other information:**

Annex: INJURY AND TREATMENT RECORD

This report is to be commenced as soon as treatment is started. All treatment administered to the casualty is to be recorded. This report is to be maintained until the patient is admitted to hospital. A copy should be provided to the hospital at the time of admission and a copy should be retained by the NGO HQ for the accident investigation.

PART ONE

This part of the report is to be completed by the treating paramedic and should accompany the casualty from the injury site to the FMU or next medical care location. This part of the report enables the treating paramedic to provide basic information to assist with further diagnosis and treatment.

Casualty Name:.....

Injury occurred: Date.....Time.....Location.....

Male Female Age.....Severity of injury: Fatal Severe Minor

Cause of injury: GSW MI Shell Bomb Burns Other.....

Code	Meaning
A	Abrasions
AM	Amputation
B	Burn
D	Dislocation
F	Fracture
FR	Fragment
H	Haemorrhage
IF	Internal Haemorrhage
L	Laceration

LO	Loss of Function
----	------------------



Medical Aid Commenced:(time)

Initial vital signs at injury site:

Time:..... Pulse:..... BP:..... Resp:.....

Oxygen Given? Yes No

Haemorrhage Control:Tourniquet Pressure Bandage Elevation Not Applicable

Intravenous Infusion? Yes No