10-21-1997

DDASaccident055

Humanitarian Demining Accident and Incident Database
AID

DDAS Accident Report

Accident details

Report date:	19/04/2006	**Accident number:**	55
Accident time:	08:50	**Accident Date:**	21/10/1997
Where it occurred:	Luena/Lucusse road, Moxico Province	**Country:**	Angola
Primary cause:	Management/control inadequacy (?)	**Secondary cause:**	Inadequate training (?)
Class:	Missed-mine accident	**Date of main report:**	07/11/1997
ID original source:	GP/JJ/GI	**Name of source:**	INAROEE
Organisation:	[Name removed]		
Mine/device:	Type 72 AP blast	**Ground condition:**	hard route (verge)
Date record created:	23/01/2004	**Date last modified:**	17/03/2004
No of victims:	1	**No of documents:**	2

Map details

Longitude:		**Latitude:**	
Alt. coord. system:		**Coordinates fixed by:**	
Map east:		**Map north:**	
Map scale:	Leua	**Map series:**	
Map edition:		**Map sheet:**	219
Map name:	1:100 000		

Accident Notes

inadequate metal-detector (?)

inadequate communications (?)

inadequate medical provision (?)

inconsistent statements (?)

safety distances ignored (?)

pressure to work quickly (?)

inadequate area marking (?)

metal-detector not used (?)

inadequate training (?)

Accident report

The demining group appear to have been operating in two-man teams at the time but the accident report implies that both team members were working simultaneously.

An undated report of a country MAC board of inquiry was made available and the following summarises its content.

The investigators visited the site on 4th November 1997 and found the deminers clearing a 2m wide verge on both sides of the road. They observed that the deminers were clearing without using marking sticks and at a distance of only 6 metres apart. The victim and his partner began work at 07:30. By 08.50 they had cleared 50^2 metres. Both men wore frag-jackets, helmet and visor. The victim was clearing by using his prodder. He was called to help his Section Leader remove grass from a large pothole in the road. As he returned at 08:50 he stepped on "a mine he had previously missed". No fragments of the device were found and the mine identification relied on inference from the damage inflicted. No record of the time taken for medical treatment was made.

Communications within the demining team by UHF handsets was unreliable. They were unable to report the accident until the victim had travelled 34k towards the "Operations Room".

The victim and his partner stated that the Section Leader had told them to stop using the detector. "Faced with the inability to prod correctly" they argued but were overruled. The Section Leader said there were no mines and they must work quicker. When they ran out of marking sticks, he told them to keep working. They said the Section Leader had left to spend 20 minutes drinking "Hidromel" (fermented honey alcohol).

The Section Leader denied the victim and his partner's statement. He could not remember the number of deminers under his control, what time they had started work or the amount of area cleared. [The investigation took place two weeks after the accident.] He claimed to be unaware that the deminers were clearing a 2m wide lane without markers despite being only 2m from them. He also claimed to have completed the demining group's Section Leader's course but the group denied holding any such courses.

The Team Supervisor stated that he was warned the Section Leader about drinking previously.

The paramedic acknowledged that he was poorly equipped and stated that he had asked for better provisions in writing twice following the accident. He had not received special trauma training. When questioned about the content of his First Aid bag it contained a single used pair of surgical gloves, an aluminium foil blanket that he thought was a pressure bandage, and no trauma kit.

The investigators determined that demining was not being conducted in line with the demining group's SOPs and identified the following (quoted verbatim) failings:

i) "The deminers were clearing a two metre wide lane.

ii) They were working without lane markings.

iii) The No.2 and the Section LEader were too close to the working No.1.

iv) The deminers involved were not using a mine-detector without good reason.

v) The deminers were not able to use the prodder correctly due to the hardness of the earth.

vi) The demining was being carried out too quickly (1.3 metres per minute).

vii) When the No.2 walked into the cleared lane he did not observe the safety distance between himself and the No.1.

viii) [Demining group] SOPs contain a paragraph that instructs staff to refuse to work [if] they are ordered to carry out a task that does not comply with [Demining group] safety regulations. Neither the No.1 or the No.2 complied with this paragraph."

Conclusion

The investigators concluded that "the actions and lack of action of the Section Leader are considered to be both neglectful and constitute gross misconduct…he bullied them into disobeying…SOPs". Safety equipment did not help because "the explosion was relatively small". Alcohol had affected the actions of the Section Leader. There was not good reason for failing to use a metal detector and the hardness of the ground made the use of a prodder "correctly" impossible. Demining was being carried out "too quickly".

There was a "high infestation of flies" that became "almost unbearable". "This may well have contributed to the clearance methods and the speed of the demining operation." The Operations Room did not keep a log after communication was established. The first aid kit was "inadequate". They concluded that "had the casualty sustained more serious injuries it is difficult to imagine how he could have stabilised the casualty".

Recommendations

The investigators recommended that staff must refuse to obey an order that breaches SOPs and that when a Supervisor cannot easily get to a demining location, work must stop. They further recommended that the demining group must stop all demining until they have adequate paramedic supplies and that no demining should take place without adequate communications. Other recommendations included that the Supervisors and Section Leaders should report breaches of SOP immediately, that the group should carry out refresher courses for all staff, including paramedics, and should also "formulate and implement" training courses for supervisors and section leaders. They added that the Section Leader involved in the accident must be disciplined.

Victim Report

Victim number: 75

Name: **[Name removed]**

Age:

Gender: Male

Status: deminer

Fit for work: not known

Compensation: not made available

Time to hospital: 40 minutes

Protection issued: Frag jacket
Helmet
Short visor

Protection used: Frag jacket, Helmet, Short visor

Summary of injuries:

INJURIES

minor Hands

minor Legs

AMPUTATION/LOSS

Leg Below knee

COMMENT

See medical report.

Medical report

No medical report was made available: see Accident report.

The victim's injuries were considered light, from which I infer that his amputation was "below the knee".

Minor hand and leg injuries were later reported by one of the group's Technical Advisors.

Analysis

The primary cause of this accident is listed as a *"Management/control inadequacy"* because the unapproved actions of the field supervisor appear to have led directly to the accident. Responsibility for the selection, training and control of field supervisors lies higher in the management chain. The secondary cause is listed as *"Inadequate training"* because the supervisor appears not to have known how to do his job.

The accident report illustrates several management failings that could have had far-reaching consequences if the accident has involved a larger device. The demining group involved was a specialist NGO of long-standing, making it hard to excuse the compound management errors exhibited in this accident.

The time lapse between the accident and its investigation and the failure to record any attempt to identify the device are failures of the country MAC's investigation procedure that are not explained.

Related papers

A letter from the country MAC to the demining group was on file. It recorded an agreement for the demining group to increase "immediately" safety distances from 20 to 25 meters, increase the "soak-time" after a "mis-fire" from 10 to 30 minutes, and other (unspecified) minor SOP changes.

In this letter it was noted that the demining group did carry out refresher courses for paramedics, but not deminers. The letter ended with the recorded opinion that the demining groups' "demining operations are carried out in a professional manner and are to a high overall standard".