

## Diving fatality

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A member has reported the following diving fatality during a surface supplied diving operation being undertaken from a platform while two divers were working in close proximity to each other.

### What happened?

Communication to the surface was maintained through an audio link with both divers and helmet mounted video systems, however this only allowed the supervisor to view one diver at a time through a single monitor.

The first diver had been in the water for around 50 minutes when the second diver descended to the worksite working at a depth of 48ft (14.5m). Approximately 48 minutes later the supervisor lost communication with the second diver and asked the first diver to investigate. The first diver sighted the second diver; his helmet was missing and he was in severe difficulties. The helmet, only a few feet away from the second diver, was still connected to his umbilical with the helmet free flow fully open. His umbilical was snagged in an obstruction on the platform.

The first diver tried to provide air to the second diver through his pneumo hose and, when the surface standby diver reached the site, both he and the first diver unsuccessfully attempted to refit the second diver's helmet. The second diver was then released from his harness and brought back to the surface via the dive basket for emergency cardio pulmonary resuscitation (CPR) treatment. Unfortunately after 60 minutes CPR from the paramedic on the surface, the injured diver was pronounced dead by a doctor.

### The initial investigation identified the following:

#### The Diver's Helmet

The video from the first diver's camera showed that the second diver's helmet rear fastening mechanism was not properly secured while he was under water 16 minutes prior to the incident. There was no evidence as to whether the helmet's back securing assembly had been properly fastened on dressing or had become unfastened during the dive.

The company involved has initiated an immediate inspection of all their helmets to ensure they comply with the manufacturer's service manual.

NB We are aware that a number of IMCA diving contractor members have modified this particular type of helmet (Kirby Morgan (KMDSI) Superlite 17B) which they feel may provide an extra level of safety and to prevent the helmet becoming detached from the diver even in the event of the helmet and neck clamp assembly becoming separated. We are also aware that some diving contractors have included the

addition of a flat washer between the end of the alignment sleeve and the alignment screw.

Kirby Morgan Dive Systems Inc. has issued the following statement in this regard:

*“KMDSI has never seen a need to put restraining bands or rubber bands on the SL-17 helmets. As we mentioned before if regularly scheduled inspections, maintenance and proper dressing procedures are being accomplished and supervisors check their divers the helmet will not come off accidentally. We know that some have installed them but we have always worried that by using them tenders and supervisors may become complacent in their dressing and pre dive procedures. The fact is the helmet should never come off in the water by accident. KMDSI has no authority to stop people from modifying their equipment. All we can do is make suggestions. The same holds true with users that want to use aftermarket parts such as headliners, oral nasal masks and neck-dams. The use of such aftermarket items voids warranties and releases KMDSI of any liabilities. The ultimate decision is up to the owner of the helmet or individual company policies. However, anytime the end user makes modifications or uses non-KMDSI components, they must exercise extreme caution to insure these components do not alter or affect the safety of the helmet. Care must be taken when drilling through the helmet shell and proper sealing must be done to avoid water entry. The use of restraints can also pose an entanglement problem. KMDSI will always try to work with the end user and industry as a whole to ensure their needs are met.”*

A copy of a modification installation instruction, used by some diving contractors and available from one of the main equipment suppliers, is attached for information at Appendix 1.

## Emergency Response

The emergency response systems were not ready to respond to the sudden emergency. The standby diver was not immediately sent by the supervisor to help and the dive basket was at the surface. It took eight minutes from the time when the supervisor lost communications with the injured diver until he was recovered to the surface.

The company involved is to review its emergency response and preparedness plans for all foreseeable emergencies and to instigate regular exercises.

Guidance note IMCA D 023 (Diving equipment systems inspection guidance note (DESIGN) for surface orientated (air) diving systems) specifies that each dive basket be provided with one or more emergency air cylinders and a facility to provide the diver with a SCUBA mouthpiece and a valved flexible hose connection to provide an air supply for the diver in an emergency. For this facility to be of use to a diver in distress, the dive basket needs to be deployed in the water in the vicinity of the working diver(s).

## Monitors

There was no second monitor in dive control to allow the supervisor to view both divers' pictures at the same time and thereby be able to initiate prompt response/ action.

The company involved is ensuring that all dive control rooms will have a functioning, individual monitor for each working diver.

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