IMCA Safety Flash 20/19

August 2019

These flashes summarise key safety matters and incidents, allowing wider dissemination of lessons learnt from them. The information below has been provided in good faith by members and should be reviewed individually by recipients, who will determine its relevance to their own operations.

The effectiveness of the IMCA safety flash system depends on receiving reports from members in order to pass on information and avoid repeat incidents. Please consider adding the IMCA secretariat (imca@imca-int.com) to your internal distribution list for safety alerts and/or manually submitting information on specific incidents you consider may be relevant. All information will be anonymised or sanitised, as appropriate.

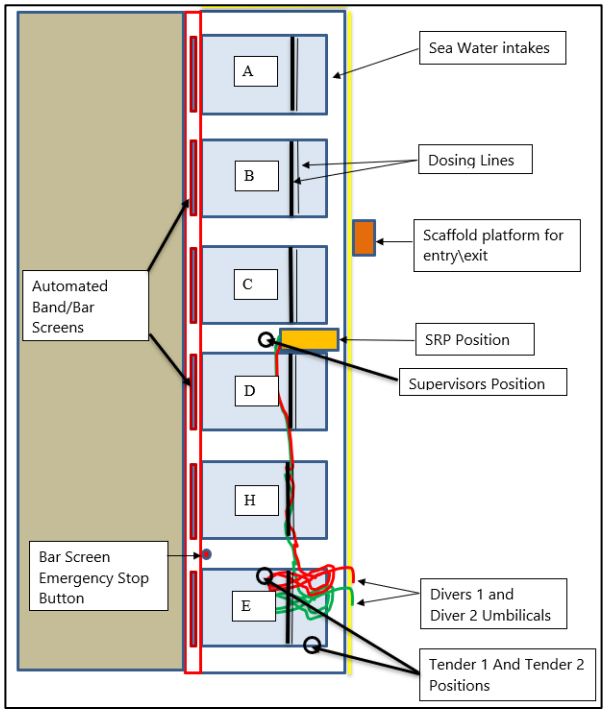
A number of other organisations issue safety flashes and similar documents which may be of interest to IMCA members. Where these are particularly relevant, these may be summarised or highlighted here. Links to known relevant websites are provided at www.imca-int.com/links Additional links should be submitted to info@imca-int.com

Any actions, lessons learnt, recommendations and suggestions in IMCA safety flashes are generated by the submitting organisation. IMCA safety flashes provide, in good faith, safety information for the benefit of members and do not necessarily constitute IMCA guidance, nor represent the official view of the Association or its members.

1 Near Miss: Diver's Umbilical Trapped

What happened?

During near-shore diving operations, a divers' umbilical became trapped against a seawater intake. The dive team (2 x divers, 2 x tenders and dive supervisor) had completed a task and were busy recovering all the tools and rigging to recover to surface. Both tenders were receiving the tools from the water, and both diver's umbilicals were briefly secured to a railing. Diver 1 was looking for any tools left behind on the seabed when his excess (untendered) umbilical drifted into one of the seawater intake channels and lay against the screen. The automated bar started and Diver 1's umbilical became trapped. The rotating bar emergency stop button which was less than 10m away from dive control was immediately used by the dive supervisor. Diver 1 transferred onto his bailout and upon confirmation that the band screen was stopped, Diver 2 approached to assess the situation. The bar screen was manually turned in reverse, in order to free Diver 1's umbilical.



Onsite client personnel manually reversed the band screen direction before both divers returned to surface, and diving operations were suspended. There were no injuries sustained to either diver and upon inspection of the umbilical, there was a small perforation in the main airline approximately 11m from the helmet. The communications cable also sustained cut damage.

What went wrong? What were the causes?

- Contributing factors:
  - diver umbilicals were tied off on the railing and were not being actively tendered; tenders were onsite but were engaged in other activities at the time (tender 1 was removing lifting gear and equipment from the crane hook, tender 2 was recovering tools using the messenger line)
  - seawater intakes were not isolated;
- Immediate causes:
  - there was no isolation of bar screens on the seawater intakes before diving began
  - umbilicals were not being actively tendered;

- Diver 1 failed to monitor his umbilical slack whilst he was engaged in recovering tools;

- Root causes:
  - inadequate engineered controls: failure to implement suitable equipment isolation
  - inadequate oversight or supervision.

What actions were taken? What lessons were learned?

- Thorough review and revision of risk assessment for this work;
- Revision of dive log requirements to include appropriate work planning and appropriate permit to work (PTW) requirements;
- Debrief and formal review by dive team, of method statement, dive plan and risk assessment, with particular reference to:
  - umbilical management
  - isolation of sea water intakes/band screens
  - are there enough people involved?
  - 'last minute' risk assessment
  - guarding against complacency and the hazards of 'routine' activities.

Members may wish to refer to:

- Near Miss: Unidentified Differential Pressure Led To Diver's Umbilical Getting Trapped
- Trapped Diver Umbilical Incident Resulting In Diver Fatality

2 Accidental Activation of Emergency Stop During Saturation Diving Operations

What happened?

Emergency stop buttons were accidently activated on a vessel engaged in Saturation Diving Operations in the 500m Zone. This caused the Starboard Voith Schneider Propulsion (VSP) System to trip out.

Much happened in a single minute: at 09:27:00 DPOs noticed that a warning light on the Starboard Voith Control Station and Engine Room Control were immediately informed. At 09:27:05 the Starboard VSP System stopped working but the vessel maintained its position. At 09:27:14 there was a DP "Yellow" alarm. At the same time, Dive Control was informed and started to return their Divers to the bell, and the Vessel Master and the client came to the Bridge.

Divers were safely recovered, and the vessel moved off-site and outside the 500m Zone. There were no injuries or harm done. The Starboard VSP System took a little under an hour to bring back online.

What went wrong?

The VSP tripped out because both lube oil pumps stopped. Investigation revealed that the pumps were found to have stopped because both the emergency stop buttons for the pumps had been activated.

What were the causes?

There were no protective covers on the emergency stop buttons. The buttons were inadvertently pressed by engine room crew lacking situational awareness. In this case, the control panels were located in a narrow access passageway.

What actions were taken? What lessons were learned?

- Improve situational awareness of all crew and improve/reiterate shipboard familiarisation;
- Be reminded of position of emergency stop buttons, especially in small alleyways or spaces where there are risks of accidental activation;
- Install covers on all emergency stop buttons;
- More thorough job safety analysis (JSA) and toolbox talks (TBT) to be carried out covering any routine maintenance activities in Engine spaces.

Members may wish to refer to the following incidents:

- Accidental shutdown of main engines
- Near Miss: Emergency fire pump could not be started from the bridge

3 LTI During Mooring Operations

What happened?

During mooring operations in the forward mooring deck of a large vessel, crew were in the process of sending out lines to line handlers ashore. When sending out the last breast line, they lost control and the line was slackened out in force. Despite shouted warnings to the contrary, the crewman closest to the line tried stopping it with his hands. The force of the line's movement resulted in a hairline fracture to his right hand. Medical treatment was given on-board before signing off the same day/port to recover from his injury.

What went wrong?

- Warning: the bosun observed what was happening and shouted out a warning to the crew not to attempt stopping the line. This warning was possibly not heard by the crewman who was closest to the line who tried stopping it with his hands;

- The injured crew member had more than 10 years' experience as a carpenter on similar vessels/operations, but did not have an STCW A II/5 license, nor could it be documented that he had received equivalent training on board as required by the company;
- The Bosun oversaw the mooring operation on the forward mooring deck. No Officer was in charge as required by company procedures.

What were the causes?

- The force of the rapidly moving line was misjudged when deciding to attempt stopping it by hand;
- The mooring operations were being conducted without an officer in charge and with crew members lacking appropriate qualification requirements;
- The existing company procedures for mooring operations were neither followed nor enforced;
- The risk of events such as this occurring had not been assessed.

Members may wish to refer to:

- Mooring practice safety guidance for offshore vessels when alongside in ports and harbours (IMCA M 214. IMCA HSSE 029)
- In the line of fire (IMCA SEL 036, video)
- Mooring incidents (IMCA SEL 038, video)
- Line of fire (video)

4 Mooring Incident: Mooring Line Slipped Off and Snapped Back

What happened?

During mooring operations of a cargo barge, a mooring line slipped off the cargo barge bollards, causing it to whip back and hit the attending tug. The tug was damaged by the mooring rope and control of the barge was lost for a short period, causing a minor collision. Due to the tension in the mooring lines at the time, the lines whipped back toward the attending tug, striking the tug's monkey island and resulting in damage to the antenna dome.

As a result of the loss of control, the cargo barge and our member's vessel came into collision; however, there was no damage. There was no risk of injury to personnel during the incident.

Incorrect mooring technique and pulling angle

Example of correct mooring technique to prevent 'slipping off

What went wrong?

- Incorrect mooring technique and pulling angle;
- The mooring lines were tied incorrectly to a bollard on the barge. The mooring configuration was not appropriate and allowed the mooring lines to slip off;

- The cargo barge bollards were angled 'backward' as they were designed for towing operations;
- The 'attending' tug had too much slack paid out on the towing bridle, and therefore attempts to abandon berthing operations were compromised.

What actions were taken? What lessons were learnt?

- When mooring alongside a vessel, a 'figure of eight' mooring pattern should be applied to prevent the mooring lines from slipping off the barge if there is opposing movement possible between the tug and barge;
- Consider fit for purpose bollard design with appropriate mooring technique when mooring a tug to cargo barge. Marine inspections should take into account bollard design effectiveness for proposed operations;
- Further training and instruction for marine personnel involved, on mooring techniques and on line of fire positioning around mooring stations;
- Verify that contingency plans for marine operations are followed and regularly practiced.

Members may wish to refer to:

- Mooring practice safety guidance for offshore vessels when alongside in ports and harbours (IMCA M 214, IMCA HSSE 029)
- In the line of fire (IMCA SEL 036, video
- Mooring incidents (IMCA SEL 038, video)
- High Potential Near Miss: Mooring Rope Parted
- Crewman Fatally Injured During Mooring Operations
- Mooring Line Failure resulting in serious injury

5 LTI – Fall from Height

A service engineer fell off a radar antenna and was seriously injured. The incident happened after two service engineers from a subcontracted company were on a vessel for the day to install a new electronics board in a radar antenna.

The job was completed safely, and all documentation related to permit to work (PTW)and job safety analysis (JSA) done, and a service report has been issued. Then one service engineer went back to the monkey island to collect some missing tools, without wearing any personal protective equipment (PPE) (e.g. no fall protection) and without ensuring that the lock out/tag out and PTW were still in place.

When he reached the monkey island, he couldn't find the missing tool, and so he went to check on the mast itself. At that moment, the Captain and the second service engineer operated the radar for a final test. The radar antenna started to rotate and hit the service engineer. He lost balance and fell down from the mast to deck and landed on the roof of a fiberglass lifeboat. He suffered multiple fractures and was fortunate not to have been killed. He was medevaced to hospital for surgery.

What were the causes?

Our members' investigation identified the following main causes:

- Poor communication and coordination;
- Poor management of subcontractors on the part of the vessel crew;

- Weak safety culture in subcontractor;
- Insufficient job preparation and completion of checklists.

Lessons learned and actions taken

- Better communication required: the vessel Master and second service engineer were not informed that the service engineer went back up onto the monkey island;
- Job preparation: more attention should be given to detail in preparation and to identification and mitigation of risks;
- Subcontractor management: better management and control of subcontractor required. Subcontractors should be more thoroughly monitored, especially when working in a dangerous area;
- Subcontractor selection: better selection should be made to focus on HSE aspects and to encourage subcontractors to improve their safety culture.

Members may wish to refer to:

- Fall From Height During Yard Visit
- Fall From Height – LTI
- Lost Time Injury (LTI): Fall From Height Leading To Multiple Fractures
- Working at height (video)

Further IMCA Safety promotional materials can be found on the IMCA website.