

IMCA Safety Flash 04/16

February 2016

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 webmaster@imca-int.com

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Summary

In this safety flash we cover five incidents – again a mixture of topics. Two near miss incidents had equipment failure as part of the cause. In the first, a man fell overboard when a gate latch failed – he was recovered safely. In the second, a pilot ladder failed, and someone narrowly avoided falling overboard. Then we have an unusual case of mistaken identity when someone inadvertently took a mouthful of thinners from an unmarked water bottle. We finish with two pinch point injuries, both unpleasant cases of crushed fingers – highlighting the need for thorough risk assessment of pinch points.

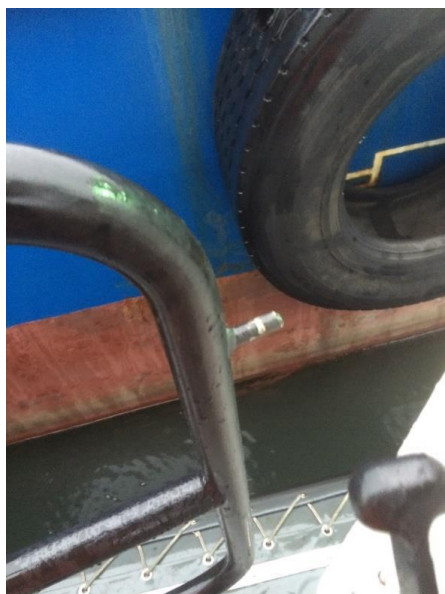
I Near Miss: Non-Fatal Man Overboard Incident

An incident has been brought to IMCA's attention in which someone fell overboard from a small boat. The incident occurred during the mooring of the daughter craft at a shore-side facility. A crew member leaned against the starboard boarding gate of the diving daughter craft, and the latch on the gate inadvertently opened. As the gate opened the crew member began to fall into the sea. He was able to step through the gate opening and enter the water in a controlled manner rather than falling headlong.

The alarm was immediately raised, assistance given and the crew member was recovered safely within 30 seconds of falling into the water. The crew member was wearing a floatation suit and a life jacket – which self-inflated following immersion. The crew member received no injuries, required no medical or first aid treatment and did not require re-warming. Once recovered inboard, the crew member changed into dry clothes, was issued a dry floatation suit and a replacement lifejacket. He declined a hot drink offered to him. Work was stopped, latches were tied shut and the vessel returned to port and an investigation was started.



Starboard gate (closed) and latch.



Starboard boarding gate open.



Close up of latch.

The investigation revealed the following:

- ◆ The daughter craft was berthed overnight approximately 30 minutes passage from the worksite;
- ◆ The gate had been previously checked and the latch confirmed as closed;
- ◆ The crew member was wearing the correct Personal Protective Equipment (PPE) – floatation suit, life jacket, hard hat, glasses, gloves and boots – and was inside the barriers on the daughter craft;
- ◆ The crew member was adjacent to the starboard gate, and this was designed to open outwards. The gate had previously been observed in a closed position. However, the latch had since moved into an open position and this was not observed;
- ◆ At the time of the incident the daughter craft was being held steady by the Coxswain in calm weather conditions;
- ◆ The crew member was recovered within 30 seconds. Once recovered, the crew member was given a change of clothes, a dry floatation suit and a replacement life jacket. Spare clothing and PPE (dry floatation suit and spare lifejacket) were all available on board;
- ◆ This incident showed that there was a good response by the crew members to an emergency situation and that there was a good level of emergency facilities on board the daughter craft;
- ◆ The PPE requirements were followed and prevented injury and/or illness to the man overboard. The crew member who fell overboard was wearing a buoyancy (floatation) suit which had the capacity of 100kg. As a result, he had only the bottom half of his body submerged and did not inhale any water or require re-warming;
- ◆ General familiarisation training for this daughter craft was given to all crew members. However, the specific reference to checking the boarding gates was not included;
- ◆ Immediate cause:
 - The crew member leaned against an unsecured boarding gate which opened allowing said crew member to pass through and enter the water;
- ◆ Underlying factors:
 - There was a mechanism failure in the latch of the boarding gate
 - There was no fail-safe or positive locking mechanism on the gate latches
 - A missing washer reduced friction on the latching mechanism. This allowed vibrations during transit to and from berth to worksite to cause the latch to raise and the gate to open in an uncontrolled manner
 - The positioning of the crew member adjacent to the starboard boarding gate.

The following root causes were identified:

- ◆ Inadequate latch design:
 - There was no secondary protection for the latch
 - Owing to a manufacturing fault, the latch very easily opened by vibration, snagging or lightly brushing against it
 - The gate opened outwards
 - The washer mechanism in the latch on the starboard gate was damaged/loose making the latch handle move from side to side, increasing probability of vibration;
- ◆ Positioning of crew members adjacent to the boarding gate:
 - The crew member wasn't aware of the risk of the latch opening
 - The risk of the gate opening was not defined in the project hazard inspection and risk analysis, nor in the task based risk assessments or the vessel familiarisation training;
- ◆ Inadequate assessment of potential latch failure:
 - There was no awareness of the risk of the latch opening
 - The vessel was of a brand new build and design
 - The vessel had recently been audited and an independent risk assessment of the vessel was undertaken – none of these audits had identified this design fault.

The following actions were taken:

- ◆ A temporary secondary mechanism was fitted to both the port and starboard gates (the latches were tied shut during transit) – these were latched and tested for security, to allow vessel operations to restart. A more permanent method of fail-safe locking was engineered and installed;
- ◆ A defect report was submitted to the original equipment manufacturer and a safety bulletin was issued advising personnel of the situation, and corrective actions were taken to avoid future recurrence;

- ◆ The vessel briefing was also amended to include a requirement for checks on the secondary locking mechanism before departure from the vessel's berth/mother vessel.

The following recommendations were made:

- ◆ The circulation of a bulletin to ensure lessons learnt;
- ◆ Consideration to installing a grab rail or a rope on the outside of the daughter craft for a crew member to grab onto in the event of a man overboard situation;
- ◆ Consideration to adding a flat plate so that the gate cannot be opened outwards – instead opening inwards and mitigating the risk of the latch failing, the gate opening outwards and another man overboard incident as a result of leaning on the gate;
- ◆ The latch-on safety line, or similar running around the daughter craft, should be extended from its current position just aft of midships to a position level with the back deck. This would enable personnel to immediately latch onto the safety line before leaving the back deck.

Members may wish to refer to the following incidents (search words: *man overboard*):

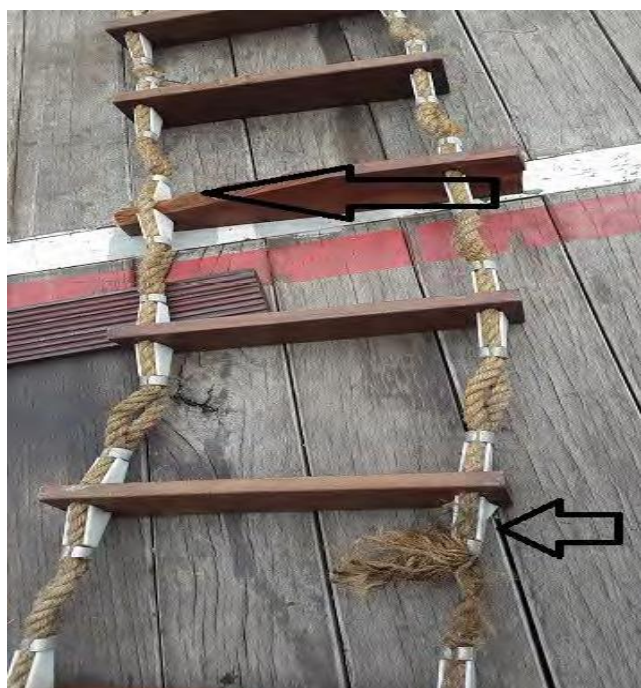
- ◆ [IMCA SF 02/15](#) – Incident 5 – *Near miss: man overboard*;
- ◆ [IMCA SF 10/15](#) – Incident 5 – *Daughter craft man overboard incident*;
- ◆ [IMCA SF 20/15](#) – Incident 3 – *Non-fatal man overboard incident*.

2 Near Miss: Pilot Ladder Failure

A member has reported an incident during an embarkation offshore, in which a rope on a pilot ladder snapped. The person boarding the vessel managed to hold onto the hand line which was rigged alongside the pilot ladder, thus preventing himself from falling overboard.

Our member's investigation revealed the following:

- ◆ The pilot ladder had been checked as part of the monthly safety checks and had been recorded as "Out of Order" – but had not been removed from use and quarantined;
- ◆ A requisition had been raised for a replacement pilot ladder, but the new ladder was still awaiting delivery;
- ◆ No crew member exercised the STOP WORK POLICY, despite being aware of the ladder being damaged;
- ◆ The following safety barriers were observed to have failed:
 - Operational procedures - existing guidance was not sufficient to deal with this case
 - Maintenance procedures;
- ◆ Our member took the following actions:
 - The pilot ladder was immediately quarantined
 - All other vessels were instructed to inspect their pilot ladders for serviceability
 - Changed company procedures on the quarantine of (faulty or damaged) tools and equipment.



Any tools or equipment found to be faulty, damaged or defective should be taken out of use and tagged/quarantined. This near miss incident need not have happened had someone on the crew taken the initiative to stop the job. Our members' STOP WORK POLICY should have been exercised, either during the monthly safety checks of the ladder or before the personnel transfer.

Members may wish to refer to the following incidents, some of which are identical in that the immediate cause is the parting of a pilot ladder rope (search words: *pilot*):

- ◆ [IMCA SF 11/11](#) – Incident 8 – *Pilot ladder failure*;
- ◆ [IMCA SF 17/17](#) – Incident 3 – *Pilot ladder safety*;

- ◆ IMCA SF 17/17 – Incident 4 – LTI – pilot ladder failure.

3 Person Accidentally Drank Hazardous Substance

A member has reported an incident in which someone inadvertently took a mouthful of a hazardous substance. The incident occurred when the Bosun was tasked with conducting routine chipping and painting on deck. Feeling thirsty, he noticed two plastic bottles with drinking water labels on the table next to the accommodation entrance. He opened the cap of one the bottles and took a gulp – he immediately tasted solvent and spat out the liquid, before seeking first aid treatment.

Our members' investigation revealed the following:

- ◆ There was a failure of control of substances hazardous to health:
 - “Thinners” had been decanted into incorrect storage, with insufficient warning labels
 - Flammable materials were stored incorrectly near to or in accommodation
 - Incorrect Material Safety Data Sheets (MSDS) held on file, delaying immediate medical treatment;
- ◆ There was unsafe use of incorrect storage containers, leaving maintenance materials (thinners) incorrectly stored in the accommodation;
- ◆ No verification was done on board of the vessel to ensure there was proper and suitable equipment available for transferring small amounts of paint and thinners;
- ◆ There was poor communication of safe storage and labelling requirements on the vessel;
- ◆ There was a lack of communication between parties, as an incorrect type of MSDS was initially offered to medics;
- ◆ There was no supervision, no oversight and a lack of control over storage and labelling applications of chemical substances and of the MSDS register held on-board.



Our member took the following actions:

- ◆ The Bosun received first aid as per relevant MSDS requirements. He was transferred ashore by helicopter for further medical examination;
- ◆ A safety stand down was carried out with the vessel crew to further outline the hazards created by inadequate storage, segregation and labelling of hazardous substances;
- ◆ The vessel Master was instructed to have a check made throughout the vessel to see if there were any chemical agents stored in unlabelled bottles – in breach with the accepted norms and requirements.

Our member learnt the following lessons:

- ◆ All hazardous chemicals should be clearly labelled;
- ◆ Hazardous chemicals that are not in the manufacturer's original container (working solutions, prepared for temporary use) should, at a minimum, be labelled with the contents. A suitable container should be used;
- ◆ Drinking water bottles and/or other drinks in bottles and food should not be kept at the direct worksite, particularly not where chemicals are being used;
- ◆ Chemical substances used on board should be accompanied at all times with easily accessible and easily identifiable MSDS.

4 Finger Injury during Maintenance Work – Restricted Work Case

A member has reported an incident in which a seaman suffered a serious finger injury whilst lifting and moving heavy shackles. The incident occurred whilst he was working on deck with the Bosun, colour-code painting of the shackles and moving the shackles on to the rack after the job had been completed. The injured person and the Bosun agreed that they would lift and replace the heavier shackles together, lowering them into position before finally dropping them the last short distance – each person letting go “on the count of three”.

They lifted a large shackle, weighing 44kg, into position and the Bosun begun the count – on reaching 3, he let go but the injured person did not, causing his finger tip to become crushed between the dropped shackle and another shackle already on the rack below. He received first aid treatment on-board, but after examination by the platform medic, he was sent ashore

for further medical treatment. He returned later that day and was assigned to restricted duties, with a minor fracture, bruising and cuts to his finger.



Showing shackles, gloves and injured finger.



Corrective action: use of lifting equipment and strops for all future manual handling exercises involving heavy loads.



Corrective action: rearranging the shackle racks, to place heavier shackles at the bottom.

Our member's investigation revealed the following:

- ◆ Despite a very detailed and discussed control of work process, some major items were missed:
 - The risk assessment was very detailed and included specific awareness on pinch points (following positive learning from a previous incident) and manual handling. However, no consideration was given to the use of additional, mechanical control measures – chain blocks, strops. – for handling heavier shackles
 - A toolbox talk had been conducted and attended by everyone involved. However, despite the use of lifting equipment and manual handling being identified here, the work progressed without the necessary equipment and control measures in place
 - Despite the difficulties experienced in lifting the heavier shackles, no-one exercised the STOP WORK POLICY. The Bosun and the injured person came up with an unplanned – and hazardous – solution, rather than stopping and re-assessing how the work could have been completed in a safer manner, using a dedicated safe lifting arrangement.

Our member took the following actions:

- ◆ The injured person received immediate first aid on-board and was then sent ashore to hospital for medical treatment;
- ◆ An on-board “Time Out for Safety” was held to discuss the incident and failings, and to discuss corrective actions;
- ◆ The crew implemented corrective and preventative measures (see the photographs above);

- ◆ Changes were made to the safety management system documentation to enhance coverage of manual handling and pinch points.

Our member identified some important lessons:

- ◆ Learn from previous mistakes – ensure that lessons learnt from other incidents are applied to your daily working duties, to make your tasks safer;
- ◆ Toolbox talks are not one-way conversations, but an opportunity for ALL team members to speak up and ask questions, discuss the task, ensure all control measures are in place and that everyone is clear on their duties and responsibilities during the job;
- ◆ Ensure all Control of Work requirements are in place – before starting the job, ensure that every safety and control measure required by the risk assessment, permit to work and toolbox talk is in place and is correct. If something is missing, or not implemented correctly – or even if you have some concerns about the measures that are in place – do not start the job until everything is in place and correct;
- ◆ Do not use unplanned work practices – exercise the STOP WORK POLICY if you need to, but step back and reassess the task to find a safer, easier alternative.

Injuries resulting from fingers and/or hands being crushed or caught between something, are a recurring theme in IMCA safety flashes. Members may wish to look at the following incidents:

- ◆ [IMCA SF 03/05](#) – Incident 1 – *Finger injury during loading operations;*
- ◆ [IMCA SF 02/08](#) – Incident 1 – *Finger injury whilst casting off towing line;*
- ◆ [IMCA SF 03/09](#) – Incident 3 – *Crushed finger;*
- ◆ [IMCA SF 04/12](#) – Incident 1 – *Lacerated finger during rigging operations;*
- ◆ [IMCA SF 05/12](#) – Incident 3 – *LTI: crewman's finger pinched when moving the gangway;*
- ◆ [IMCA SF 12/14](#) – Incident 7 – *LTI – trapped finger;*
- ◆ [IMCA SF 05/15](#) – Incident 6 – *Finger injury – pinch point – during hose handling;*
- ◆ [IMCA SF 16/15](#) – Incident 4 – *RWC – caught between: finger smashed by tooling.*

Please review IMCIA's pocket cards on:

- ◆ [Manual handling;](#)
- ◆ [Toolbox talks;](#)
- ◆ [Preventing finger and hand injuries.](#)

5 Finger Injury: Pinch Point

A member has reported an incident in which someone suffered a finger injury whilst working on a hatch. The incident occurred when a crewman was working on deck, and needed to lift an escape hatch cover to the machinery spaces. He raised the hatch cover using one of the fitted handles, but was unaware of a pinch point created between the handle and an upright pipe behind – his finger was caught in this pinch point, causing an injury to the fingertip.



Our member's investigation reported the following:

- ◆ The handle was fitted in a manner that caused it to come into contact with the pipe when the hatch was opened;
- ◆ No-one had observed this pinch point, or highlighted potential injury risks presented;
- ◆ Because of a lack of observation or reporting of the pinch point, no warning signs had been placed.

Our member took the following actions:

- ◆ The injured person received immediate first aid on-board and was then sent to hospital for medical check-up;
- ◆ The hatch handle was moved to a new location (see the photo on the right), therefore removing the pinch point and associated hazards.



The following important lessons were learnt:

- ◆ Even when conducting routine tasks, or tasks which appear to be low risk, remain aware of all safety impacts and potential hazards;
- ◆ When modifying or moving existing equipment, or adding new equipment or fittings, ensure that this work does not actively create new hazards, such as pinch points, obstructions or tripping hazards. If there are concerns that such planned works could create hazards, these concerns should be raised with the appropriate authority;
- ◆ If you observe any potential hazards created within the work space, these should be recorded using safety observation and effective corrective action should be taken to reduce the risks;
- ◆ When an incident occurs, it is essential to take quick, effective corrective actions to avoid the incident happening again – this was done in this case, and the vessel crew have completely removed the hazards by moving the handle.

Members may wish to refer to the following incident (search words: *pinch*):

- ◆ [IMCA SF 05/12](#) – Incident 3 – LTI: crewman's finger pinched when moving the gangway.