IMCA Safety Flashes summarise key safety matters and incidents, allowing lessons to be more easily learnt for the benefit of all. The effectiveness of the IMCA Safety Flash system depends on Members sharing information and so avoiding repeat incidents. Please consider adding safetyreports@imca-int.com to your internal distribution list for safety alerts or manually submitting information on incidents you consider may be relevant. All information is anonymised or sanitised, as appropriate.

1 Three man overboard fatalities

The Marine Safety Investigation Unit of Transport Malta has published two reports outlining three man overboard fatalities.

Incident 1 – two men washed overboard whilst working on deck in high seas

See full report here. A bulk carrier was steaming at reduced speed due to both engine issues and adverse weather conditions. It was noticed that mooring ropes stored on the poop deck had scattered, while some of them were hanging over the vessel's guard rails due to the inclement weather. A party of crew members endeavoured to secure these mooring ropes. Two crew members were assisting from the poop deck, while the rest were handling the ropes on the first deck. At one point, two consecutive large waves washed over the poop deck, causing the two crew members working on the poop deck to fall overboard. A search for the two crew members was carried out, involving two Search & Rescue helicopters from Norway's coast guard; however, the operation was unsuccessful.

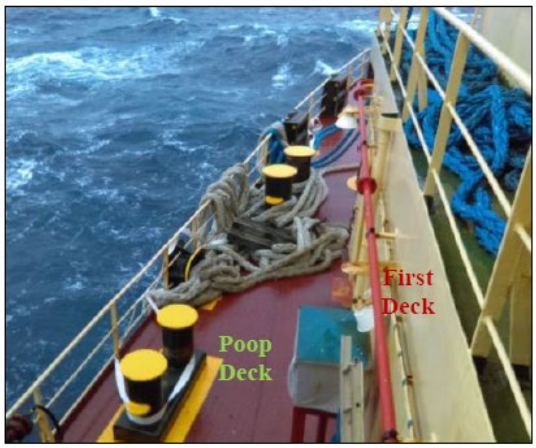


Figure 4: Situation on starboard side, two ropes secured to the railings of the poop deck, while the end of one of the ropes was hauled onto the first deck

Figure 5: Simulation of the crew's location when the waves washed over the poop deck

Neither crew member was secured to the vessel, nor were they wearing life jackets, at the time of the incident. There were no inflatable life jackets on board the vessel. (IMCA red for emphasis)

Incident 2 – Fatal Man overboard incident during rigging of a combination pilot ladder

See full report here. The bosun on a bulk carrier fell into the sea and drowned while rigging a combination pilot ladder in the hours of darkness. Information available to the safety investigation indicated that the bosun was alone on the accommodation ladder's lowest platform. None of the crew members witnessed the events which led to the bosun falling off the ladder. The report notes that *it seems likely that the crew member fell into the water whilst lashing the accommodation ladder to the vertical pilot ladder. At the time of the accident, the crew member was*

not wearing a safety harness. It is very likely that he drowned because he had no lifejacket on. (IMCA red for emphasis)

IMCA notes: These two dreadful and wholly avoidable incidents are included to illustrate the fact that a responsible and constructive attitude to safety is not something that can always be taken for granted – be it the shipowner, the employer, the officers or the crew. If in doubt – **STOP THE JOB**.

2 Bypassing safety controls - violation of working at height requirements

Applicable Life Saving Rule(s)

What went wrong

On a vessel in dry dock, painting of the the hull was ongoing, using the shipyard crane and a personnel basket. During this work process it was observed that the workers in the basket were not provided with safety harnesses.

The shipyard representative was requested to provide certificates for basket in use, but it was revealed that neither basket nor fall arrest equipment had valid test certificates.

The job was stopped and the shipyard was required to correct the situation. Relevant certified equipment was then immediately provided.

Uncertified basket

What were the causes?

Preliminary causes identified by our member were:

- Shipyard failed to follow agreed Control of Work process, or follow equipment certification & PPE requirements related to Work at Height activities as agreed by the contractor and the yard;
- It was *not clear* who was responsible for Control of Work and HSE oversight between the contractor and the yard. (IMCA italics)

Recommendations/actions

- Revision of Safety Management System to include implementation of vessel pre-docking checklist to verify HSE readiness, including shipyard arrangements, cranes, relevant equipment and workforce certification prior to vessel docking;
- Arrange development of bridging agreements between shipyard and contractor, to specify Control of work responsibilities for any activities onboard of vessel, including external activities related to vessel hull.

Working at height without a safety harness

Members may wish to refer to

- IMCA HSSE 032/M 221 *Guidance on safety in shipyards* – this document provides thorough and comprehensive guidance on this potentially difficult topic.

3 Line of fire: deck tugger wire failure

Applicable Life Saving Rule(s)

Line of Fire

What happened?

Personnel were standing in line of fire during recovery of a Back-Fill Plough when a chain sling failed, and the rigging recoiled across the deck. A tugger wire connected to a tow wire and chain sling, unexpectedly came under tension, the chain sling failed, and the rigging recoiled.

The incident occurred when a technical fault in the plough made it necessary to recover it to deck. The deck foreman requested the tugger wire operator to provide adequate tugger wire slack, which was then provided. The intention was to haul the tugger wire up the deck with the main winch.

This intention was not clearly communicated to, nor was it understood by, the tugger winch operator or the deck crew. The tension on the chain sling rapidly increased, it failed, and the released rigging recoiled and narrowly missed the personnel in line of fire. The chain sling contacted a deck plate which dissipated much of the energy.

Deck crew immediately before tugger wire snaps (10:23 54")

Deck crew getting out of the line of fire as tugger wire snaps (10:23 57")

What went wrong

- There was no opportunity taken to have a time-out to discuss the change in task plans when moving from the launch of the plough to its recovery;
- There were inconsistencies between shifts, and inadequate documentation, between marine crew and project personnel, of who exactly was responsible for deck operations;
- The change in the "standard" practice of manually pulling the tugger wire up the deck was not communicated to all parties involved, and the consequence of the change was neither evaluated nor understood;
- There was a failure to follow the risk assessment which required a "Clear Deck Policy" when using tuggers and spooling with personnel positioned in a safe zone.

Actions

- Ensure a toolbox talk (TBT) is conducted when moving from one task plan to another so that all parties involved in the operation are aware of their roles and responsibilities;
- Supervise compliance with approved procedures or perform a Management of Change process before making any deviations from a procedure;
- Reinforce the need for clear, concise communication and always confirming everyone understands the next activity;
- Ensure personnel are fully aware of the risks from being **in the line of fire** of wires or chains under tension and that they are clear on the safe areas they must remain within. This should be a key part of the TBT.

Members may wish to refer to:

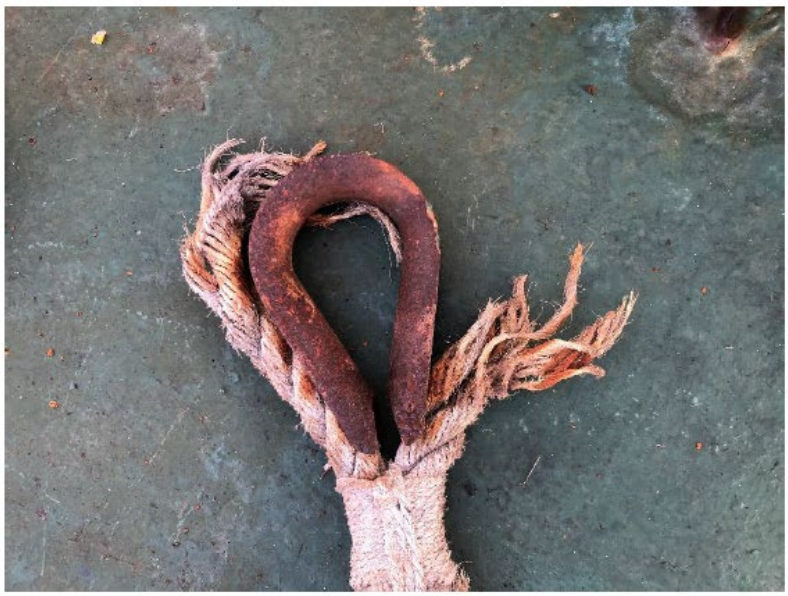
- LTI Incident – Crew Struck by Cargo During Lifting Operations *[crane operator did not follow the instructions of the vessel lifting team; injured crew member was in the line of fire; vessel cargo plan not followed; no-one thought to stop the job]*
- MSF: Cargo Snagging *[Action: Reinforce the need for good communication between vessel and platform crew during lifting operations, particularly in relation to 'stop the job']*
- High potential stored energy incident: inner buoyancy module clamp failure during removal

4 Failure of natural fibre rope in embarkation ladder

What happened

Planned inspection/replacement of a lifeboat embarkation ladder identified the total failure of the natural fibre rope at the securing thimble. The fibre rope at the anchor point securing thimble was worn through due to incorrect connection creating the potential for ladder failure on deployment.

Although natural fibre rope has properties that make it ideal for use in many marine applications, it is particularly susceptible to damage and loss of strength for several reasons, if it is not stowed and handled correctly.



Failure of cordage

Lack of clearance (cordage – deck strong point)

What went wrong

Investigation found that the failure was caused through abrasion due to the back of the eye being in contact with the metal deck strong point. The anchor point was too small for the use of a shackle of enough size to provide clearance between the rope and deck strong point. The rope failed during removal of the ladder, indicating the extent of the wear.

Actions

The inspection and maintenance of rope ladders should be part of the vessel planned maintenance schedule. A thorough inspection should be undertaken on a regular basis, and a visual check before and after use. The entire length of the ladder should be examined including all fixtures and fittings, considering the following points:

- Although the surface of the rope may appear to be in satisfactory condition, natural fibre rope may self-abrade from the inside. The lay should be opened at regular intervals along the rope to check for signs of wear;

- The presence of dark mould spots or a grey powdery substance within the lay of the rope may be an indication of rot or mildew, which is very difficult to eradicate;
- If the fibres on the surface appear to be weak or frayed and can be picked away easily, the rope may be suffering from sunlight or chemical degradation;
- Steps and chocks should be inspected for damage, cracks, wear, splits, sharp edges or splinters. Ensure slip resistant material applied to steps remains effective;
- Securing shackles should be inspected for corrosion, for size and suitability and shackle pin secured by means of a split pin or similar arrangement;
- Pad eyes should be inspected for damage or corrosion, and welds checked for excessive wear down or cracks.

Damage to or degradation of a natural fibre rope should be evaluated by an appropriately experienced crew member. If deemed necessary, or if any doubt exists, the ladder should be removed from service, repaired or replaced. Factors which may require such action could include:

- Fraying, abrasion, cuts or signs of excessive wear;
- Deterioration or damage caused by chemicals, detergent or paint;
- Powdering between strands, rot or mildew;
- Variations in diameter size;
- Exposure to overloading or shock loads;
- Kinks which are difficult to remove.

Shackles should be replaced if wear or corrosion has reduced the diameter of the crown or pin by more than 10%. Pad eyes should be checked for cracks and excessive wear and be replaced or repaired in accordance with Class requirements.

Members may wish to refer to:

- Hazard hunt: pilot ladders and gangways
- Safe embarkation and disembarkation of Marine Pilots
- OCIMF: Pilot ladder side rope failure: Unsafe pilot transfer
- Lifeboat wire rope failure

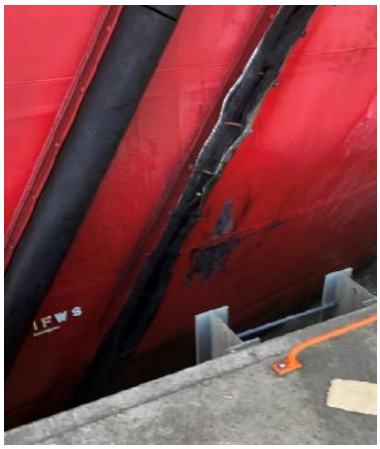
5 Vessel hull damage due to quayside contact

What happened

In two separate incidents at Great Yarmouth in the UK, two vessels have sustained damage to hull plating and hull fenders through contact with damaged, missing or misaligned jetty fendering arrangements.

In one incident, a pad eye on the quayside edge made contact and penetrated the vessel hull plating. At the time of the incident, the vessel was experiencing strong beam winds gusting up to 47 knots, pushing the vessel onto the quayside. Contact with the furthest forward fendering squeezed it out of position and underneath the quay structure. This allowed the forward section of the hull to come into contact with the protruding pad eye. It has become apparent that the fender resting place on the quay structure must have been previously damaged, enabling the fender to slide around the quayside supporting column.

In the second incident, the vessel experienced damage to the hull fender and hull mounted fender frame. This was caused because there were no Yokohama fenders as expected, but instead large steel plates with sheets of rubber for the facing. The quayside location was exposed to the weather; the vessel experienced a heave of up to 2 metres, resulting in the wear down of the ship fender rubbing against the top edge of the quayside fender plate.



What went wrong

In the first incident, the securing arrangements (pad eye) for the Yokohama fender must have been damaged at some point, but this was not reported to the vessel. This resulted in the Yokohama fender being able to move away from the jetty column and thus offering no protection to the vessel's hull.

In the second incident, the vessel Master was expecting Yokohama fenders. Instead the berth was fitted with metal, rubber faced plate fenders, which were not suitable for the hull layout of the vessel and resulted in damage to the vessel's hull plating and fixed fenders.

In both incidents weather conditions were a contributing factor.

Lessons learned/actions

- Wherever possible obtain a berthing plan in good time so as to make a full appraisal of fendering, mooring and gangway arrangements and request any necessary changes or clarifications;
- Ensure a pre-arrival toolbox talk is conducted so that all personnel involved in the berthing operation are aware of both shore-side and onboard mooring and fendering arrangements;
- Remain aware of the weather conditions when approaching the berth and if not satisfied with the situation, abort the approach and/or request tug assistance if appropriate and available;
- If it becomes apparent that the intended berth is not suitable, abort the approach and inform the Pilot/Port Authority and request alternative arrangements;
- Once moored alongside, monitor weather conditions including tidal variations which may affect the vessel movement and potential contact with quayside fendering, obstructions or infrastructure;
- Keep this handy list near your passage plan folder to ensure that future port calls consider same information.

Members may wish to refer to:

- Serious incidents involving the weather
- Vessel gangway rolled off platform tower and fell to the quayside in high wind
- Damage to hand rails during mooring operations