

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 Caught between: unplanned movement of equipment leads to severe injuries

What happened?

A mechanic was caught in the door of a freight container by a tipped-over hose saddle weighing 3 tonnes. The incident occurred when a team was performing maintenance works to a hydraulic spread on deck. A mechanic, who was not involved with these works, passed by the hose saddle, and entered a nearby container. At that moment the hydraulic hoses moved, causing the hydraulic saddle to tip over towards the container door, trapping the mechanic in between the container door and the frame. He sustained severe injuries for which he underwent surgery, and will be off work for more than 6 months.

Applicable
Life Saving
Rule(s)



Line of Fire



Work
Authorisation



What went right

Emergency response was initiated properly and in a timely manner and the injured person rescued. First Aid was given on site until the person could be evacuated to a nearby hospital.

What went wrong

Multiple things went wrong leading up to the incident:

- The hose saddle was not secured to the deck and due to its shape has a high centre of gravity, making it unstable;
- Because of the maintenance activities, the hose saddle was repositioned on deck, without a Management of Change (MoC) procedure being implemented;
- People working in the area were informed of the pressure tests on the hoses, but the mechanic was not there at that briefing. No Permit to Work was requested, nor was the area barricaded.

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What were the causes of the incident

- The following causes were identified:
 - No “Safety By Design”: the hose saddle was top-heavy and was not sea fastened;
 - No risk assessment or management of change was done before repositioning the hose saddle;
 - There was no proper risk management of ongoing (simultaneous) activities, for example, Permit To Work, barricading of the area, and thorough communications to all stakeholders.

Lessons and actions

- Incorporate “Safety by design” for all tools and equipment (including the importance of stability);
- When there is a deviation from the planned work, a Management of Change procedure should take place;
- Proper implementation of the Permit To Work system as and when required;
- All persons involved in the job and in the work area should take part in the toolbox meeting before starting work;

Our member took the following actions:

- Assessed the stability of all deck equipment;
- Sea-fastened all (unstable) deck equipment, also equipment which was in temporary locations;
- Reinforced the importance of procedural safety barriers such as the Management of Change process, last-minute risk assessment, and the Permit to Work system;
- Worked to improve safety coordination between all parties, including subcontractors.

Members may wish to refer to:

- IMCA M 203 [Guidance on simultaneous operations \(SIMOPS\)](#)
- [In the line of fire](#) (IMCA SEL 036, video)
- Short video (“Are you prepared to work safely”) [Line of fire](#)
- [Fatality during loading operations](#)

2 LTI – Person fractured pelvis in a fall from a ladder

A crew person suffered a fractured pelvis falling 4-5 metres from a temporary access ladder onboard a cargo vessel. The ladder was installed at a previous equipment mobilisation following realisation that the permanent access / egress hatches to the cargo hold had been blocked. The ladder was secured to a small access platform off the ‘tween deck by means of ratchet straps. The platform edge was 5 metres in height with no handrails or fall prevention and the ladder could only be accessed by stepping over the ratchet straps at the exposed edge.

On previously attempting to access the cargo, the injured person found that the hatches were blocked. He was aware of the ladder, also that it has been successfully used by other persons and believing it to be safe, started to descend. He was alone at this time, it was raining heavily and the equipment and his working attire and PPE were wet. On negotiating the top rungs, he slipped and fell backwards 4 metres to the deck below.

In pain and discomfort he managed to climb up the ladder (the only way out of the hold) to seek assistance. On returning to colleagues, his condition deteriorated, and he was taken to a local hospital where it was confirmed that he had broken his pelvis. The injury required surgery to realign the pelvic bone by means of titanium screws and wires. The injured person needed at least three months to recover.



What went wrong

- Use of the ladder was not risk assessed and no working at height / fall protection mitigations were applied. There was no Management of Change applied when the ladder was installed. A work environment was created which influenced crew to use the ladder, creating a “routine violation”;
- The crew person involved (a Rigging Supervisor) boarded the vessel at an interim mobilisation. There were no ISPS controls, inductions or familiarisations for visitors, who were not accompanied nor made aware of restricted areas on the vessel;
- It was raining heavily and the injured person’s clothing, gloves and footwear (PPE) were wet;
- Stop Work Authority was not exercised – visitors accepted the different HSE standards of the sub-contractor and did not challenge non-compliance. All personnel boarding the vessel at the various mobilisations had the opportunity to challenge the unsafe ladder condition but did not;
- Deck Drawings and review did not identify locations of access/egress hatches leading to them being blocked by mobilised equipment.



What was the cause

Our member drew the following conclusion about root causes:

- Insufficient detail in Cargo Hold Drawing to create a safe load plan
- Design review did not assess safe cargo hold access/egress, stretcher routes and safe movement of personnel;
- Failure to conduct verification activities and ensure compliance.
- Poor risk perception / culture in that personnel did not carry organisational expectations onto a subcontractor worksite;
- Lack of basic operational control.

Lessons and actions

- Thorough engagement with management of sub-contractor to align HSE expectations:
 - Ensure thorough review of sub-contractor safety arrangements, documents and compliance;
 - Review of the sub-contractor’s load plans;
 - Conduct verification activities to ensure a safe working environment and practices prior to starting work (focus on the nine Life Saving Rules and pre-start work checklists);
 - Ensure robust worksite supervision and empower personnel to exercise ‘Stop Work Authority’.
- The ladder was removed from the vessel and safe access/egress was implemented.

Members may wish to refer to:

- [Serious LTI – Crew member slipped on deck breaking his leg](#)
- [‘Routine’ task, non-routine result: A fall from a crane ladder leads to an LTI](#)
- [Personal injury following PPE violation and slip and fall on deck](#)
- [Fatal fall aboard tanker Marinor](#)

3 Unplanned rotation of drilling machinery

What happened

A large diameter subsea drill had completed drilling operations and was returned to the vessel's deck for planned maintenance. Part of the maintenance programme required the drill support system to be energized. As the system was energized, the drill bit unexpectedly started rotating for around 40 seconds. The retention fastenings, used to secure the drill during maintenance, parted, tangling in the rotating drill-bit. Nobody was in the vicinity at the time and there were no injuries.

What went wrong – lessons learned

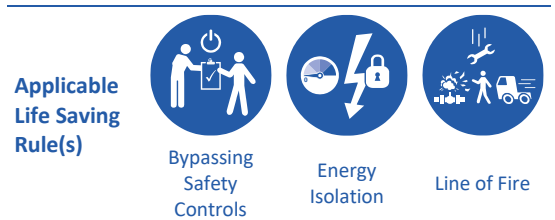
- Operating procedures were not fully followed by the drilling team, which led to the operating console drill-bit rotation switch being left in the 'on' position;
- There was no warning that the system was "live" and that the bit would turn;
- There was no engineering barrier, such as an automatic interlock system which would have prevented inadvertent operation;
- Shift handover was not adequate and did not ensure all safety practices were followed;
- The control measures identified during the task risk assessment and subsequently included in the operating procedure, placed too great a reliance on individuals being aware of the situation (e.g. being aware of the position of control switches etc.) and also a reliance on following administrative controls / check sheets.

Actions taken

- Following an equipment design review, an isolation interlock was integrated into this equipment;
- Additional procedural steps requiring operator intervention (switching off) were now included in improved operating procedures;
- Improved monitoring of compliance and communication within work teams;
- The importance of engineering controls over and above administrative controls has been reiterated.

Members may wish to refer to:

- [Hand injury when caught in machinery](#) [an unrecognised situation caused a stopped and un-isolated machine to restart suddenly]
- [Agitator started moving during mud tank cleaning – leading to injury](#) [procedures concerning isolation of moving or rotating equipment were not followed]
- [UK HSE: Poor control of work – worker suffered serious injuries](#) [a worker was distracted while arranging isolation, and the isolation was not completed]
- [Near-miss \(HIPO\): Engine started and running whilst crew member working on shaft generator](#) [an unplanned change which was not properly managed]



4 CHIRP: Crew vigilance prevents mooring incident

What happened

CHIRP – the Confidential Human Factors Incident Reporting Programme – has shared an event in which the careful vigilance of vessel crew prevented a mooring incident. A long, low-amplitude swell was causing a steady yawing and rolling motion of up to around 1.2m from the wharf on a 93,000-tonne deadweight bulk carrier alongside. During this time, a forward spring line running over the edge of the shipside roller fairlead began interacting with another mooring line causing significant abrasion damage.

What went right

Good monitoring of the lines by the vessel crew picked up the damage. There was good communication on the vessel and between the vessel and the terminal. The lines were replaced and re-run by the ship's crew before they parted.

What went wrong

It was observed by CHIRP that *“the design of the roller fairleads was not optimised to prevent contact with the sheer strake. Additionally, like many vessel spring lines, they can be susceptible to abrasion when environmental conditions at the port result in excessive movement.”*

Lessons learned

- The importance of good communication and good teamwork;
- Safety by design – CHIRP notes that many mooring fixtures and fittings are applied to the ship's structure to meet compliance with the ship's design requirements. Still, many are not properly designed to ensure that their directional lead is optimised to prevent abrasion of the line and maximising their resistance to the applied force on the line. How well do your mooring arrangements work? Do you have to use other rollers to obtain a better lead?

Members may wish to refer to

- Positive: parted mooring lines spotted before damage could occur
- Serious injury during mooring operations: rope parted
- High potential near-miss: Mooring rope parted
- MAIB report 13-2017 - into failure of a mooring line on board the LNG carrier *Zarga*



CHIRP is a charity providing an independent, confidential incident and near-miss reporting programme to improve safety at sea for mariners worldwide. CHIRP investigates every report and publishes anonymised findings to raise awareness of safety issues. IMCA works closely with the CHIRP Maritime Advisory Board. <https://chirp.co.uk/maritime/>

5 MSF – two recent dropped object incidents

The Marine Safety Forum has published safety alerts on two recent dropped object incidents, both of which have learning value for IMCA members.

Incident 1: What happened

A breakaway coupling became a dropped object. It fell unnoticed to deck on a semi-submersible accommodation vessel. Later investigation identified where the breakaway coupling had fallen from. Another coupling was found with early signs of failure, with one of the breakaway studs found loose and able to be moved around freely.

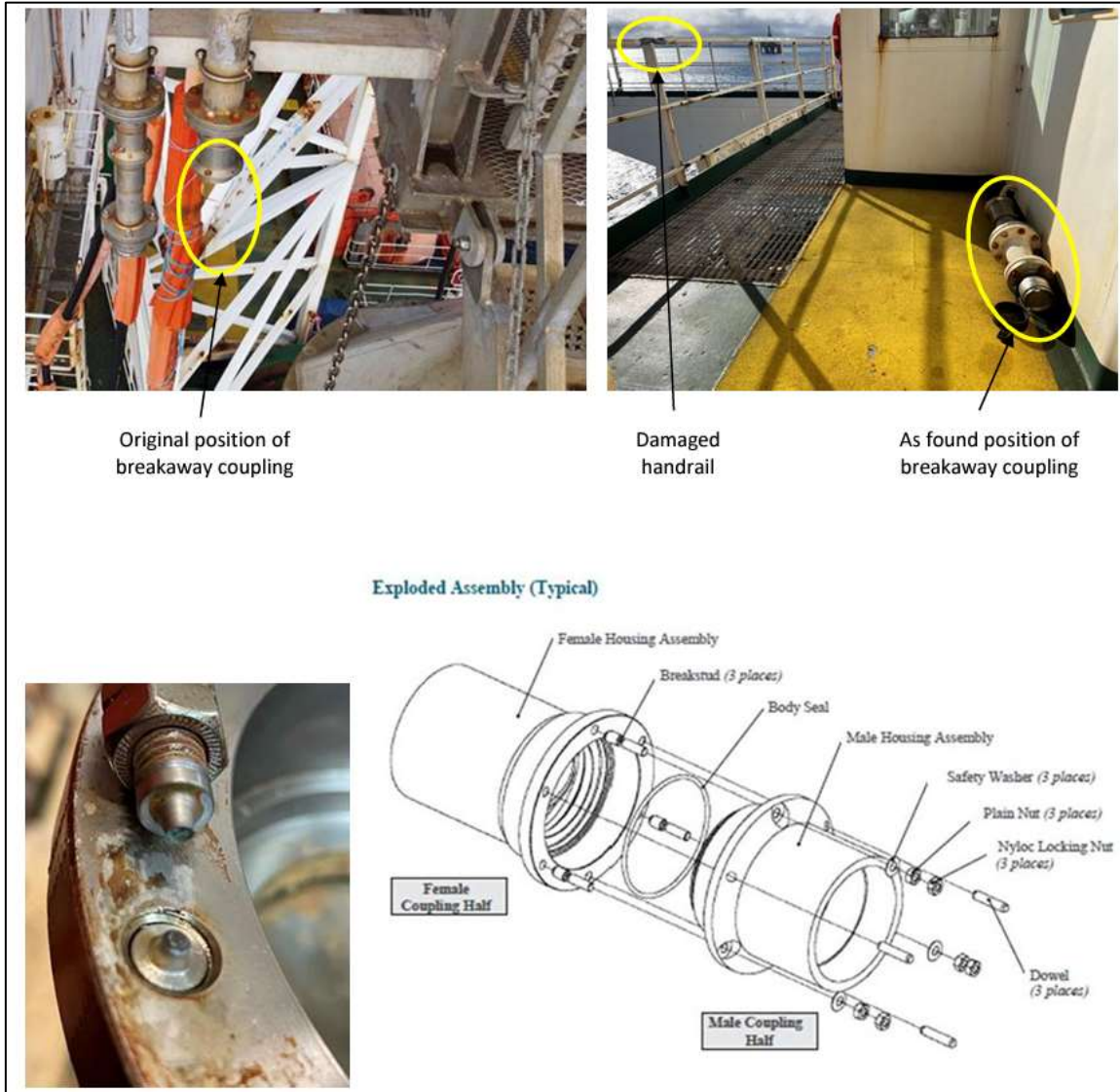
Applicable
Life Saving
Rule(s)



Line of Fire

What went wrong

The MSF notes that planned maintenance of the couplings was not aligned with OEM guidelines - it was found that the breakaway studs had been in place for longer than OEM recommendations. Also, the vessel was in lay-up and there was no reason for the couplings to be in place during layup. The couplings should have been removed at end of contract to remove any risk of a dropped object.



Actions

- Amend planned maintenance system to reflect OEM requirements and recommendations;
- Amend procedures to ensure hoses and couplings are not left *in situ* at height, when this is not required;
- Review potential use of drop net / secondary restraint.

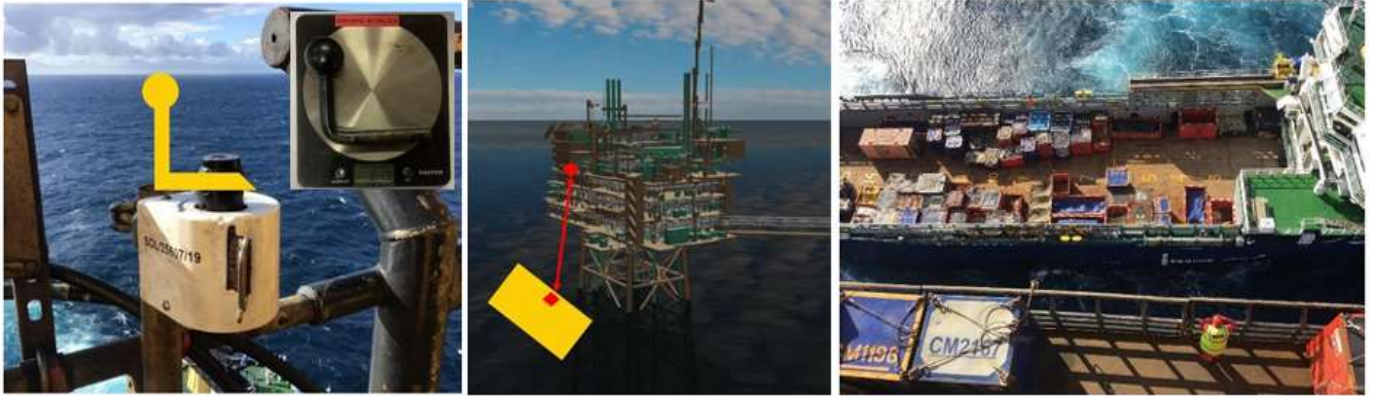
See [Breakaway Coupling becomes a Dropped Object](#) for further details.

Incident 2: What happened

A barrier tape mechanism handle weighing 278g fell 45m from an offshore platform onto the deck of a supply vessel. During routine supply vessel operations, a deck crew person on an offshore platform was establishing barriers for safe lifting of cargo onto the platform's weather deck. On extraction of the fixed barrier tape the handle was seen to eject from the mechanism and fall, eventually landing **45m below** onto the deck of a supply vessel. Whilst nobody on the supply vessel was on the deck at the time, this had the potential to have been a fatality.

What went wrong

This type of barrier tape was only used by the offshore platform deck crew and was all fixed to the outboard handrails near laydown areas. The handle was fastened with a grub screw to a round shaft with no keyway or secondary retaining mechanism. The design is such that as the tape spools out the handle spins; this provided the lateral force to allow the handle to eject out over the handrail and down onto the supply vessel deck. A review of other new and older mechanisms onboard found similar loose moving handles but none that would readily fall out.



Actions

- Check if similar barrier tape mechanisms are used and check integrity of handle fixtures;
- Consider relocation away from handrails to remove the potential for rotating mechanisms to fail and fall to levels below, the sea or supply vessels.

Members may wish to refer to

- [Dropped object near miss – crane boom bumper stop falls off](#)
- [Dropped objects in dry dock](#)