Safety Flash

27/21 – October 2021

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 Serious incident: topsides started swinging during lifting

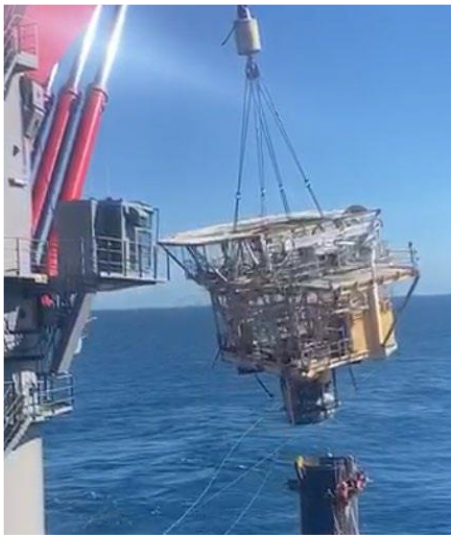
Applicable Life Saving Rule(s)

Line of Fire

Safe Mechanical Lifting

What happened

During lifting operations, a topsides connected to pre-tensioned rigging became unstable and prematurely lifted off its substructure. Two rope access technicians were on the substructure at the time of the premature lift and some personnel were on the back deck of the crane vessel when the crane tugger weak links parted.



The incident had a high potential for multiple fatalities.

What were the causes?

Our member notes the following:

- The crane vessel was on hire to an external contractor responsible for the work, including the engineering;
- The engineering assessment did not fully evaluate the effect of pre-tension and crane tip movements on the post-cut stability of the structure;
- How the crane would react to instability was not well understood.

Lessons learned

- This incident shows how important exhaustive expert verifications are to prevent a lift from going wrong and how significant the consequences could be;
- There is a sensitivity to stability inherent in this form of monopod structure, which will need taking into account in future.

Members may wish to refer to:

- Uncontrolled movement of crane block and pennant during lifting operations at sea (2017)
- Fatality during basket transfer (2013)
- Fatality: swinging load incident (2005)

2 MAIB: Crush fatality during lifting operations

Applicable Life Saving Rule(s)

Bypassing Safety Controls | Line of Fire | Safe Mechanical Lifting

The UK MAIB (Marine Accident Investigation Branch) has published Report 12/2021 into a fatal crush accident which occurred while a gantry crane was moving a hatch cover, on board the general cargo vessel Cimbris, at Antwerp, Belgium, on 14 July 2020.

What happened

A crewman was fatally crushed when he became trapped between the vessel's gantry crane and a cargo hatch cover. No one saw the crewman position himself between the moving gantry crane and the hatch cover, but his likely intent was to assess the progress being made by his team working in the hold.

What went wrong?

- The crewman was fatally crushed between the gantry crane and the hatch cover because he placed himself in the path of the moving crane and the crane did not stop;
- The crewman almost certainly knew the gantry crane was moving but was probably confident that he could achieve his objective and move out of its path;
- The ship's gantry crane operator did not stop the crane because he did not know the crewman was in the way.

What were the causes?

- The chief officer did not have a full view of the crane's path from his control position;
- Contrary to the vessel's documented procedures, a second crew member was not used to act as a lookout or banksman;
- The hatch cover lifting operation was not properly planned, adequately supervised, or executed in a safe manner;
- Communication between the ship's crew and port crew was poor and the safety culture demonstrated by both was weak.

Excellent detailed report including many informative photographs, here.

Actions taken

The company involved:

- Made it mandatory that there be a second person to act as safety sentry during the operation of cranes, gantry cranes or hatch cover machinery;
- Reviewed its safety procedures for such operations;
- Issued a safety instruction card, defining the role of safety lookout for all crane operations.

Members may wish to refer to:

- HSSE 019 *Guidelines for lifting operations*

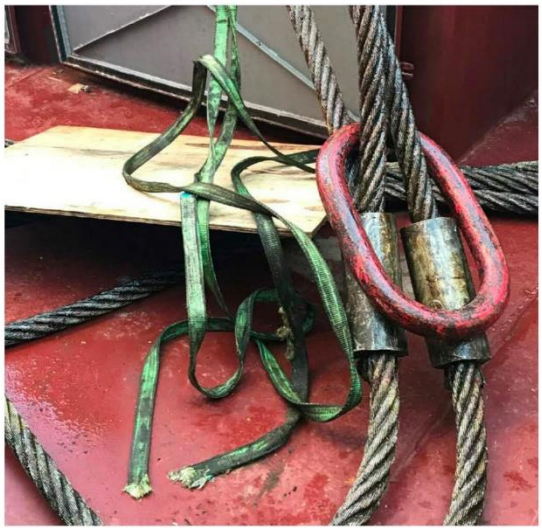
3 Snagged load, a sling snaps, dropped objects: persons injured

Applicable Life Saving Rule(s)

Bypassing Safety Controls | Line of Fire | Safe Mechanical Lifting

The Britannia P&I Club has shared Incident Case Study No.9 relating to how two crew members on a general cargo ship were injured when a suspended load fell and struck them.

This is an important re-iteration of the *ZEA Servant* incident of 2 March 2019 investigated by the UK Marine Accident Investigation Branch (MAIB). This was published as part of IMCA SF 26/20.



What happened

The incident occurred during the movement of the ship's hatch covers. The suspended load was lifting gear - two slinging sets; each set weighing 0.6t and consisting of two 17m long, 52-millimetre (mm) diameter, wire rope legs joined together with a master link. Each wire leg had a shackle attached to an eye at the lower end. The gear was to be used to move the ship's hatch covers.

During the lifting operation, a shackle at the lower end of the load became snagged. The supervising officer immediately instructed the crane driver to stop, but at the same time the fibre sling parted and the lifting gear fell to the deck, striking the A/Bs who were close below. One of the A/Bs suffered a severe head injury while the other suffered a minor hand injury. Both A/Bs were transferred to hospital.

What went wrong?

The ship's Safety Management System (SMS) did not contain a specific risk assessment or a procedure for the stowage and handling of the lifting gear, nor any guidance for the conduct of a lifting plan and the identification of fall zones.

As there was no procedure to follow, the crew had adopted their own method of carrying out the lifting operation. The crew had used the same method on at least five previous occasions and had experienced similar snagging events. When these had occurred, the deck crew had manually freed the gear after the crane had stopped hauling.

On this occasion we focus on "**snag**". Members may wish to refer to:

- MSF: Cargo Snagging
- Line of fire: deck tugger wire failure
- Crane hydraulic hose caught on protruding grease fitting
- Near miss: winch wire snagged and released suddenly
- Basket snagged on ship's structure
- Snagged lift during deck cargo operations
- Near miss: diver's umbilical snagged by work basket during recovery to surface
- Near-miss: Snagged lifting bridle
- Lifting bridle snagged - Failure to "stop the job"

4 LTI: three fingers badly cut while handling a long brass bar

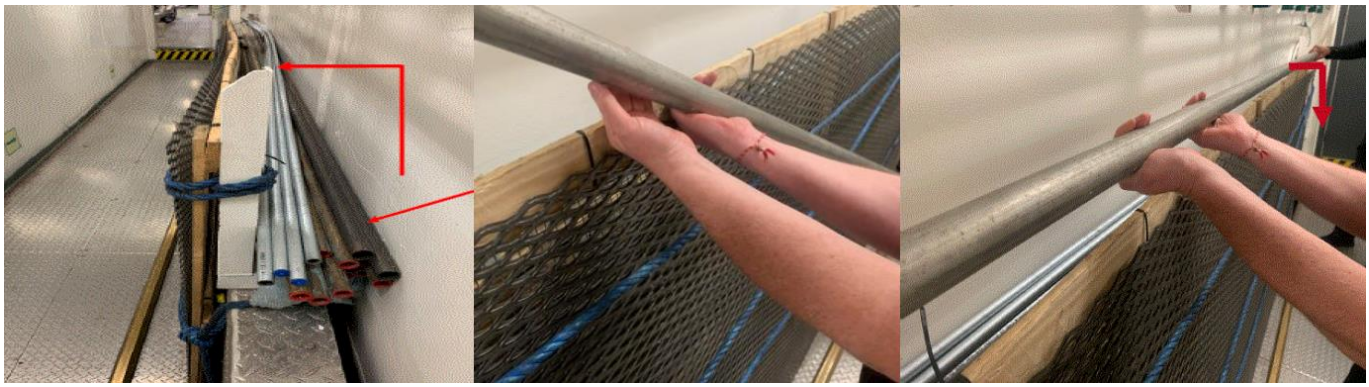
Applicable Life Saving Rule(s)

Bypassing Safety Controls

Line of Fire

What happened?

A crewman on a vessel suffered laceration on three fingers of the left hand while attempting to remove brass bar from the storage rack. The injury caused an LTI.



He was removing a brass bar (3m long, 47kg weight, 46 mm dia.) from the storage rack. The brass bar was lying behind a wooden frame and behind two pieces of expanded metal mesh sheets. Working alone, the injured person lifted the bar in stages to remove it from its storage. He first lifted the forward end of the bar which suddenly slipped, forcing his left hand downwards and against sharp edges on the steel wire mesh which, ripping into the skin under the weight of the bar, caused the injury.

Initial first aid was provided by vessel medic, but the decision was made to transfer him by helicopter to an onshore hospital for further treatment.

What went wrong?

- The injured person did not risk assess the job correctly, and misjudged the weight of the brass bar (47kg);
- The injured person did not ask for help in moving the bar, deciding to work alone;
- The injured person was not wearing safety gloves during this job.

Lessons and actions

- Check and re-assess the suitability of storage for materials and equipment;
  - Consider the adequacy of access, egress, lighting, ergonomics, stability influences such as weather and wind, lighting, and ergonomics;
- If lone working cannot be avoided wherever possible, ensure that when persons are working alone, this is adequately covered by Task Risk Assessments (TRA);
- **Wear gloves for work like this!** The wearing of task specific Personal Protective Equipment (PPE) should be noted in the risk assessment, and reinforced at toolbox talks.

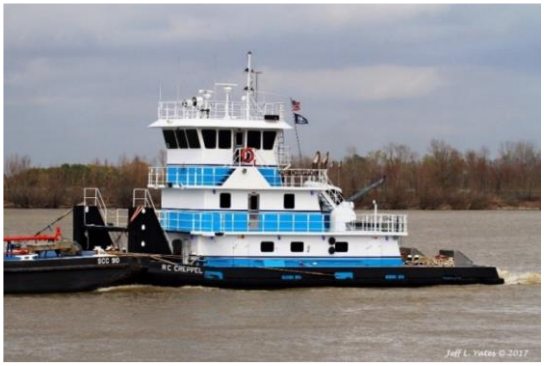
Members may wish to refer to:

- Crewman suffers cut to hand - but gloves prevented it being much worse
- Injury sustained during manual handling of sharp object
- Four hand and finger injury incidents

5 NTSB: collision leading to loss of life and damage

The National Transportation Safety Board of the United States (NTSB) has published Marine Accident Brief 21/16 relating to a collision on the Mississippi river in January 2020. The collision led to damage and loss of life, and learnings from the causes of the collision are applicable to the operations of IMCA members.

What happened



One towing vessel was moving 40 barges upriver, and another was moving two barges downriver, when they collided. As a result, one of the towing vessels capsized. Minutes later, a third vessel going upriver made contact with the some of the barges being towed. All 42 barges from both tows broke free and were later recovered.

One of the four members of the crew of the capsized vessel was rescued; the remaining three were never recovered and are presumed dead. The accident resulted in the release of about 8,000 gallons (US) of diesel fuel into the river and sulphuric acid vapours into the atmosphere, and property damage to three vessels and 11 barges, costing an estimated US$3.8 million.

What was the cause?

The NTSB's investigation found that the probable causes of the collision were (IMCA bold for emphasis):

- The two pilots' **insufficient radio communication** before meeting in a bend of the river;
- **Not broadcasting accurate AIS information** regarding tow size.

Lessons learned

- **Ensuring adequate communications** – whilst this incident is about communications as an aspect of seamanship, the same principles apply to communications between:
  - Shifts at shift change time;
  - Crews at crew handover time;
  - Departments within the vessel – bridge team, lifting personnel etc.,
  - Departments within a company – project, crewing, human resources, engineering etc.,
  - Client and contractor, and contractor and sub-contractor.
- **Up to date information** – ensuring that all appropriate and up to date information is available to all stakeholders, is likewise a lesson applicable not only to the bridge operation but to all. To do so helps to alleviate possible misinterpretation and enhances situational awareness.

Members may wish to refer to:

- Yawing of wind turbine nacelle placed ship in line of fire *[causes: Lack of situational awareness; Failure to follow established communication protocols.]*
- Lifting complex loads - offloading third party equipment *[what went wrong: Inadequate handover, inadequate communication, inadequate information]*
- Damage and engine room flooding following contact by tugboat *[causal factors: ineffective information exchange and communication, inadequate supervision]*
- USCG: Automatic identification system (AIS) inaccuracies led to fatalities [This accident, reported earlier]