

IMCA Safety Flash 31/20

October 2020

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 Main crane hoist wire damage

What happened?

A 70-centimetre length of main crane hoist wire was found to be damaged during an inspection. During pile installation operations, small plastic items were observed to be attached to the 400te crane main wire. The plastic was identified as ducting, a protection barrier from water/grease spray when recovering or paying out the crane wire within the crane pedestal.

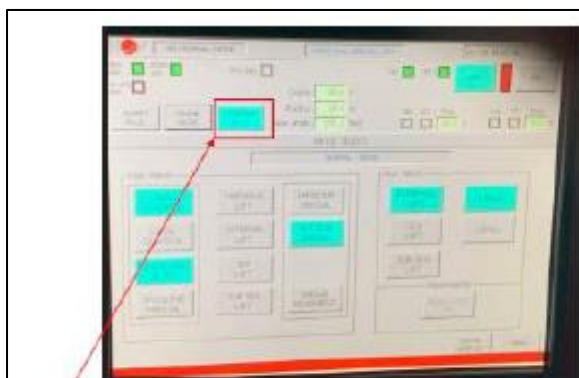


After internal consultation with both company technical specialists and the offshore management team, it was decided to cut 1,410 meters of wire rope from the hook subsea using an ROV. The crane wire re-socketing was then performed onboard the vessel main deck. This work cost 71 hours of downtime.

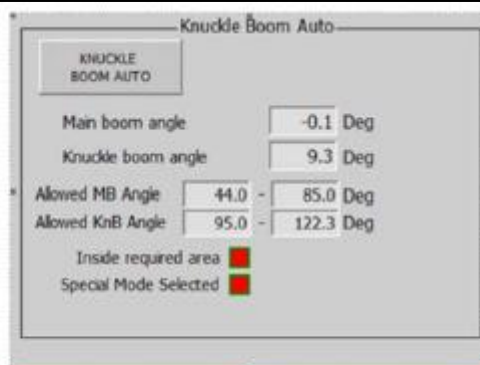
Findings

- ◆ A contact/rubbing point was identified on the knuckle aperture where the crane wire passed through the knuckle boom;
- ◆ The crane operator struggled to engage the Active Heave Compensation (AHC) and proceeded to disengage the auto knuckle function to activate AHC;
- ◆ The crane operator ignored the angle deviation alarm and did not notify the lay technician of any issues;
- ◆ The resultant knuckle position extended beyond the working parameters of the special lift mode which caused the crane wire to contact the knuckle aperture. When AHC was activated, it created a sawing motion against the inner side of the aperture which over a period of lifting operations damaged the wire rope and cut a groove into the aperture structure;
- ◆ The event occurred 3 days before the plastic was observed on the wire;
- ◆ The crane manufacturer was not able to provide crane familiarisation to the crane operator onboard the vessel due to COVID-19 travel restrictions. The company crane operator familiarisation checklist was completed onboard;
- ◆ The crane operator had knuckle boom experience and possessed a crane trainer/assessor qualification;

- At the time of the incident, the crane operating system displayed a KN-Boom Auto virtual button with no other information when selected. The crane manufacturer subsequently recommended to upgrade the system to enable a pop-up screen showing the limits in special lift mode when the KN-Boom Auto virtual button is selected.



Photograph #3 shows the system configuration at the time of the incident which displayed the KN-Boom Auto virtual button with no other information



Photograph #4 shows an example of pop up screen with the limits displayed when the KN – Boom Auto virtual button is selected

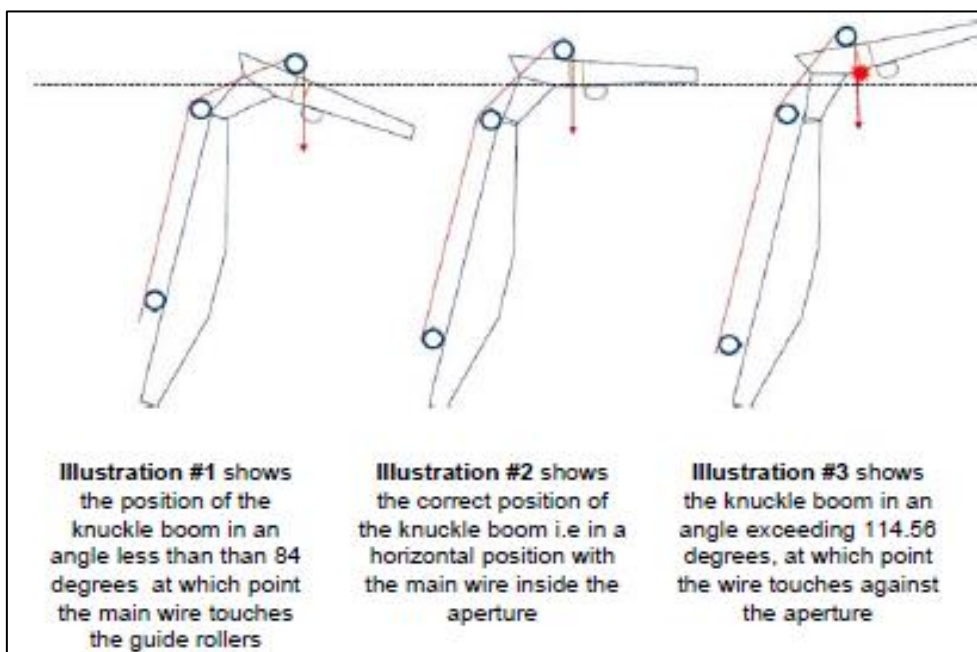


Illustration #1 shows the position of the knuckle boom in an angle less than 84 degrees at which point the main wire touches the guide rollers

Illustration #2 shows the correct position of the knuckle boom i.e in a horizontal position with the main wire inside the aperture

Illustration #3 shows the knuckle boom in an angle exceeding 114.58 degrees, at which point the wire touches against the aperture

Actions taken? Lessons learned?

- Reinforce to equipment operators the importance of always adhering to equipment manufacturer's instructions and raising any issues that are experienced;
- Review similar equipment to verify whether operating systems can be improved to optimize the human/machine interface.

Members may wish to refer to

- [Crane Wire Failure](#) [*“investigation has shown that the crane wire was weakened by the hook being drawn fully up into the sheave at the end of the crane, then the crane articulated sections operated in a manner that overstressed the wire.”*]
- [Crane Wire Failure](#)
- [Catastrophic Failure of vessel main crane wire](#)

2 Serious injury incurred while removing wire rope sling from a crane hook

What happened?

A rigger sustained a fractured shoulder whilst removing a large diameter wire rope sling soft eye from the crane hook.

During vessel mobilisation of deck equipment, crew were lifting a wire drum onto a spooling winch. After landing the wire drum onto the spooler, deck crew landed the spreader beam onto the deck and started disconnection of both spreader beam wire rope slings from the crane hook. The crane hook was positioned at waist height to assist with manual handling. The first wire rope sling was disconnected without incident. On attempting to remove the second wire rope sling, it rapidly rose up and struck the rigger on his right shoulder forcing him backwards and causing him to fall to the deck, causing a serious injury to his shoulder.

Applicable
Life Saving
Rule:



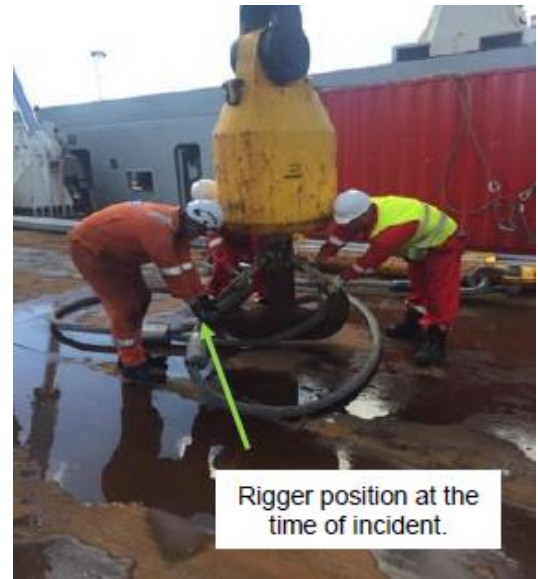
Stored
Energy



Safe
Mechanical
Lifting



Back deck - 64mm wire rope slings connected to the spreader beam



Post incident - disconnecting wire rope slings with the crane hook lowered to the deck. Note, crane was positioned at waist height at the time of incident.

Findings

- ◆ There was no Task Risk Assessment and Toolbox Talk for what was a non-routine lift;
- ◆ The crane hook was at waist height and kept in proximity to the spreader beam to assist manual handling; this introduced a bend in the wire rope sling with possible torsion which introduced an unknown amount of stored energy;
- ◆ During the task, the rigger acknowledged the advice from the Deck Foreman to watch out for stored energy but did not appreciate the potential risk from this and continued working.

Actions taken? Lessons learned?

- ◆ Raise awareness of the critical need for a time out before starting non-routine activities;
- ◆ Ensure that Task Risk Assessments and Toolbox Talks include everyone involved in the lifting operation and that they are fully aware of the inherent risks;
- ◆ Whilst removing wire rope slings from crane hooks, it is recognised that there will be many different situations. In most cases, however, the crane hook should be landed on the deck before disconnecting the slings;
- ◆ Reinforce with riggers and personnel involved in lifting operations the need to remain aware of the potential hazard of stored energy in large steel wire rope slings when disconnecting them from the crane hook and during general wire rope handling activities.

Members may wish to refer to

- ♦ [Fatality During Lifting Operations \(2013\)](#)
- ♦ [Release Of Stored Energy From Coiled Superloops](#)

Members may also wish to refer to

- ♦ [IMCA Guidelines for lifting operations](#)
- ♦ [Line of fire \('Be prepared to work safely' video\)](#)
- ♦ [In the line of fire \(IMCA SEL 036, classic safety video\)](#)

3 Confined space entry fatality

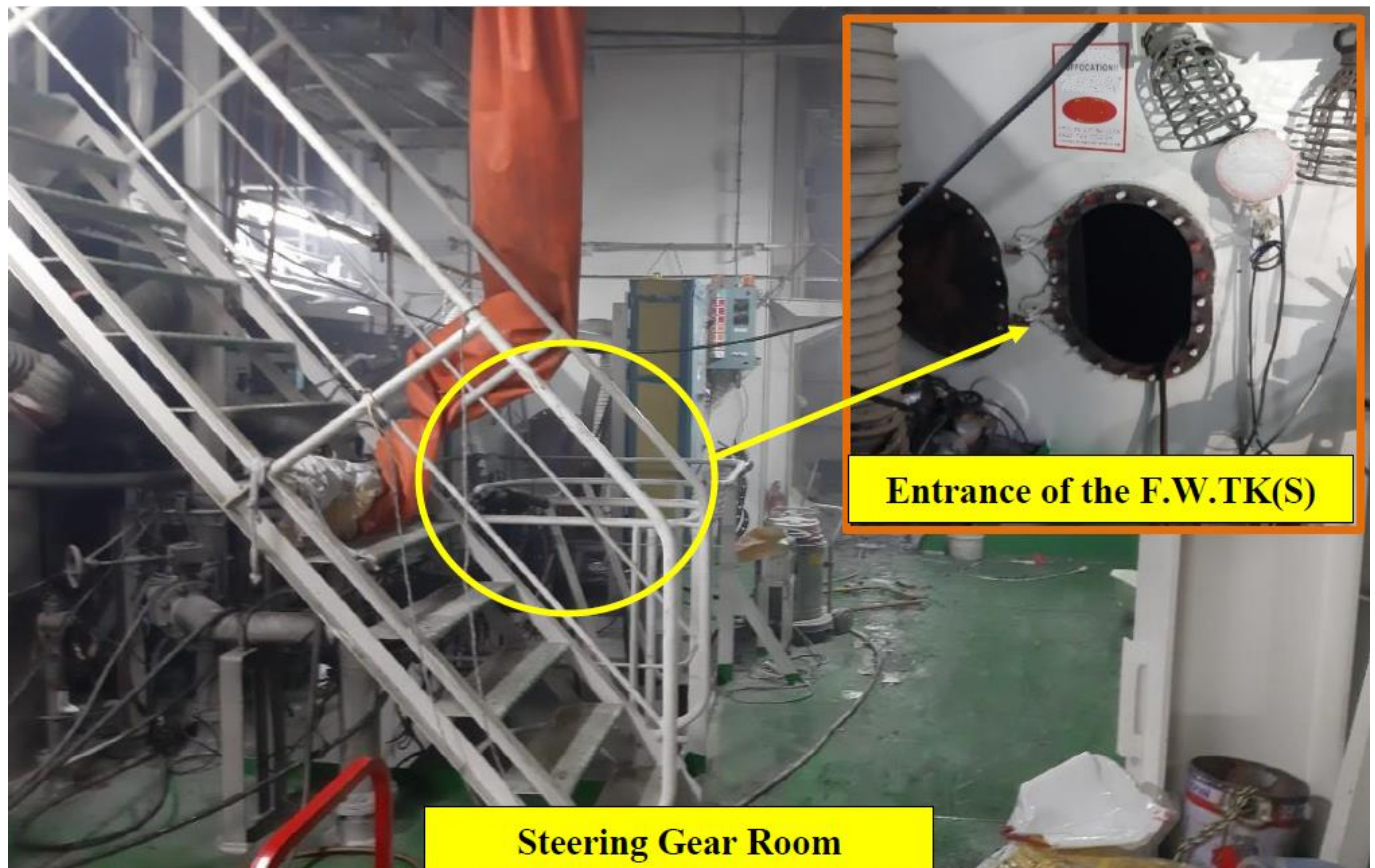
What happened?

A sad incident has come to IMCA's attention in which one person lost his life and another was injured, as a result of confined space entry. The incident occurred on a vessel within a shipyard.

Two workers were assigned the task of spray painting the inside of a fresh water tank inside the steering gear room. One of them was spraying inside the tank while his colleague was outside the tank assisting the spraying activity. During the spraying activity, an explosion suddenly occurred; the ignition source is still under investigation. The person outside the tank was rescued and was conscious at time of rescue. However, the person inside the tank was found unconscious in the tank by the Emergency Response Team. Both were transferred to a local hospital. Upon arrival at hospital, the person who had been found unconscious, was declared dead by a doctor.

Investigation is on-going with all relevant government authorities.

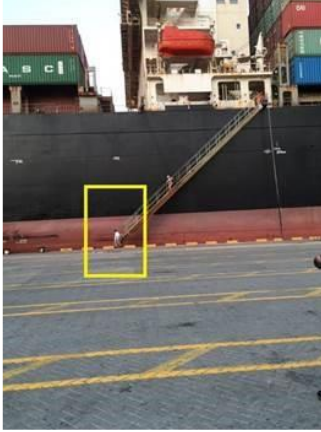
Applicable
Life
Saving
Rule:



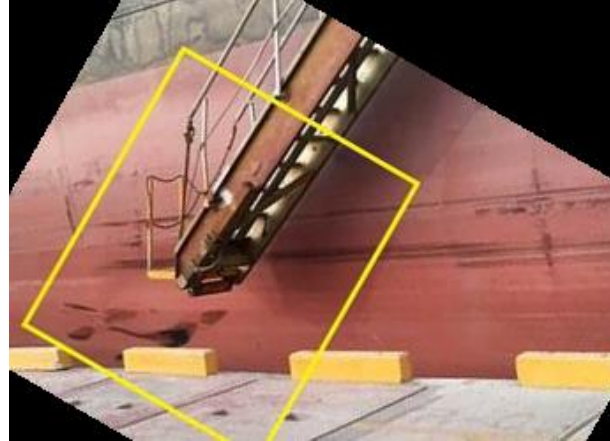
4 Pilots leaving the vessel in port in an unsafe manner

What happened?

One of our members has released this bulletin relating to a recurring practice of pilots egressing from a ship's gangway before it has rested safely on the jetty. Such practice resulted in two separate incidents in less than two days: one a Medical Treatment Case (MTC) and the other, a Near Miss.



Pilot jumping from vessel



Gangway not rigged at the correct height for safe transfer of personnel

Applicable Life Saving Rule:



Bypassing Safety Controls



Line of Fire

The personal injury was sustained while the gangway was not higher than 0.5 meters from touching the jetty; the injured person judged the situation to be safe for his transfer ashore. He fell and hurt himself. The injury did not require him to be away from his duties, but the potential was high, and still resulted in stitches on his face, caused by broken eyeglasses as a consequence of his fall.

The very next day after this injury was reported, local port staff reported an unsafe act involving another pilot who disembarked from a vessel before berthing was finalized and the gangway adjusted for his safe egress. He “jumped” from the gangway onto the jetty. That pilot was also not wearing a lifejacket whilst disembarking – another significant concern. Given the known potential for injuries, this event was recorded and investigated as a ‘Near-Miss’.

What were the causes?

- ◆ Individuals jumping from gangway platform to the jetty;
- ◆ Gangway not yet touching the jetty, nor in a stable position.

Our members' recommendations for action

- ◆ Remind pilots and all personnel that disembarkation from the vessel is only to take place with the gangway fully flat on the jetty and vessel crew in attendance. When time pressure is an issue, communicate the cause for delays – don't take shortcuts!
- ◆ When possible and available, use available persons on the jetty to assist safe egress from the gangway;
- ◆ Vessel mooring must be complete before the pilot disembarks ashore;
- ◆ Lifejackets, like all other PPE, should always be worn for safe access and egress.

Members may wish to refer to

- ◆ [Unsafe Attempt Of Personnel Transfer Between Vessels](#)
- ◆ [“DON'T FORGET ABOUT GANGWAYS” – USCG: Pilot Dies In Gangway Accident](#)
- ◆ [Safe Embarkation And Disembarkation Of Marine Pilots](#)
- ◆ [IMCA Guidance on the transfer of personnel to and from offshore vessels and structures](#)

5 Falls from step ladders

What happened?

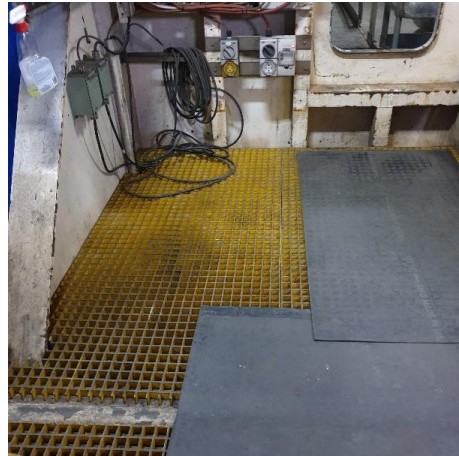
A member reports two incidents in which persons fell off step ladders and were injured as a result.

Incident 1

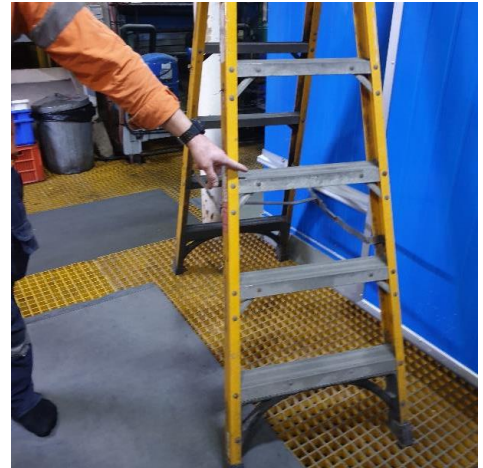
While climbing back down a ladder from the 3rd step/rung, a crewman lost his footing and fell backwards landing on the deck grating, hitting his head and jarring his neck.

What went wrong?

- ◆ He did not check for safe securing of portable ladder;
- ◆ The uneven levelling of the deck was not considered prior to ladder use.



Uneven levelling of deck



Placement of ladder

Incident 2

A forklift operator went up a step ladder to look at the top of container to ensure that there were no miscellaneous objects on top that could fall when the container was moved. As he came down again, while he was over a metre off the deck, the ladder became unstable and he fell off and broke his wrist on landing, and suffered contusions on the left leg and left side of the body. This was an LTI.

What went wrong?

- ◆ No risk assessment, permit to work or procedure was in place for the task or for the lifting of the container;
- ◆ There had been no check of the ladder before he started going up it – otherwise he might have noticed it was damaged;



Ladder involved in incident 2



Damaged rubber feet on ladder

- ◆ The broken ladders shouldn't have been there at all: there was no routine inspections of ladders, and no quarantining of defective ladders;
- ◆ He was not wearing safety boots at the time of the incident;
- ◆ There was no training or awareness methods in place for the safe use of ladders.

**Applicable
Life Saving
Rule:**



Bypassing
Safety
Controls



Line of Fire



Work
Authorisation



Working
at Height

Ladder safety

- ◆ Risk assessment and toolbox talk before working on ladders;
- ◆ Routine inspection of ladders, and procedures that identify the quarantining of damaged ladders;
- ◆ Inspect your ladder before you start work!
- ◆ Make sure you're familiar with the hazards and risks before using a ladder;
- ◆ Position the ladder on a stable surface, where it won't wobble.

Members may wish to refer to

- ◆ [UK HSE guidance on using step ladders – things to look out for](#)
- ◆ [UK HSE guidance INDG455 *Safe use of ladders and stepladders - A brief guide*](#)
- ◆ [LTI: Injury To Right Wrist \[occurred at the top of a step ladder\]](#)