IMCA Safety Flash 02/19

February 2018

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.

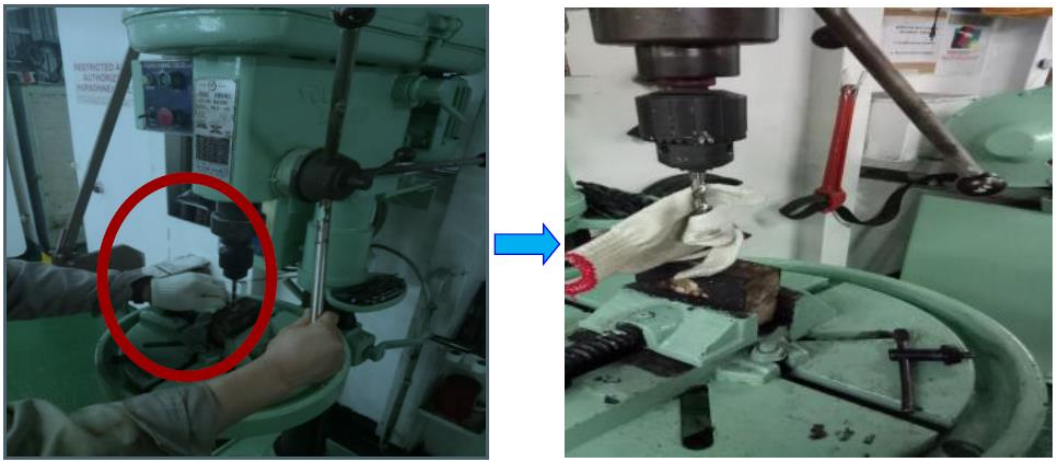
1 LTI: Finger Injury During Work with Rotating Machinery

What happened?

An electrician tried to modify a cable shoe using a pillar drill in the engine room workshop. During initial use of the drilling machine, the electrician secured the cable shoe with a vice and did not wear any gloves. However, during subsequent drilling to finalize/enlarge the hole, he did not secure the cable shoe properly, and he held it with his left hand whilst wearing cotton gloves, as the cable shoe had become too hot to touch.

His glove got entangled with the drill bit, resulting in a serious injury to his left index finger. Following first aid, he was medevaced by helicopter and transferred to hospital for further treatment. Medical examination revealed a partial amputation of his left index finger and open fracture dislocation of his thumb and damaged tendons, requiring surgery.

The injured person was not tired and was working appropriate hours at the time of the incident.



What went wrong? What were the causes?

- There was no evidence of any risk assessment, and a toolbox talk (TBT) was not conducted;
- The electrician was wearing gloves while using the drilling machine, though there was a warning sign prohibiting wearing of gloves when operating drill posted nearby;
- Immediate causes:
  - improper use of personal protective equipment (PPE); glove got entangled with the drill bit

- carelessness; warning signage was ignored, and the cable shoe was not secured properly before drilling started;

- Causal factors:
  - inadequate planning and lack of risk assessment
  - electrician did not inform others of his intent to use the drill, and he was rushing to finish the work.

What lessons were learned?

- Gloves and loose clothing should not be worn when working with rotating machinery;
- "More haste – less speed" - avoid shortcuts and rushing to finish the job.

Members can refer to IMCA's short video Watch your hands, from the *Be prepared to work safely* safety promotion materials.

Members may wish to refer to:

- Hand Injury Whilst Using Pillar Drill
- Finger Injury during work with rotating machinery
- Near miss: drawstring on storm jacket nearly drawn into rotating equipment

2 BSEE: Worker Injured in Fall from Height into Water

The Bureau of Safety and Environmental Enforcement (BSEE) has published Safety Alert 343 in which a worker fell 24m into the water.

What Happened?

The worker was replacing a control valve on the platform crane. A 3m ladder was placed between the overboard handrail and the crane. As the mechanic was positioned on the crane skid (located around 2m above deck) he realised that he would need to descend the ladder to retrieve tools for the job. After repositioning himself on the ladder, his grip or footing was lost, causing him to fall backwards and land in the water approximately 24m below.

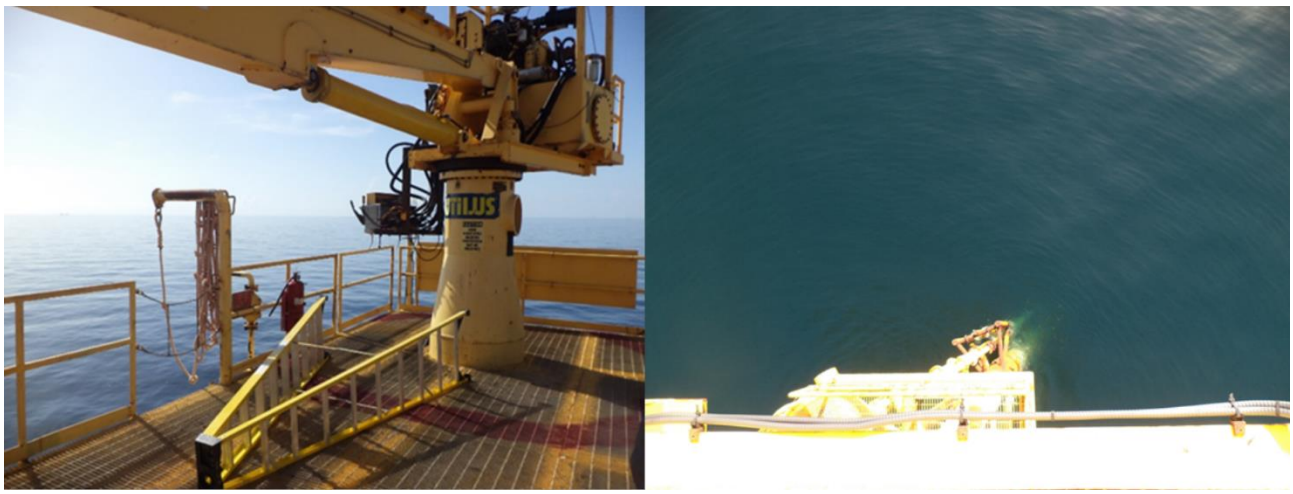
He was transported back to the platform by a fishing vessel, 45 minutes after the incident, where he was then flown ashore for treatment; he was later diagnosed with fractures of cervical and lumbar vertebrae.

What went wrong?

- High winds prevented the worker from retrieving a life vest which was thrown to him, but was later able to retrieve a vest which had been placed into a life ring;
- Strong currents caused him to drift further from the platform;
- The worker did not follow the safe work practices which required him to use fall protection for heights exceeding 6ft above the deck;
- The United States Coast Guard (USCG) regulation (33 CFR 146.20) requiring the use of work vests when working near or over water was also not followed;
- The job safety analysis (JSA) did not identify falling as a potential hazard during this operation.

The BSEE recommended that operators:

- Ensure that proper procedures are implemented establishing minimum requirements for working at height;
- Make sure personnel working at heights have knowledge and experience required to perform the job safely;
- Review all pre-job planning procedures to ensure all necessary response procedures are included:
  - consider equipment position and hazards when completing pre-job planning so as to minimize risk.



Location of crane mechanic at time of incident (left) and view over the handrail (right)

Members may wish to refer to the following:

- Fatality: Fall From Height Arising From A Failure To Use Personal Protective Equipment
- Near miss: Improper Use Of Fall-Arrest Equipment Leads To Fall
- Working at height (*Be prepared to work safely* promotional video)

3 Hazard Hunt: Pilot Ladders and Gangways

What happened?

A member has taken a focus on pilot ladders and gangways, following an incident where a gangway collapsed, causing the death of the pilot. In that particular incident, a gangway wire parted causing the gangway to pivot at the top platform hinge and fall into the sea.

Knots in the wooden step

Missing chock and steps unsafe for boarding

Parted side ropes

Broken step on a pilot ladder

Gangway damaged after wire parted

Break following ineffective maintenance of gangway wire

Wrong operation of gangway

What lessons were learned?

Our member noted the following:

- Accommodation ladders and gangways, and associated fittings, should be properly maintained and inspected at appropriate intervals;
- When accommodation ladders and gangways are rigged, checks should be made for signs of distortion, cracks, or corrosion;
- Care should be taken to ensure all moving parts are moving freely and are lubricated as necessary;
- Checks should be made of any lifting equipment or wires;
- Examine the underside of accommodation ladders and gangways at regular intervals;
- Rigging and derigging of accommodation ladders and gangways should be conducted under appropriate supervision.

Members may wish to refer to:

- "Don't Forget About Gangways" – USCG: Pilot Dies In Gangway Accident
- Gangway Safety: a review of recent incidents and near-misses involving vessel gangways
- Guidance on the transfer of personnel to and from offshore vessels and structures (IMCA SEL 025, IMCA M 202, IMCA LR 012)
- IMO Circular MSC.1/Circ.1331

4 High Potential Near Miss: Dropped Line Pipe After Vacuum Lifter Failed

What happened?

During load out of a 30cm uncoated line pipe onto a transport trailer, the vacuum lifter unit being used to move the pipe lost suction and uncontrollably released (dropped) a 12m length of line pipe (weighing 1.8Te) from approximately 2m in height. This occurred as the excavator was slewing towards the transport trailer to load the single pipe length. No alarms were sounded, and no warning was provided to the excavator operator at the time of the incident. There were no personnel in the area during the lifting operation. The vacuum lifter requires no personnel interaction, other than the excavator operator (who is located inside the excavator cabin).

Had there been personnel in the area when the length of line pipe was dropped, it could have resulted in a high potential incident.

A positive finding was that all personnel were well away from the lift (not in the line of fire) and this was captured in the task risk assessment and recorded in morning pre-start meeting.

Image 1: Showing Excavator (left) and location of trailer (right).
Red line showing location where line pipe was dropped.
Uncoated line pipe can be seen to left of excavator

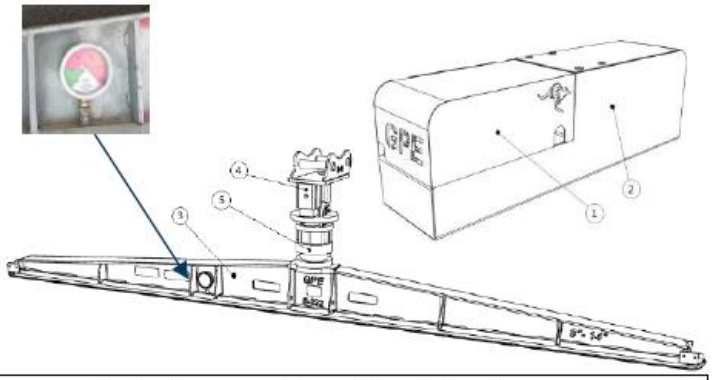


Image 2: showing the vacuum lifter unit installed on the excavator.
1: Power pack 2: Vacuum reservoir 3: Vacuum 'shoe' 4. Polyhandler head adaptor 5: Hydraulic rotator and mount.
Note: vacuum shoe gauge shown insert.

What went wrong?

- The vacuum seal on the 'shoe' was worn out after moving over 5000 lengths of line pipe. Half of the vacuum seal was replaced on the morning of the incident; this created a situation where the seal was neither effective nor consistent across the length of the pipe;
- A guide tab was missing from the head of the unit which helps the operator align the vacuum shoe across the apex and centre line of the line pipe; this may have caused the unit to seal a few degrees outside of parallel along the centre line and contributed to the sudden loss of suction pressure;
- There was no routine testing done to ensure the vacuum unit was holding pressure;
- A full maintenance schedule was not provided by the equipment supplier.

What lessons were learned?

Our member notes that vacuum lifters are common devices and used extensively to move various types of pipe. However, as with all lifting devices, all personnel must remain well clear of loads and always consider that the load could move and/or drop.

- Ensure that personnel operating vacuum units have a full understanding of required maintenance (daily, weekly and other) including replacement of consumables such as shoe rubber seals;
- When using lifting devices that use suction pressure to hold the load, daily tests should be completed to confirm integrity. Our member suggests a 'ten for ten' test, where the load is held for 10 minutes to confirm no greater loss than 10% of pressure; this is a good example of verifying that the system is working as intended;
- Regular maintenance should verify that alarms function and work at correct levels for the work scope. In this instance, the alarms were function tested during the pre-start but did not sound during the event.

Members may wish to refer to:

- LTI as a result of load dropped from lifting magnet
- High Potential Dropped Object During Lifting Operations

5 High Potential Near Miss: Dropped Object (Flood Lamp)

What happened?

Yard personnel found a flood lamp broken on the ground. It was found to have fallen from a VLS tower that had been in long-term storage for a number of years. There were no injuries, however the area where the lamp landed was regularly attended by workers.

The lamp weighed 15kg with the glass and bulb. It landed about 0.5m from the base of tower (red structure in top right corner).

What went wrong? What were the causes?

- Mounting bolts and bracket, together with secondary securing wire, were fully corroded;
- There had been no maintenance, nor inspections of any kind during the storage period;
- There had been no evaluation carried out at the start of the storage period, to consider removal of this type of ancillary equipment, or to increase secondary securing.

What lessons were learned?

- Ensure storage philosophy and maintenance regime is discussed properly to ensure continued integrity of long-term stored assets;
- Ensure dropped object surveys include equipment in long-term storage;
- Consider removal of as many ancillary items as sensible, when initiating the long-term storage of equipment;
- Focus on material selection for secondary securing; ideally using seawater resistant stainless steel with double securing clips to withstand corrosion.

Members may wish to refer to:

- Potential engine room flooding: maintenance and equipment failure issues on a laid-up vessel [relating to how assets are handled during lay-up]
- Dropped Object: Lay Tower Adjuster Leg Pin

The flood lamp fell approximately 10 metres