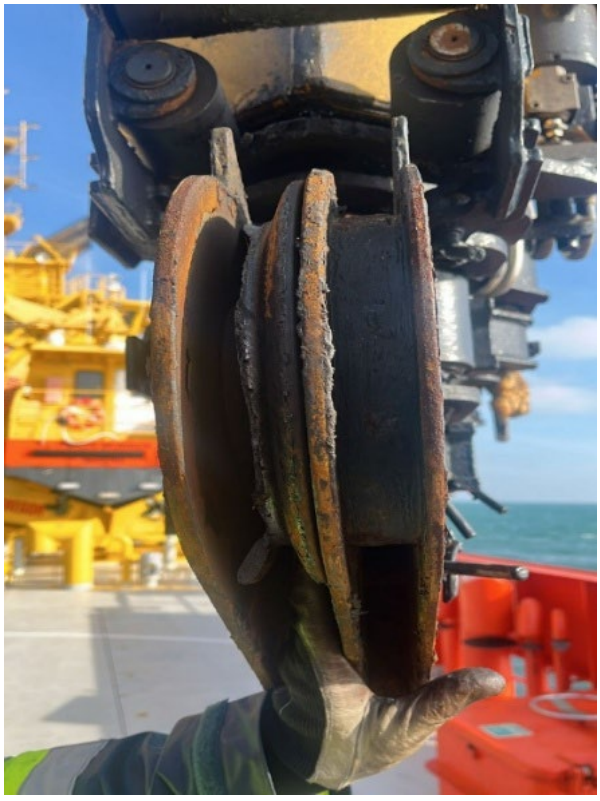
IMCA Safety Flashes summarise key safety matters and incidents, allowing lessons to be more easily learnt for the benefit of all. The effectiveness of the IMCA Safety Flash system depends on members sharing information and so avoiding repeat incidents. Please consider adding safetyreports@imca-int.com 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.

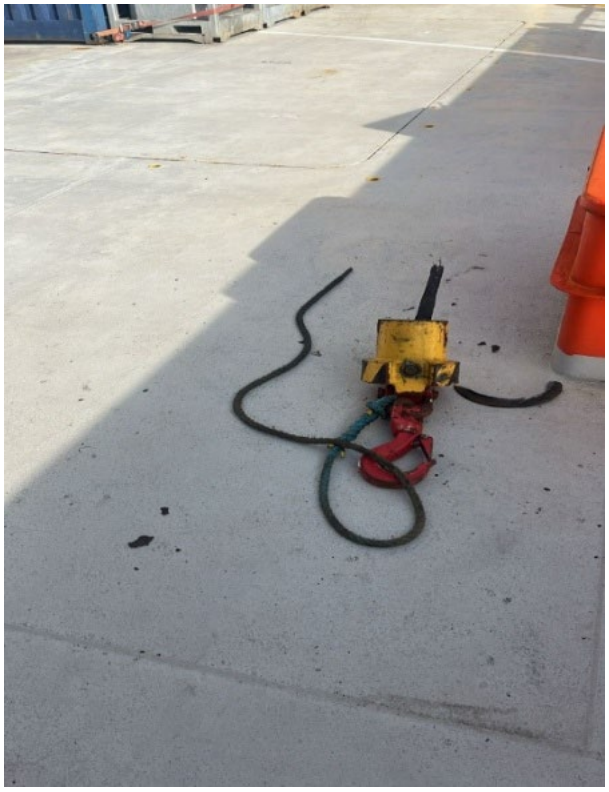
1 Three crane incidents

A member reports three separate but related crane incidents. The actual consequences were, cranes out of action, operational delays, reputational damage, and the potential consequences were injury and equipment damage.

Applicable Life Saving Rule(s)

Safe Mechanical Lifting





Incident 1: wire and pulley damaged

What happened

Whilst a crane was being parked after use, the crane operator unintentionally pulled out the telescopic boom while the hook block was fully retracted and secured in its resting position. As a result of extending the telescope without releasing or lowering the hook, excessive tension was applied to the wire rope and pulley system. This caused overloading of the wire and sheave assembly, leading to breakage of the wire rope and damage to the pulley.

What was the cause

- **Correct procedure not followed:** The required parking sequence, which was to fold the knuckle first, and then lower the boom, was not followed. Instead, the operator extended the telescopic boom while the

hook block was fully retracted and secured, pulling the hook into the fairlead and overstressing the wire until it parted.

- **Lack of situational awareness:** The operator selected the wrong function, extending the boom rather than folding and lowering it. This unintended movement, combined with the nearly retracted boom, generated excessive tension and led to the wire rope and pulley failure.

Incident 2: movement malfunction

What happened

During routine crane operations, the main boom was raised and extended. Whilst the boom reached the maximum upper position on the first cylinder, the upper limit switch was triggered. Following activation of this limit switch, all crane functions ceased and the system could not be reset or overridden. As a result, the boom remained locked in its maximum upper position. Standard control inputs could not retract or lower the boom, rendering the crane temporarily inoperative.

What was the cause

- **Correct procedure not followed:** The correct steps in unfolding the crane were not followed. The process followed did not align with the established operational guidelines; this contributed to the incident.
- **Inadequate practice:** During the crane break-out process, the operator inadvertently selected the parking mode function on the remote control. Activating this mode disabled all limit switches and immediately halted all crane functions. As a result, the crane became unresponsive and no further movements were possible, effectively freezing the equipment in place.

Incident 3: Crane collision sensor damaged

What happened

While preparing for lifting operations, the crane operator started to unpark the crane. During this process, the telescope tip slide out from parking socket, dropping approximately 0.5m. This drop caused the crane hook to swing and hit the collision sensor causing damage to the sensor and plate.

What was the cause

- **Inadequate practice:** The start-up sequence wasn't followed correctly. Because the boom wasn't fully knuckled in, hydraulic pressure was insufficient, causing the boom to drop and the hook to move uncontrollably. The operator's experience suggests complacency played a role.
- **Lack of situational awareness / risk perception / risk awareness:** Although the operator had full visibility, a brief lapse in attention led the operator to overlook the risk of damaging the collision sensor. Having performed the task many times without issue, familiarity likely contributed to task fixation and reduced situational awareness**.**

Actions taken

- **Refresher Training:** Provided additional onboard training for all crane operators on the crane-specific start-up and stowing procedures, outlining the required steps for initiating and securing the crane and clarifying the correct operating modes to be selected on the remote control before each crane operation;
- **Posters:** Placed placards with the starting and stowing procedure steps in the crane pedestal;
- **Pre-Operation Checks:** Developed an onboard checklist and conduct thorough checks of wire ropes, pulleys, limit switches, boom and hook condition, to help to verify that all systems are fully functional and procedures are followed before starting operations;

Lessons

- **Clear Communication during Operations:** Maintain constant communication between operator and banksman during crane movements. Use standard signals and confirm instructions before execution;

- **Stop Work Authority:** Operators should feel able to stop operations immediately when unsure or when abnormalities occur;
- **Effective Supervision:** Ensure that newly joined or newly promoted crane operators are properly guided and supervised during all crane operations;
- **Safe Mechanical Lifting:** Always follow life-saving rules for safe lifting and ensure that all lifting operations are properly planned with the surrounding area effectively controlled.

Members may wish to refer to

- Dropped object due to over-ridden limit switch
- IMCA HSS 019 *Guidelines for lifting operations*
- Lifting – IMCA has two related videos on Lifting. One explores Lifting Operations The second covers Lifting Equipment.

2 Finger trapped and injured while working on heavy equipment

Applicable Life Saving Rule(s)

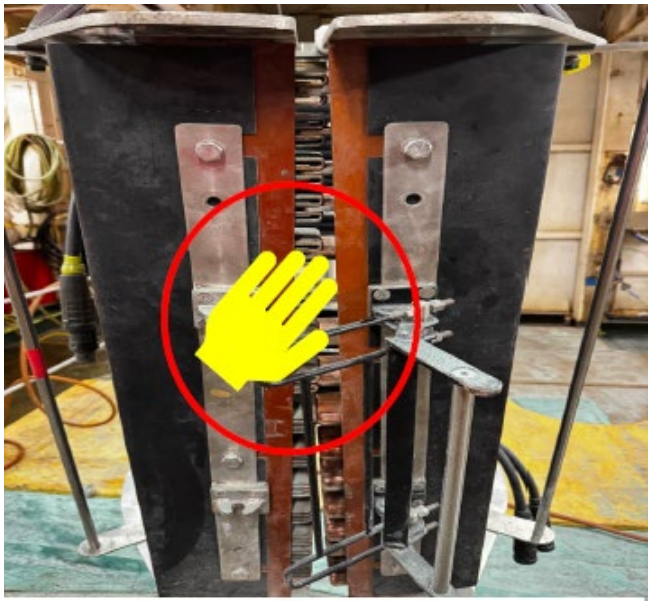
Line of Fire

What happened

A third-party technician suffered a pinch injury to the right index finger. The incident – a Restricted Work Case (RWC) injury - occurred onboard a vessel while third-party technicians were conducting trials on pipelaying equipment. An Induction Heating Coil (IHC), suspended from a davit crane, did not open as intended. The technician, who was not part of the coating team, intervened to assist. During the intervention when the coil was subsequently prized opened, the technician's hand was placed near the closing joint. The coil then closed suddenly, pinching the individual's right index finger.

What went right

- The job was stopped immediately, prompt medical treatment given;
- A safety stand-down conducted, followed by task-specific risk review to ensure that all controls established prior to return to work.



Showing the pinch point on the Induction Heating Coil

What went wrong

- Change could have been managed better: The task was moved to a different work environment without acomplete risk review, preparatory checks, or a formal Management of Change (MoC) process;
- Equipment could have been better designed: The lifting configuration did not fully align with the operational environment, and restricted space limited safer alternatives. Visibility of safety signage and labelling required improvement;
- Use of generic rather than specific documentation: generic documentation was used instead of task-specific controls. The lift was incorrectly classified, and the designated rigging was not used;
- Supervision: Roles and expectations across involved teams were not clearly aligned, which resulted in gaps in supervisory oversight;
- There were gaps in the contractor's equipment assurance: Required compliance checks and supporting maintenance records for the contractor-supplied equipment were not available.

Actions taken in this case

- Ensuring task-specific risk reviews, and use of the Management of Change process when the work environment, set-up or method of work is changed;
- Improved equipment design visibility and usability, ensuring controls and labelling areclear and safe to operate;
- Ensured appropriate levels of supervision to cover multiple, complex or simultaneous tasks;
- Ensured that Short Service Employees are given adequate support and supervision.

Members may wish to refer to:

- IMCA HSS 049 *Guidance on short service employees*
- Injured finger during cargo operations
- Line of fire LTI: Finger injury during lifting operations

3 Machinery damaged through improper maintenance technique

What happened

Applicable Life Saving Rule(s)

Bypassing Safety Controls

During an audit on an offshore vessel it was observed that the fuel oil purifier failed to self-discharge. Further investigation revealed that purifier bowl components had been swapped with parts from the lube oil purifier, with different serial numbers. After reinstalling genuine parts, the purifier showed excessive current flow and high vibration. Inspection confirmed mechanical damage to the bowl caused by improper dismantling.

Purifier nameplate, serial number ending ----148

Bowl component parts, s/n ending ---147

Purifier body, s/n ending ---148

Why did it happen?

- The procedures provided by the Original Equipment Manufacturer (OEM) were not followed.
  - Special tools specified by the OEM were not used, causing mechanical damage to critical parts. The purifier bowl and related components were dismantled without using special tools specified in the OEM manual;
- Compatibility of parts was not verified before installation. Parts were interchanged that should not have been interchanged. Parts with serial number linkage (bowl, sliding piston, cover etc.) were not freely interchangeable;
- Existing planned maintenance intervals were not followed;
- Maintenance documentation and traceability was found to be inadequate.

What do we learn?

- Always follow the OEM manual and use specified tools for disassembly, assembly and maintenance;

- Carefully and thoroughly verify that you have the correct, compatible and genuine parts – in this case, using parts from another purifier may have led to excessive vibration/high current which may have damaged the whole machine;
- Communication and documentation: Keep detailed records with supporting documents of repairs and overhauls, with, where applicable, specific running hours and the condition of the unit;
- Use Stop Work Authority!

Related Safety Flashes

- Dummy hot stab ejected during leak investigation
- Fire hydrants fitted with incorrect coupling size
- Failure of proportional valve in saturation chamber control

4 Gangway damaged after unauthorised re-installation

Applicable Life Saving Rule(s)

Bypassing Safety Controls

What happened

During cargo operations in port, a vessel's aft mooring lines were found tightened. The port coordinator and third-party riggers were informed about temporarily suspending the operation. After the engines were ready, control was taken from the bridge, and the gangway was recovered onboard. While the deck crew was loosening the mooring lines, the port riggers that stayed onboard reinstalled the gangway without informing the vessel's crew and then left the vessel. During subsequent vessel position adjustments, the unattended gangway was caught between berth and vessel, and damaged. No-one was injured.

What went wrong

- There was a failure in communication between the port coordinator, third-party riggers, and the vessel bridge. The bridge crew and deck crew were not informed of the gangway re-installation, and there was subsequent uncoordinated vessel movement;
- Unauthorized Gangway Handling – the third-party riggers re-installed the gangway without permission or proper communication;
- There was no control or supervision of the third-party riggers onboard the vessel;

The investigation also noted the following:

- There was a man overboard risk: the gangway could potentially be used while the vessel was moving;
- There were conflicting statements regarding whether the gangway barrier chains were secured. CCTV footage was unclear and could not confirm the actual condition.

Lessons to learn

- Vessel gangways are critical safety equipment and should only be handled by authorized vessel crew under an order given from the bridge;
- During re-berthing or gangway removal, it may be appropriate to have third-party contractors and visitors disembark unless full control over those remaining onboard can be guaranteed;
- Gangway access during vessel movement or when mooring lines are slackened, regardless of operational pressure, should not be permitted;

- Gangway barrier chains/access gates should be closed after gangway removal on deck;
- All shore/third-party personnel should complete vessel sign in & sign-off procedures while accessing & leaving vessel.

Related Safety Flashes

- Third-party high potential near miss – dropped gangway
- Incorrect gangway rigging
- Gangway damaged when lifting line parted
- LTI: Gangway collapsed

5 Some positive findings

Controlled Contractor Induction Process

A centralized induction process ensures all contractors working on a vessel or at a site, are properly briefed before starting work. Upon completion, they receive clearly identifiable induction stickers for easy verification on site. This strengthens compliance, enhances safety, and demonstrates commitment to a well-controlled working environment.

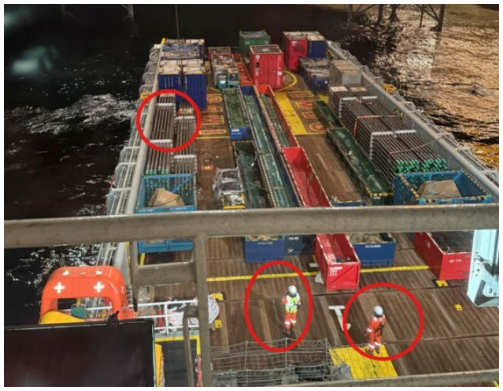
Members may wish to refer to:

- IMCA HSS 032 *Guidance on safety in shipyards*
- IMCA HSS 049 *Guidance on short service employees*

Effective Gangway Induction and Documentation Control

On a vessel alongside, crew demonstrated a high standard of safety awareness by effectively delivering visitor induction at the gangway. Relevant policies, procedures, and induction checklists were readily available and properly maintained at the gangway station. This ensured that personnel boarding the vessel could be briefed on safety requirements and vessel rules prior to access, supporting strong access control and promoting a safe working environment onboard.

Safe Positioning and Good Communication During Lifting Operations



Lifting crew maintained a safe distance from moving cargo during deck lifting operations. Good use of hand tools was observed to guide the load and minimize potential cargo impact. This demonstrates strong safety awareness and adherence to safe lifting practices.

Members may wish to refer to:

IMCA HSS 019 *Guidelines for lifting operations*