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 BSEE: Crewman fell to his death through faulty grating

Applicable Life Saving Rule(s)

Bypassing Safety Controls

The United States' Bureau of Safety and Environmental Enforcement (BSEE) has published BSEE Panel Report 2021-001 into a fatal fall from a platform in the Gulf of Mexico in 2019.

What happened

A night shift production operator died when he fell into the sea through a rusty grating on the platform. His body was never recovered.

Less than 24 hours prior to the incident, a single section of severely corroded and deteriorated grating, posing a walking and working surface hazard, was identified on the north side of the well bay by a supervisor, who said that the grating section felt "spongey" underfoot. Upon examination, he found that bearing bars at one end of the grating section had deteriorated.

Pre-Incident photograph of hazardous grating section

Post-Incident photograph of hazardous grating section suspended in open hole

Post-Incident Photograph of person standing near the open hole

Post-Incident Photograph of hazardous grating section

What were the causes?

Investigation by BSEE found several probable and possible causes - including communication breakdown, poorly maintained walking surfaces, and inadequate barricade installation.

- There was a failure to maintain all walking and working surfaces on the facility in a safe condition;
- Supervisors did not fulfill their responsibilities within the relevant, established Safe Work Practices (SWPs) when they:
  - failed to promptly correct or prevent personnel from accessing the hazardous area;
  - failed to stop work and warn all personnel of the hazardous area.
- The operator and its contractors failed to follow the agreed upon terms and conditions within their respective Safety and Environmental Management Systems (SEMS) bridging arrangements.

Recommendations included:

- Ensure crew are informed about all identified hazards in a timely and meaningful way;

- When hazards are identified, fix them;
- Better understanding of and agreement between, operators and contractors in terms of safety management systems bridging arrangements.

The full report can be downloaded here: www.bsee.gov/sites/bsee.gov/files/reports//ei-331-panel-report-final-3-11-21-031221mdj.pdf

2 Mooring: increase in first aid cases involving over-exertion

What happened

A member has noted that in recent months, there have been several accidents related to over-exertion. Most of these incidents have involved mooring operations, a job that requires physical effort due to the handling of heavy lines.



What were the causes

- Excess load/over-exertion (perhaps due to not knowing the weight of the load);
- Improper load handling;
- Incorrect work position (bad posture);
- Difficult posture owing to location, hard-to-reach places etc.

Recommendations

- Warm up!! stretch before doing work that requires considerable muscle exertion;
- Think before moving in a way that may be deemed unsafe;
- Inspect the dock area where the work is to be done. Check for obstacles or elements that may hinder the maneuver;
- Check that mooring lines are clear and are not going to get caught;
- Anticipate maneuvers by checking that both the dock and the vessel are in good condition, and notify the required parties if necessary, to avoid unforeseen events.

Members may wish to refer to:

- IMCA HSSE 029 *Mooring practice safety guidance for offshore vessels when alongside in ports and harbours*
- IMCA HSSE 038 video *Mooring incidents*
- Worker fainted and was injured during tanker operations in a tropical climate

3 Hand injury from falling object during lifting operations

Applicable Life Saving Rule(s)

Bypassing Safety Controls | Line of Fire | Safe Mechanical Lifting

What happened

A lifting saddle broke, causing a hose to swing and hit a crewman, causing an injury to his hand. The incident occurred at completion of cement pumping between a vessel and a rig. During recovery of the cement hose, the saddle handle broke, and this caused the hose to swing and hit the AB, who at that moment was giving a signal to the crane operator. He was not under the hose or the load, but was approximately 10 meters away. Part of the hose was still in the water. He was in the line of fire when the hose swung in his direction and he braced using his forearm, resulting in an injury.

Showing point where saddle broke and sling was connected

What were the causes?

- The lifting saddle broke where the sling was incorrectly attached;
- The hose was lowered from the rig to the vessel deck only slinging the handle of the saddle and not passing it around the hose;
- The deck crew noticed this incorrect lifting arrangement but did not stop to correct or change it, and give the instruction to pick up.

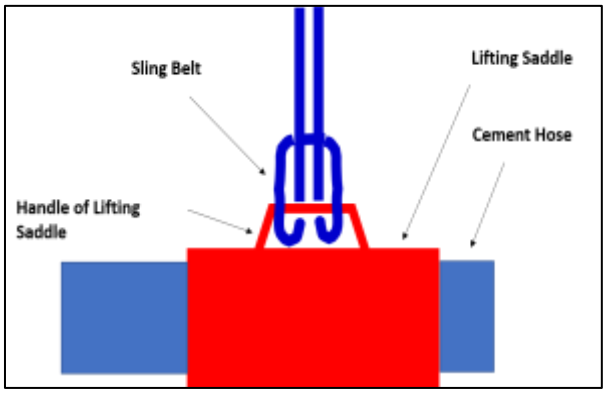

Diagram Showing Lifting Arrangement Used (Incorrect)

Lessons learned

- **Stop Work Authority** should be exercised if incorrect procedures and unsafe conditions are noticed, particularly during lifting operations;
- Thorough and regular inspection of all loose lifting equipment.

Members may wish to refer to:

- IMCA HSSE 019 *Guidelines for lifting operations*
- Short videos – *Are YOU prepared to work safely?*
  - Lifting equipment
  - Lifting operations
  - Line of Fire
- Line of fire LTI: Finger injury during lifting operations
- Uncontrolled movement of crane block and pennant during lifting operations at sea
- Serious LTI - deck crew member struck by termination head/flexible
- High potential dropped objects from wind turbine Nacelle crane

4 Life-raft dropped to the jetty

Applicable Life Saving Rule(s)

Bypassing Safety Controls

What happened

A life-raft was inadvertently dropped onto the jetty during replacement of the ratchet straps on the hydrostatic pressure release unit. Three crewmembers were replacing the securing straps on the life-raft, which were arranged on a common sliding cradle, three rafts on each side of the vessel. The strap holding each raft was connected to a hydrostatic release unit at one end, and to a strong point at the other. A ratchet was used to tighten the strap.

The life-rafts were individually secured by a crane while the straps were being replaced. When the crane was holding the topmost life-raft, one crewmember accidently released the ratchet strap of the middle raft. The raft slid off the cradle and dropped approximately 10 meters to the pier. The life-raft container was damaged; no-one was injured.

What went wrong?

- Human error lead to accidental release of unsecured raft;
- There were no watchmen, nor barriers cordoning off the potential drop zone.

What were the causes?

- The risk assessment was not suitable or sufficient: the risk assessment used for this job was primarily intended for the tasks of lifting the life-rafts out of storage;
  - It did not identify the risk of confusing the straps; this particular risk was not discussed during toolbox talks beforehand;
- The straps were not identified nor temporarily marked before the task – the crewman took the wrong strap;
- The responsibility of releasing the strap was not clearly assigned to any one particular person, and who was going to do it, was not agreed beforehand.

Lessons learned

- **Develop better situational awareness:** the person who released the wrong life-raft believed his action was correct;
- **Mistakes will be made:** the risks of human error occuring should always be taken into account;
- **Assign clear responsibility:** ensure that team members know which task is done by which person – before starting work;
- **Check the drop zones**: investigation revealed that the area on the quay underneath the life-rafts was not easily accessible because access to the gangway was restricted to comply with ISPS requirements.

Members may wish to refer to:

- Two incidents relating to life-rafts/life boats
- Life raft self-activates and falls to the quayside

5 MAIB: Engine failure and subsequent fire

The UK Marine Accident Investigation Branch has published it's report 2/2021 into an engine failure and subsequent fire on ro-ro cargo vessel *Finlandia Seaways* in April 2018.

What happened

On 16 April 2018, the Lithuanian registered ro-ro cargo vessel *Finlandia Seaways* suffered a catastrophic main engine failure that caused serious structural damage to the engine and a fire in the engine room. The vessel's third engineer, who was on duty in the engine room at the time, suffered serious smoke-related lung, kidney and eye injuries during his escape.

What went wrong

A main engine connecting rod broke. Parts of the engine were thrown through the side of the crank case into the engine room, and a short but intense fire occurred. Within 20 minutes the crew had conducted a muster, sealed the engine room, activated its carbon dioxide fixed fire-fighting system and extinguished the fire. The third engineer was medevaced to hospital and made a successful recovery.

What were the causes?

The MAIB investigation identified that the catastrophic engine failure had been initiated by the failure of a **single component** (IMCA emphasis) and found that the standard and management of maintenance carried out by the vessel operator's maintenance support contractor was a significant causal factor.

Other factors contributing to the engine failure included:

- Standards of maintenance management;
- Lack of appreciation of the importance of following the engine manufacturer's instructions for the removal and refitting of the piston pin bearing bushes;
- External oversight of the engine maintenance process.

The MAIB report further notes that:

- Although the CO2 fire-fighting system was activated successfully, the third engineer was fortunate to have survived given that there were no emergency escape breathing devices on his escape route;
- In common with other accidents in which carbon dioxide has been released following a fire, the inability to confirm which gas bottles had discharged hampered re-entry to the engine room;
- The voyage data recorder did not record the incident due to the uninterruptible power supply failing.

The full report can be downloaded here.

Members may wish to review the following incidents, all three with causal factors being **single point failures.**

- Lost time injury (LTI) and restricted workday case (RWC) following failure of diving bell door system
- Power management system dynamic positioning (DP) incident
- Grounding of ro-ro freight vessel Seatruck Performance