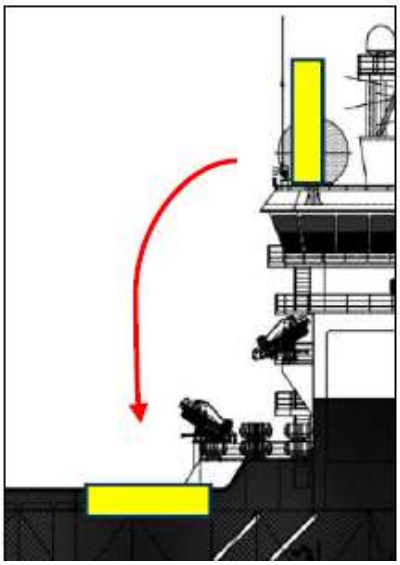
IMCA Safety Flashes summarise key safety matters and incidents, allowing lessons to be more easily learnt for the benefit of all. The effectiveness of the IMCA Safety Flash system depends on members sharing information and so avoiding repeat incidents. Please consider adding **safetyreports@imca-int.com**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

What happened?

On a offshore field support vessel waiting on poor weather and experiencing high winds, the Day Signal mast on the roof of the wheelhouse broke off and part of it weighing 35kg, fell 16m to the main deck.



The weather was deteriorating and Hs (Significant Wave Height) was over 3m. The bridge team had discussed lowering the Day Signal but agreed that the wind and vessel movement could cause an increased and unnecessary risk for working on the roof of the wheelhouse. It was decided to leave the Day Signal in the raised position. The weather continued to deteriorate and the wind increased to 45-50 knots, gusting 60 knots. Later that day, a loud slamming noise was heard on the bridge. Deck lighting revealed that the Day Signal mast had broken off and was lying on the main deck. Owing to the weather situation the decision was made to leave the broken signal mast unsecured on deck until the weather improved. No-one was harmed.

What went right

- The bridge team took account of the wind and weather conditions and wisely opted not to do a job which would have put people at risk;
- The on-duty deck officer had closed the back deck – restricting access to outside areas owing to the risk from the weather – and this meant that no-one was around at the time.

What went wrong/what were the causes

- The mast was made of lightweight Aluminium in order for it to be light enough to raised and lowered manually;
- The mast design was considered sufficient to withstand the forces from high winds;
- The mast had not been identified as a potential dropped object.

Actions taken

- Reviewed procedures for closing the back deck during bad weather, to ensure sufficient barriers or warnings are in place when required;
- Includes Day Signal Mast in Dropped Object survey. Implemented additional securing wiring;
- Check for similar items onboard, for example, Helideck Windsock Mast, and include in Dropped Object survey if necessary;
- Review maintenance and inspection regime on Aluminium masts or similar.

A **Day Signal** is a requirement of the *Collision Convention on the International Regulations for Preventing Collisions at Sea* - COLREGs. It shows that a vessel has "Restricted Manoeuvrability".

On this vessel, the Day Signal is normally a rigid type, permanently installed and raised/lowered by use of a hinged system and a hand cranked winch.

Members may wish to refer to:

- Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs)
- Serious incidents involving the weather
- Galley equipment broke free of fastenings during severe weather
- Near-miss: ROV broke free of cargo strops during heavy seas

2 Person injured going down ladder

What happened

Applicable Life Saving Rule(s)

Bypassing Safety Controls

Line of Fire

A person was descending the fixed ladder of a carousel manhole. He lost his footing on the last three rungs, approximately 87 cm from the flooring. Falling backward, his helmet came off, and his head struck the edge of a steel structure and he was injured. Immediate medical attention was provided on board by the ship's medic. A follow-up medical assessment was subsequently organized ashore, where he received stitches.

Possible causes (as indicated by the member)

- Inattention: Misjudgement of the remaining steps while descending the ladder contributed to the slip;
- Improper PPE Use: The IP did not properly secure the chinstrap of his safety helmet, causing it to fall off during the incident;
- Inadequate Working Environment: Poor lighting at the bottom of the carousel manhole may have contributed to the incident;
- Lack of Signage: No signage was present to indicate the mandatory use of safety harnesses for work in the carousel's manhole.

Position on ladder

Height of ladder

Where the injured person landed

Actions taken

- Improved lighting in the area;
- Be aware of your working environment and keep a focus when you are moving – watch out for complacency;
- Ensure that all PPE, especially the helmet, is worn and secured correctly.

Members may wish to refer to:

- Falls from step ladders
- Safe Use of Ladders and Stepladders
- 'Routine' task, non-routine result: A fall from a crane ladder leads to an LTI

3 LTI: forklift knocked spooler bar onto person's leg

Applicable Life Saving Rule(s)

Line of Fire

What happened

While helping with spooling operations at a third-party yard, a person was injured in the lower leg, when a forklift truck struck the edge of a spooler bar causing it to roll onto his legs, resulting in soft tissue damage. The injured person was working on a spooling winch, with the spooler bar positioned behind him, resting on wooden chocks. The forklift truck reversed from the rear of the spooling winch and struck the edge of the spooler bar, resulting in it rolling from the wooden chocks onto the persons' leg. He was unable to work for four days.

- What was expected to happen?
  - It was planned that spooler bar would be inserted into the reel;
- What actually happened?
  - The wrong size of spooler bar was provided by a sub-contractor, and this led to the spooler bar being placed in an unsafe position in the working area of the person who was injured;

What went wrong?

- There were only two personnel involved in conducting the operation, and the supervisor was also fulfilling the role of forklift truck operator and rigger;
- There were no hard barriers in place to mitigate hazard of impact/collision;

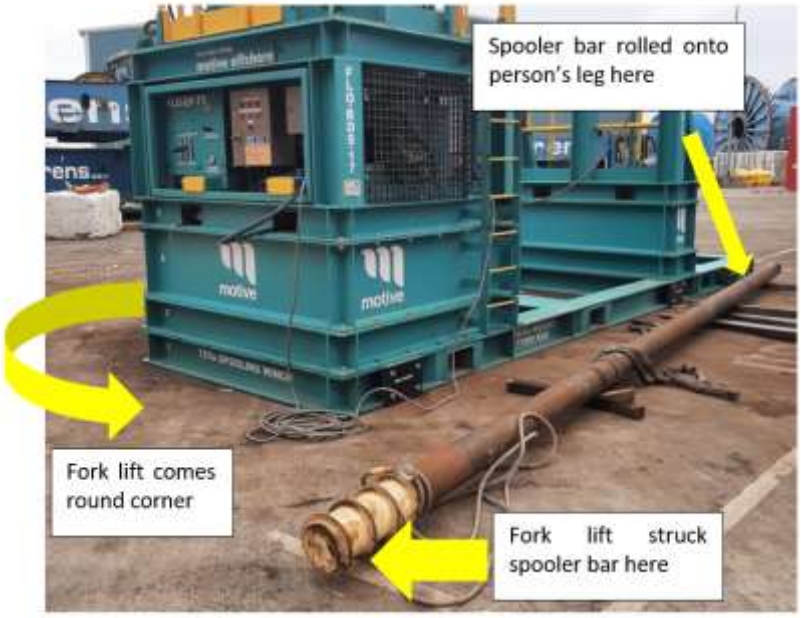
- The impact sensors on the forklift truck did not detect the spooler bar when reversing, as the sensor was positioned at the top of the forklift truck and the spooler bar was below this level;
- The forklift truck operator unexpectedly decided to reverse the forklift truck through a congested working area with no banksman.

What went right, what prevented this from being worse than it was?

- The injured person received first aid treatment on site and was quickly transferred to local hospital for X-ray and further assessment.

Actions taken

- Verified that existing risk assessments for fork-lift truck operations were fully aligned with company requirements and specifically cover:
  - Access, moving the fork-lift truck, the travelling surface and obstructions at the work location;
  - Signalling and communications protocol.
- If the fork-lift truck operator's vision is obscured, always use a Banksman to guide the fork-lift truck;
- Reviewed use of sensors and alarms on fork-lift trucks to mitigate impact/collision risk;



- Subsequently, the subcontractor involved installed reversing cameras on all forklifts.

Members may wish to refer to:

- Fatality: Crew member struck by forklift during quayside operations
- Crewman struck and injured by forklift truck

4 MSF: LTI – Engineer scalded

Applicable Life Saving Rule(s)

Energy Isolation

Line of Fire

What happened

The MSF published Safety Alert 23-14 in which an engineer received severe scalding injuries when working in the engine room. The incident occurred during operations on a platform supply vessel (PSV). The engine alarm system was activated due to low level in the high temperature cooling water circuit on one diesel generator. The engineer examined the generator and identified a leak from one of the rubber compensators. He installed a new compensator and began filling the system with water. He went down to inspect the newly installed compensator to ensure it was not leaking. While standing in front of the compensator, another nearby compensator burst and the engineer was exposed to a blast of steam and scalding water. The engineer suffered partial thickness burns to the face and upper body. First aid treatment was administered on site and he was medevac'd to hospital. He made a full recovery after spending some time in hospital.

What went wrong

The following is the MSF's summary of the several human factor and organization causes for the incident.

- The pressure in the cooling water system rose suddenly when the cold water was added to the hot system. This raised pressure exceeded the installed compensator's structural integrity;
- The installed compensator did not have the correct temperature rating for the system it was installed on;
- There was no maintenance or replacement history on the compensator since the vessel was built (10yrs ago);
- The compensator material likely degraded and weakened overtime due to the incompatible temperature rating;
- The cooling water system had a pressure relief valve; however, it was perhaps not rated sufficiently and could not deal with a sudden pressure increase;
- The manufacturer's procedure for filling the system while still hot was not followed. The system needed to be cooled before being filled with water.

Actions taken

- The primary corrective action was to ensure the compensators are rated for the media, pressure, and temperature of the system they are installed on;
- The compensators should also be checked to ensure they are not misaligned and are installed within manufacturer's specifications;
- OEM procedures and instructions should be followed; this particularly so in this context of filling a high temperature cooling water system with water – time should be allowed for it to cool down to avoid a sudden increase in pressure;
- An appropriate inspection and maintenance plan to be implemented for this type of equipment.

Members may wish to refer to:

- MAIB: A scalding injury
- Near Miss: steam and water released from filter
- Engineer suffered burn injuries in engine room incident

5 MAIB: Deep fat fryer fire

Applicable Life Saving Rule(s)

Energy Isolation

The UK Marine Accident Investigation Branch has published Safety Digest 2/2023, consisting of lessons from recent Marine Accident Reports. IMCA has reviewed the report and passes on to members, as of interest, some of the incidents in the MAIB report. This is one of them.

What happened

Catering crew had a lucky escape after switching on the galley equipment electrical isolators to start preparing for lunch. The supply breaker to the deep fat fryers tripped while the equipment was heating up and the engineers were called to reset it.

Two of the deep fat fryers had no oil in them and their heating elements quickly overheated when the power supply was restored after the breaker was reset. The ship's alarm and monitoring system detected the excessive temperatures and the thermal protection tripped the deep fat fryers' power supply, but not before a fire had started.

The crew raised the alarm and used a fire blanket to quickly smother the flames. The ship's emergency team mustered, isolated the galley's power and ventilation supplies and confirmed the fire was successfully extinguished. There was no damage and no injuries.

What went wrong

The two deep fat fryers had been drained of oil for cleaning and the cause of the fire was found to be residual food scraps saturated with fat that had ignited when the fryers were switched on.

A clean deep fat fryer (top) and the deep fat fryers with residual food scraps (bottom)

Lessons

- Ensure lock-out/tag-out (LOTO) procedures are fit for purpose and followed fully during maintenance and cleaning tasks.
  - Displaying a simple do not use notice on out of service equipment can improve safety and prevent careless mistakes
- Ensure equipment is ready to go back into service when work has been completed;
- Check circuit breakers, trip switches and fuses, which prevent electrical systems becoming overloaded or causing harm. Always check equipment before resetting its electrical supply to ensure all is well.
- Drills: robust safety procedures and well-practised drills prepare crew to deal with the unexpected. In this case the rapid organised response to a small fire prevented injury to crew and serious damage to the ship.

Members may wish to refer to:

- Fire in the deep fat fryer
- Near miss: potential fire – overheating of oil in deep frying pan
- Fire in the laundry room
- MSF: CO2 system left non-operational after servicing