

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 Fatal crush incident between platform supply vessel and fast rescue craft (2012)

This is an old incident which occurred ten years ago in Aberdeen. The initial Marine Accident Investigation Branch report [here](#) was brought to members' attention as IMCA SF 04/13 [Fatal crush injury during vessel hull maintenance](#). It is brought to our attention again following a further [report published](#) by the Scottish government in April this year.

Applicable
Life Saving
Rule(s)



Line of Fire

What happened

On 10 June 2012, the bosun on board a platform supply ship was fatally injured when he was crushed between the ship's hull and the lifting frame of the ship's fast rescue craft (FRC). The bosun was the FRC's coxswain and the FRC was being positioned alongside the supply ship's port quarter to repair a small area of damaged paintwork. The bosun suffered severe internal chest injuries and was evacuated ashore for medical treatment. He died soon after arriving at hospital.



What went wrong?

The MAIB investigation identified that:

- The FRC was being set against the port quarter of the platform supply ship by the prevailing swell and tidal stream and the bosun was possibly trying to push the FRC away from the supply ship's hull;
- The use of the FRC as a painting platform had not been properly planned and the risks involved had not been formally assessed;
- There was a failure to call for emergency medical assistance in a timely way: the severity of the bosun's injuries was not immediately recognised, and his transfer to hospital ashore would probably have been quicker if it had been arranged through the coastguard rather than the ship's agent.

Recommendations

- Raise awareness of vessel crews regarding the importance of completing risk assessments **when undertaking new or unusual tasks**;
- Ensure that prompt action is taken when a medical emergency occurs on board;
- *“Those responsible for operating...vessels...should have in place the necessary training, guidance, procedures and rules to ensure informed and appropriate responses to medical incidents of uncertain severity. These*

IMCA store terms and conditions (<https://www.imca-int.com/legal-notices/terms/>) apply to all downloads from IMCA's website, including this document.

IMCA makes every effort to ensure the accuracy and reliability of the data contained in the documents it publishes, but IMCA shall not be liable for any guidance and/or recommendation and/or statement herein contained. The information contained in this document does not fulfil or replace any individual's or Member's legal, regulatory or other duties or obligations in respect of their operations. Individuals and Members remain solely responsible for the safe, lawful and proper conduct of their operations.

measures should ensure that an appropriate assessment is carried out as quickly as possible so that the potential medical emergencies are treated as such”

Members may wish to refer to:

- MAIB: Crush fatality during lifting operations
- High potential near miss: passenger on a CTV narrowly avoided being crushed between vessels
- MAIB: fatality during transfer from a workboat to a barge

2 High potential: electric shock near miss

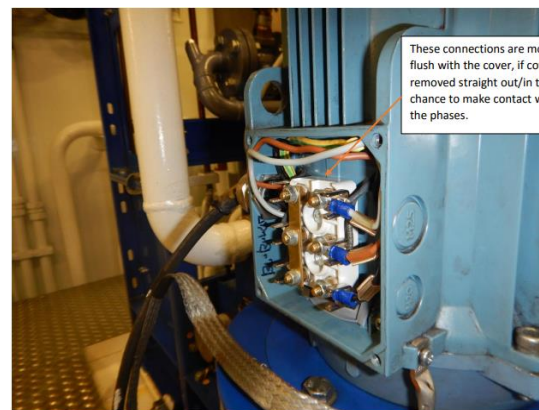
What happened?

An engineer suffered a minor electrical shock while troubleshooting a faulty 690V electric motor. The engineer checked the drive belt and then proceeded to measure the phases. Measuring the phases was not in his initial plan when he prepared the troubleshooting. The incident occurred when he was measuring the phases.

The electric motor junction box cover was removed, and access to the wiring was good. Measurement was carried out using a multimeter. When he was about to replace the cover of the junction box, it touched one of the three phases and he suffered a minor electrical shock in his fingers. He was uninjured but had himself checked by the medic who confirmed this.



LO separator – MDO purifier rack



Motor Spec:

ABB M3AA 112 MB-2 3-phase CL.F IP55 IEC60034-1
3GAA111102-QSEAL1 +VC AMB.50°C AL 565595-16
No.3GV1311086072003
690V, 60Hz, 3460 r/min, 6,4kW, 7,2A, 0,88 cos phi
Bearing type : DE 6306 2Z/C3 & NDE 6206 2Z/C3

What went right?

- The engineer was competent to work with electrical components and this MDO purifier was one of the components assigned to him for investigation/check/maintenance;
- He was systematic in his troubleshooting and had already checked several other “usual” problems (e.g. water supply, timer to coils of water etc/ref. MDO purifier manual and previous “known issues”). Since these were all found ok, he asked the Chief Engineer for further advice. The Chief Engineer suggested he check the drive belt and shaft. This was a task which did not require any Permit to Work nor Lock Out/Tag Out;
- External factors like wind, sea state, vessel movements, illumination, slippery floor etc. were not contributing factors to the event;

What went wrong?

- The engineer decided on his own, without discussing with anyone else, to proceed and measure the phases on a live electric motor without a Permit to Work nor Lock Out/Tag Out in place;
- He was wearing safety/rubber boots, coverall and safety glasses but not approved gloves.

What was the cause

- Failure to manage change: the engineer moved from doing a task which did not require PTW and LOTO, to a task that did. Had he stopped the job and correctly assessed the risk, it is likely that safety barriers would have been in place and risks mitigated;
- Energy Isolation: he did not identify the energy source and did not isolate it when the cover to the connection box was taken off and on. This resulted in him working on live equipment without proper PPE;
- Work Authorization: he did not identify that a Permit to Work was required before measurement of the phases. In addition, this task was not a part of the original plan and was not discussed with anyone.

Lessons learned

- Our member considered the potential for this incident to be major. This was because:
 - The engineer was working on a live electrical system with 690V;
 - The engineer did not use the appropriate gloves required for electrical work;
 - if he had a knee or another body part in contact with a railing, the outcome could have been a serious injury or in worst case a fatality;
 - If the junction box cover had touched two phases, the result would have been an arc (explosion), resulting in potential burns.
- This incident happened when routine work was being carried out. Work that was initially low risk, became a high risk task when the engineer included troubleshooting/measuring phases on the electrical motor. He did not carry out a thorough risk assessment of the situation and did not complete required documents;
- Whilst we all want to solve the problem and get the job done, we should never jeopardize our own health or safety by ignoring precautions set by our company's policies, procedures and checklists;

Our member made the following changes:

- To avoid similar incidents in the future, it was agreed that no job be started before all necessary safety precautions have been discussed by a minimum of two crew members from engine department (any job, even if Permit To Work is not required);
- The company implemented the IOGP's Live-saving rules. These statements simplify the important questions personnel need to ask themselves before starting work.

Members may wish to refer to:

- [Electrician suffered flash burn to hand](#)
- [Electric shock resulting in burn](#)
- [Crewman received 415v electric shock](#)
- [Permit to Work and Isolation procedure not followed](#)

3 Fire at sea – some timely reminders (Safety4Sea)

The online safety magazine <https://safety4sea.com>, which amongst other organisations, re-publishes IMCA safety flashZshes, has published an article entitled "*Tackling fire onboard: Where we stand*". It is based on findings from the *Safety and Shipping Review 2021* published by Allianz. Some excerpts are published here.

Four common causes of fire onboard

- Oil leakage: Leakage from high-pressure fuel oil pipes is the most common risk for fire onboard as oil from these pipes



can accidentally fall in high temperature areas due to the machinery involved.

- **Do:** Insulate any hot surface with a temperature above 220 °C to prevent any oil encountering a hot surface.
- **Don't:** Invest in poor quality materials regarding pipes and/or associated fittings.
- Electrical failures: Leaving personal electronic items unattended always entails risks, as there have been cases of faulty devices, overloading of extension cables and plugs, etc.
 - **Do:** Remove defective equipment from use/service, when damage is identified.
 - **Don't:** Use multi-gang extension leads and high current devices onboard.
- Flammable cargo: It is not uncommon that fires erupt during loading and unloading of specific cargoes, like coal, as well as from mis-declared hazardous cargo in containers, such as self-igniting charcoal, chemicals and batteries.
 - **Do:** Check that all packages are properly marked and labelled; consider using a [Container Packing Checklist](#).
 - **Don't:** Pack damaged packages or stow heavy goods on top of light goods.
- Hot work: Many cargoes, including a wide range of bulk cargoes and general cargoes can be ignited by hot work.
 - **Do:** Carefully prepare and isolate the work area before work starts.
 - **Don't:** Neglect a written plan for the operation, agreed by everyone involved.

Members may wish to refer to:

- [Fire door left wedged open](#)
- [Condition of fire-fighting installation and equipment](#)
- [Catering crew unfamiliar with firefighting systems and emergency stops](#)
- [Smouldering fire in tumble dryer](#)
- [Cabin fire caused by light fitting overheating](#)
- [Portable electrical equipment – serious fire in the accommodation](#)
- [Serious engine room fire whilst divers in saturation](#)
- [Fire in engine room on platform supply vessel](#)

4 NTSB: watertight doors – vessel sank after flooding

The National Transportation Safety Board (NTSB) of the United States has published [findings from an investigation](#) into the flooding and sinking of a towing vessel.

What happened

A towing vessel was in transit when its stern compartments began flooding. The three crew members aboard attempted to pump out the water but were unsuccessful and subsequently abandoned the vessel. They were rescued, and the towing vessel later sank close inshore. No injuries were reported. An oil sheen was visible after the vessel sank. The vessel was later recovered but was considered a constructive total loss valued at \$968,000.

What went wrong?

Investigation determined that the probable cause of the sinking of the towing vessel was unsecured or open aft deck hatches, which resulted in the flooding of the vessel's aft compartments from water on deck, leading to progressive flooding of other compartments through openings in watertight bulkheads. Contributing to the flooding of the vessel was the owner's lack of an effective hull inspection and maintenance program.

Lessons Learned

The NTSB noted that in the last five years it has investigated five casualties involving towing vessels whose weather decks and openings were in poor condition—leading to flooding and subsequent sinking.

- To protect vessels and the environment, it is good marine practice for owners to conduct regular oversight, inspection and maintenance of hulls, including between drydock periods, regardless of inspection requirements;
- An effective maintenance and hull inspection program should proactively address potential steel wastage, identify hull and watertight integrity deficiencies, and ensure corrosion issues are repaired in a timely manner by permanent means.

Members may wish to refer to:

- [MAIB: Flooding, capsize and foundering of small vessel after issues with towing wires](#)
- [USCG: Unexpected heavy weather dangers](#)
- [NTSB: Flooding, sinking and loss of tugboat Mangilao](#)

5 Infection: a scratched elbow turns into an LTI

What happened

A technician banged an elbow whilst climbing out from under the slipring on a wind turbine generator. The technician notified the site manager that it was just a little scratch, and resumed work. Three days after the incident it started to get red. The following day, four days after the incident, the technician went to hospital and was started on antibiotics. The technician returned to work two days later and the infection appeared to have got worse. The infection that had set in over the week now required surgery to clean out the area of infection as the antibiotics did not work. What had initially started as a first aid case that was not properly cared for turned into an LTI and a much more significant injury to the technician.



What went right?

- The technician properly reported the incident to the supervisor;
- As the injury/infection got worse, the technician sought additional care to address the issue.

What went wrong?

- The technician and supervisor did not appropriately address the cut on the elbow with proper first aid techniques to clean the wound;
- The technician waited too long to address a worsening infection to the point that surgery became necessary.

What was the cause?

- Difficult ergonomics in the work area contributed to the original incident;
- Improper first aid treatment and wound care;
- Improper incident management and follow-up care.

Lessons learned

Even minor incidents, small scratches, bumps/bruises, strains/sprains, etc. should be properly cared for and followed up on so that they do not become a more significant issue and put the individual's health and wellbeing at greater risk.

Actions

- Reinforce first aid training:
 - Infection control and wound hygiene during first aid: Ensure a full understanding of the importance of proper cleaning of cuts, grazes, burns etc.
 - Ensure that wounds can heal appropriately to avoid infection.
- Ensure good communication and that seemingly “minor” incidents are being followed up on from supervisor to employee.

Members may wish to refer to:

- [Lost time injury \(LTI\) following stored energy release and subsequent serious infection of wound](#)
- [Loss of sight in right eye: Misdiagnosis of illness](#)