

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 Overheated transformer activated fire alarm

What happened

An under-rated transformer was installed, which causing overheating and thermal degradation of the transformer which subsequently tripped the breaker and activated the vessel's fire alarm. The incident occurred after the boiler in the mess room became faulty and needed replacement. The original boiler had an internal transformer within the unit, but an identical boiler was not available onboard. A new boiler was sourced and installed, along with a new transformer in the dry store switchboard cabinet.

During commissioning, the unit tripped, and a burning smell was noted. Subsequently the fire alarm activated, and the vessel crew were instructed to leave the accommodation and the fire team were deployed to investigate.

What went wrong?

The vessel electrician had incorrectly calculated the rating of transformer required accommodate the new boiler. He applied the correct formula but input the wrong values.

Lessons learned

- There was a positive and immediate response from the electrician and motorman to prevent further escalation;
- The calculation used to determine which transformer was needed was incorrect due to lack of concentration and a typo. This led to an underrated transformer being used. The actual load was 4 times the rating of transformer;
- The current should have been checked with a clamp-on meter during the initial switch on – this would have identified the overcurrent, giving the electrician the opportunity to switch off the boiler before the transformer overheated;
- Whilst there was poor ventilation to the transformer unit, this was not the root cause. It was also found that flammable material was stored outside and inside of the electrical cabinet.

Actions

- Review replacement of transformers in the vessel electrical systems to determine if replacement transformers are correctly rated;



Overheated transformer



location of the switchboard cabinet where the transformer was installed



the switchboard, clear of flammable material with 'keep clear' zone marking in place.

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- Complete an immediate inspection of all electrical cabinets, electrical equipment and panels to ensure there are no materials stored adjacent to them which could present a fire hazard. This should also be a focus of regular work place inspections;
- In dedicated storage areas, indicate **no storage zones** on the deck around electrical cabinets.

Members may wish to refer to – “incorrect”:

- [Thermal tunnel buoyancy when deployed subsea](#) [*causal factor: calculations were incorrect*]
- [Near miss: potential fire - overheating of oil in deep frying pan](#) [*what went wrong? Temperature sensor elements were incorrectly fitted*]
- [Use of portable electrical deck equipment](#) [*portable electrical deck equipment being used with incorrect plugs and sockets*]

2 Mains extension melted – not fully paid out

What happened

A mains extension cable melted during use. This occurred during cutting on deck on a vessel in dry dock; sub-contractors did not fully pay out an extension cable reel they were using to power their equipment. As a result there was induction heating and a melting of cable cord.

Additionally, it was noted that the extension cable was damaged and fixed by tape in places.

What went wrong

The sub-contractor personnel were unaware of the dangers of induction coil heating on mains extensions not fully unwound. The extension cable and reel had not been inspected by a qualified person before use, and given the fact that it had a taped repair, should never have been used at all.

Actions

- Thorough inspection of mains electrical cabling before use;
- Fully pay out coiled mains extension cables before use;
- Consider the use of specialist 110v electrical equipment.



Please review IMCA “*Are you prepared to work safely*” video #14 on [Electrical hazards](#).

Members may also wish to review:

- [Smouldering coiled extension cable](#)
- [Shipyard worker receives electrical shock](#) [*damaged section in a cable on deck*]
- [Use of portable electrical deck equipment](#)

Applicable
Life Saving
Rule(s)



Bypassing
Safety
Controls

3 Catering crew unfamiliar with firefighting systems and emergency stops

What happened

During a recent incident on a members' vessel, the catering crew were found to be unfamiliar with the firefighting systems and electrical equipment emergency stops.



Galley firefighting systems and emergency stops

Applicable
Life Saving
Rule(s)



Bypassing
Safety
Controls

The lack of awareness came to light when there was a water leak in the galley during testing of the vessel's fire pumps. The water leaked into electrical equipment and there was the potential for electrocution of the catering crew. The engine room crew were called and were able to safely isolate the galley electrical systems using the power supply emergency stops. The catering crew however were unfamiliar with the emergency stops.

A recent audit finding, on another vessel, further highlighted the lack of awareness of the catering crew about the location and use of firefighting systems in the galley.

Actions to be taken

- Ensure that all catering personnel complete all mandatory familiarisation on joining the vessel;
- Review levels of awareness with your catering crew and if required, cause catering crew to repeat appropriate familiarisation;
- Chief Stewards should regularly emphasize the location and use of galley firefighting systems and emergency stops in daily Toolbox Talks;
- Maintain galley fire drills, and if necessary, increase the frequency of galley-related fire drills to ensure all catering crew have sufficient awareness **and confidence** to use galley related firefighting systems and electrical emergency stops for galley equipment;
- Ensure emergency stops in the galley are fitted, operational, visible, easily accessed and marked appropriately.

Members may wish to refer to:

- [Poor condition of on-board equipment](#)
- [Galley electric shock – uncontrolled portable electrical equipment](#)
- [Electric shock due to water in electrical equipment](#)
- [Galley fryer fire](#)

4 Incidents relating to hatches and doors

A member reports a number of incidents relating to hatches and doors, which can be summarised briefly for our instruction here. The first two incidents are findings from a tour of the engine room on a management inspection of a vessel. The third incident is an example of proper exercise of the “Stop Work Authority”.

#1: Fire door held open by wire

A fire door in the engine room was observed to be wired open – it was being kept open with piece of wire.

What went wrong?

- Our member notes:
 - Lack of safety awareness of the crew on the fire doors’ main purpose;
 - No-one challenged this unsafe condition;
- IMCA notes that the deeper question as to WHY the door was wired open, is not dealt with here. Was it for convenience? Was it that the engine room was overheating?



Recommendations

Fire doors should be kept shut because they need to be closed in order to prevent the spread of fire and smoke. Propping or wedging them open compromises the safety of the vessel crew, putting them at serious risk, should a fire occur.

#2: Watertight door left open at sea

A vessel watertight door was found left open when the vessel was at sea. Watertight doors are there to prevent the ingress of water from one compartment to other during flooding or other accidents and act as a safety barrier. It is a requirement of SOLAS (section B4, regulation 22) that *watertight doors shall be kept closed during navigation, except under certain conditions not met here*. This company has it’s own requirement also, that *all watertight doors, scuttles, and fittings below the main deck shall remain closed at all times except when actually in use*.

A further check revealed no justification for keeping the door open.

What went wrong?

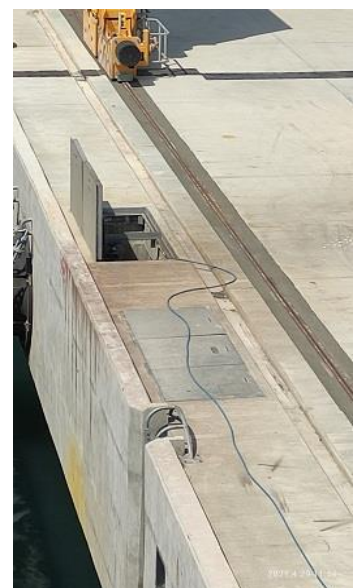
Our member found that persons nearby were not aware of SOLAS or company management requirements.

Recommendations

Ensure everyone understands the basics of why fire doors and watertight doors should be kept closed.

#3: Hatch left open on the quay – a successful intervention prevents a potential accident

Two open hatches on the wharf in close vicinity to the vessel were observed and reported by vessel crew members. There were no barricades or safety signs installed, despite the potential fall hazard inside from 2 m height. Following this intervention, the hatches were closed and locked by wharf service personnel.



What went right?

The crew challenged an unsafe condition, although it was not directly related to the vessel. This is an excellent example of proactive application of the principle of “Stop the job”. Remember that everyone has the authority – and the duty – to **STOP THE JOB** if work is taking place that is clearly unsafe.

Members may wish to refer to:

- Watertight doors left open at sea
- UK HSE: worker fell into lift shaft - safety controls bypassed
- Disabled audible alarm on fire alarm panel
- Manhole opened and not correctly closed

5 MSF: Cut Hand Whilst Cleaning / Hand Safety

The Marine Safety Forum (MSF) has published [Safety Alert 21-10](#) relating to a crew member who suffered an unpleasant cut to the hand whilst engaged in routine cleaning.

What happened

Whilst cleaning cabinets in the galley area, a crew member on a vessel sustained a bad cut to the hand from a sharp edge. This resulted in a section of skin being sliced off. The MSF notes that this was yet another **preventable injury caused during a routine job**.

During our work and daily lives, we use our hands continuously, our hands are valuable and need proper care. When it comes to protecting different parts of the body from lacerations, hands are the most important. Hand injuries are difficult to repair because of the complexity of the hand.

The MSF notes that most hand injuries can be associated with:

- Working with machinery or equipment;
- The materials being used or the job process being hazardous;
- Hand tools or powered hand tools that may be faulty or improperly used.

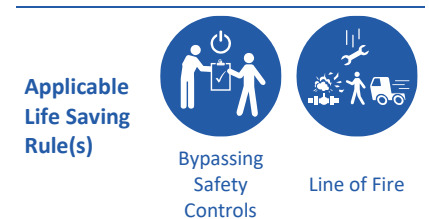
The MSF notes that the most common causes of hand injuries are:

- Sharp edges;
- Lack of awareness;
- Disregard for safety procedures;
- Distractions.

Actions/lessons learned

- Whilst cleaning always be aware of sharp edges;
- Ensure safety checks in the galley are performed and if sharp edges are discovered they are removed, or a warning sign is put in place;
- Use most appropriate type of safety gloves for task being performed and check equipment used for cleaning;
- Hand and finger safety to be added to the risk assessments.

IMCA and the MSF think alike on this matter, that hand and finger safety is an area where the greatest focus may be needed. Please **STOP and think!! Watch your hands – you’ve only got one set!!**



Members may wish to review:

- *Are you prepared to work safely?* Short video Line of fire
- IMCA poster on hand safety
- Don't put your finger in the wrong place: failure to isolate equipment causes serious finger injury
- Finger injury: What happens when you DON'T use the right tool for the right job
- Crewman suffers cut to hand - but gloves prevented it being much worse
- Routine task: Badly cut finger changing mop head
- 'Routine' task, non-routine result: Finger injury during welding
- Finger injury caused by incorrectly secured console cover
- Hydraulic sample extruder - finger laceration
- LTI: Loss of fingertip and nail
- Line of fire: cutting injury to index finger
- LTI: cut to hand from protruding hose clip (Marine Safety Forum)
- Injury sustained during manual handling of sharp object
- Sharp wire: injury during routine maintenance

