IMCA Safety Flash 13/19

June 2019

These flashes summarise key safety matters and incidents, allowing wider dissemination of lessons learnt from them. The information below has been provided in good faith by members and should be reviewed individually by recipients, who will determine its relevance to their own operations.

The effectiveness of the IMCA safety flash system depends on receiving reports from members in order to pass on information and avoid repeat incidents. Please consider adding the IMCA secretariat (imca@imca-int.com) to your internal distribution list for safety alerts and/or manually submitting information on specific incidents you consider may be relevant. All information will be anonymised or sanitised, as appropriate.

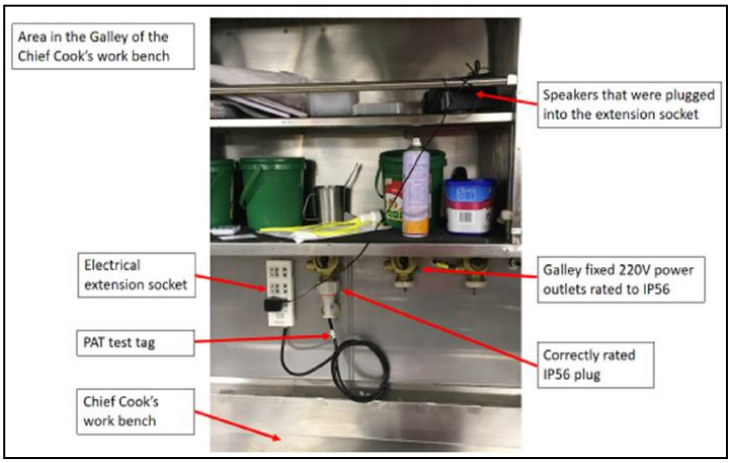
A number of other organisations issue safety flashes and similar documents which may be of interest to IMCA members. Where these are particularly relevant, these may be summarised or highlighted here. Links to known relevant websites are provided at www.imca-int.com/links Additional links should be submitted to info@imca-int.com

Any actions, lessons learnt, recommendations and suggestions in IMCA safety flashes are generated by the submitting organisation. IMCA safety flashes provide, in good faith, safety information for the benefit of members and do not necessarily constitute IMCA guidance, nor represent the official view of the Association or its members.

1 Galley Electric Shock – Uncontrolled Portable Electrical Equipment

What happened?

A person cleaning the galley got a mains electric shock; during galley cleaning, the chief cook was using a wet cloth to wipe clean the food preparation areas. Mounted on an adjacent to the splash back was an electrical power board/extension socket. The wet cloth contacted the electrical power board, resulting in the chief cook receiving a mild electric shock, felt as a 'tingle' to the arm. Electrical outlets in the galley should be IP56 rated to protect against water. However, a non-IP rated electrical power board had been paired with an IP rated plug to enable the use of personal appliances (powered speakers) in the galley.



What actions were taken? What lessons were learned?

- Removal of the unsuitable power board/extension socket;
- Thorough review of the need for, and use of, power boards/extension sockets;
- Focused inspections of accommodation and working areas to identify unauthorised electrical appliances/power boards;
- Identify safe (authorised) areas outside of work zones for charging/use of personal appliances;
- **Reiterate to crew: when working with equipment, NEVER improvise by using non-standard or makeshift equipment.**

Members may wish to refer to

- Small Fire Caused By Portable Fan Heater
- Near Miss: Burnt Out Electrical Socket
- Fire in the accommodation: electronic items in cabins

2 Use of 220V AC Power Tools and Equipment

A member has circulated guidance on the use of 220V AC portable electrical hand tools. This followed reported concerns regarding the use of project and sub-contractor supplied 220V AC power tools and equipment during mobilisation and demobilisations.

For portable electrical hand tools, 110V AC equipment is the standard used by this member and indeed the UK standard. With regard to the use of 220 V AC power, concerns had been raised over:

- Poor site housekeeping, specifically cable management;
- Incorrect ingress protection (IP) rating;
- Damaged tools and cables;
- Equipment used in inappropriate environmental conditions.

Regulations, company procedures, and IMCA safety promotional material, all highlight the risks of using electrically powered hand tools. Sometimes, for a number of reasons, 220V AC hand tools are used where 110V AC, pneumatic or battery operated equipment is unavailable.

What lessons were learned?

- Vessel energy sources, capacities and connections should be communicated between project teams and sub-contractors to ensure adequate time is given to review and plan works accordingly, with minimal deviations from the site controls and requirements;
- Task based risk assessments should consider the task, the site, the environment and the equipment, with operator/work party checks being essential for safe operations;
- Obtaining suitable 110 V AC, hydraulic, battery-operated or air driven hand tools and equipment should be considered where necessary.

The use of 110V AC power significantly reduces the hazard of electrocution, by reducing the potential in the line voltage and the fault current through the human body.

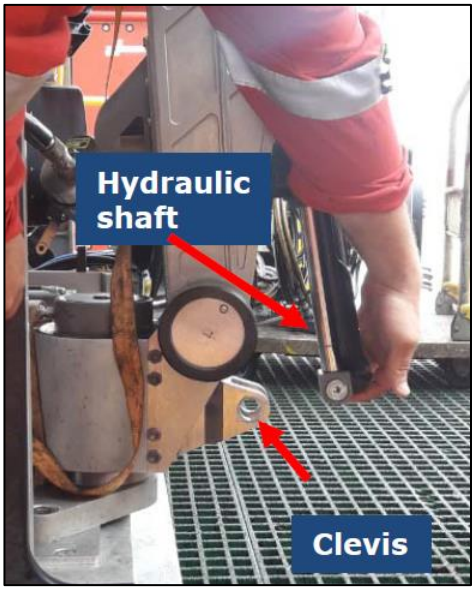
Where 110V AC, pneumatic or battery operated equipment is unavailable either on the worksite or through the sub-contractor, 220V AC portable electrical hand tools can be considered, once risk assessed, in order to ensure the correct controls are in place (minimal use, RCD in circuit, isolating transformer, correct equipment ratings, environment, etc.), on a case by case basis or in line with specific regional electrical tooling procedures. Equipment supplied to site should always be fully operational and in serviceable condition and should be inspected by the end user before use.

Members should refer to:

- Use of portable electrical deck equipment
- Electrician Received Electric Shock
- Short video: *Electrical Hazards*

3 Don't Put Your Finger in The Wrong Place: Failure to Isolate Equipment Causes Serious Finger Injury

What happened?



While carrying out work to fix the hydraulic arm of an ROV manipulator, the person involved was trying to adjust the position of the piston to align holes to receive shear pin. They used their finger to confirm alignment of the Clevis and Hydraulic shaft holes and when the piston moved, it trapped their left index finger, slicing off approximately 1cm of their finger.

What went wrong? What were the causes?

- The task was performed when the system was live:
  - before starting, the team had secured the arm to the ROV using a cargo strap. However, the shoulder function had been enabled on the Master Arm to allow alignment of the clevis with the hydraulic shaft. The hydraulics should have been completely isolated, and alignment of holes completed manually;
- The injured person used his finger to check alignment:
  - he gave the instruction to ROV supervisor to retract/extend the shaft in order for him to align the shaft and the clevis. He failed to put his hand in a safe place before giving the instruction;
- Procedures were not followed, and the task risk assessment (TRA) was not detailed enough:
  - the technical manual was not reviewed before starting work, nor was any manual or procedure referred to when doing the TRA. The TRA lacked detail – there was no reference to isolation.

What actions were taken? What lessons were learned?

- Isolation/lock-out/tag-out of system hydraulics related to work activity should be undertaken before starting work;
- **READ THE MANUAL** – technical manuals are written to provide the necessary guidance and safety processes to be used to avoid injury and ensure equipment is repaired/maintained correctly. They should be referred to and followed;
- TRA should be relevant, suitable and sufficient to the task in hand – in this case, the maintenance and testing of the equipment. It should capture the potential risks related to the inadvertent movement or catastrophic failure of hydraulic equipment;
- When the equipment is being tested ensure that all personnel are at a safe distance from the testing area such that they are not exposed to harm from the sudden movement of any hydraulic attachments, release of pressure from whip hoses, pressurised oil jets or the catastrophic failure of the equipment.

Members may wish to refer to

- Lost Time Injury (LTI): Finger Injury During Main Engine Exhaust Valve Overhaul
- Lost Time Injury (LTI): Thumb Injury
- Serious Finger Injury: Procedures During Engine Maintenance
- Lost Time Injury (LTI): Loss Of End Of Thumb

4 Non-Fatal Man Overboard Incident

What happened?

A member of the vessel crew fell into the sea during personnel transfer using a Crew Tender Vessel (CTV). The incident occurred when the vessel was stood by at anchor. The vessel was using the azimuth thruster to create lee for the CTV coming alongside. A pilot ladder was used, rigged port side aft, around 1.5m above the waterline.

Two personnel transfers took place safely, in which fifteen persons boarded the vessel.

During the third transfer, there was a vessel black-out and the azimuth thruster stopped working. The decision was taken to continue the transfer operation, and 8 persons safely embarked the vessel. However, as the ninth person stepped over from the CTV to pilot ladder, the CTV rolled to port, away from the pilot ladder. This created an imbalance for the person stepping over and he fell into the sea. He was rescued unharmed.

What went wrong?

- Uncontrolled and unexpected movement of the CTV;
- Vessel could not give lee owing to azimuth thruster being unavailable;
- The power demands of the azimuth thruster exceeded the vessel power available, causing a power outage.

What were the causes?

- Stop Work Policy was not used;
- Personnel transfer operations were continued when they should have been stopped – weather and sea conditions were under-estimated;
- Human error – the blackout occurred because there was insufficient power available; the person in control of the azimuth thruster allowed the thruster load to increase too fast, causing the blackout.

What lessons were learned?

- Better management of vessel electrical systems – having more generators online – could have averted this incident;
- Decision making in marginal conditions: the decision to have the transfer at all in marginal sea conditions, and the decision to continue the transfer once the vessel was unable to provide lee, were contributory factors.

What action was taken?

- Company action to install/purchase boat landing platform instead of pilot ladder.

Members may wish to refer to:

- Crew Transfer Vessel (CTV) Personnel Transfers
- Near Miss: Man Overboard

5 The Wear and Care of Safety Helmets

This safety alert is intended to educate and inform people on the correct wear, care and inspection requirements of industrial safety helmets, and to provide guidance on how to check their expiry date.

Hard hats and safety helmets should:

- Be in good condition. **If it's damaged, don't use it; throw it away!**
- Fit the person wearing it and be worn properly;
- Not prevent the wearing of hearing protectors when needed;
- Only be obtained from a reputable supplier – there are fake hard hats on the market.

Helmets are reasonably inexpensive, yet they protect possibly the most important organ in the human body. If pre-use inspection causes any reservation, the helmet should be discarded and replace immediately.

Life Span

Safety helmets do not last forever and have a finite life span after which they should be disposed of. Helmets will have some form of embossed date stamp similar to that in the illustrations below. Members may wish to ensure looking into ethical and appropriate recycling of old or expired safety helmets, in particular, ensuring they are not used elsewhere after being thrown out.

Exposure to the Environment and Chemicals

- Safety helmet shells are susceptible to:
  - UV light damage
  - temperature extremes
  - chemical degradation;
- Signs of degradation include:
  - stiff or brittle shells
  - faded, dull or chalky appearing shell.

Note: replace shells exhibiting these characteristics immediately.

Markings

The material used for the helmet shell has been specifically chosen for its shock absorption and impact properties and for its durability. It can however, be sensitive to chemical attack. For this reason, manufacturers have recommended that helmets are not:

- Painted;
- Marked with felt tip pens;
- Decorated with labels or stickers unless they are of an approved type.

Cleaning

Clean helmets with warm soapy water and a soft cloth only. Replace any helmet which does not come clean with this treatment. Do not attempt to clean a helmet with solvents or abrasives

Members may wish to refer to

- UK HSE information on hard hats on construction sites
- Checking Of Safety Helmets
- Near Miss: Falling Object [a falling object struck the hard hat of a worker piercing and destroying the hard hat. He himself was uninjured.]