

IMCA Safety Flash 04/15

March 2015

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 webmaster@imca-int.com

I Electric Shock Incident

A member has reported an incident in which a ship's electrician received a 220V AC shock. The incident occurred when working on a 24V remote input/output (RIO) module on joy-stick electrical equipment. The electric shock was transmitted from the left hand to right hand due to the fact that the path of least resistance was across the body and to ground through the factory fitted anti-static earth strap. The electrician suffered minor burns to the left hand.



Figure: instrument cabinet

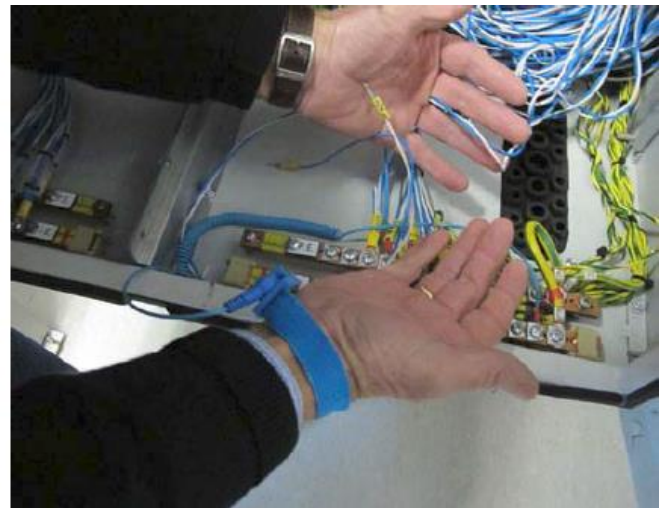


Figure: anti-static earth strap

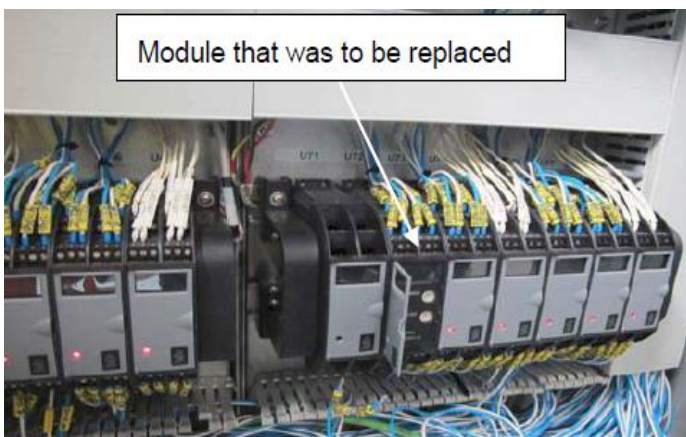


Figure: module that was to be replaced

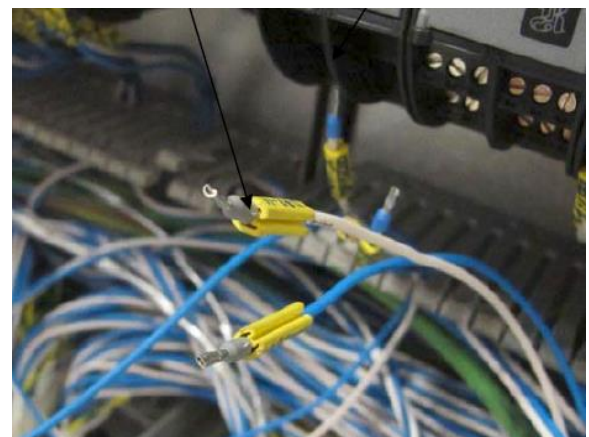


Figure: white cable that touched the electricians hand causing electric shock

Our member noted the following:

- ◆ Live conductors should not be present at worksites if the correct controls are in place, and advice from the manufacturers of electrical equipment is always properly followed;
- ◆ Personal risk assessments were not adequate due to complacency in the task to be undertaken;
- ◆ Harm could be caused to any person when they are exposed to 'live parts' that are either touched directly or indirectly by means of some conducting object or material;
- ◆ Damage could be caused to electronic equipment when they are exposed to 'live parts' that are either touched directly or indirectly by means of some conducting object or material;
- ◆ As part of the isolation process the equipment had to be checked to ensure electrical energy had been isolated or disconnected from its source, this should be done using a voltage tester/probe and compatible proving unit;
- ◆ Although electrical tasks are undertaken on all members' worksites on a regular basis, this incident acts as a reminder that live parts normal mains voltage, 230V AC, can cause; electrical burns, permanent injury and electric shocks, which can prove to be fatal.

Members may wish to refer to the following similar incidents (key words: *electric, shock*):

- ◆ [IMCA SF 08/11](#) – Incident 3. *Electrician received electric shock*;
- ◆ [IMCA SF 15/14](#) – Incident 2. *440V Electrical shock incident*.

2 LTI during Lifting Operations – Backloading Tubular Cargo

A member has reported an incident in which a crew member was injured during lifting operations. His legs were trapped whilst he was walking between casings being lifted, when one of them moved. The incident occurred during backload of tubular cargo (drill casings) from a nearby rig. The crewman was walking between two casings to connect the pre-rigged lifting slings to the rig crane hook. As he was preparing to connect the lifting strop, the movement of the vessel caused one of the casings to shift, which trapped his legs, causing multiple fractures and serious abrasions to both lower legs. He was medevaced by helicopter and spent approximately two weeks in hospital for treatment and rehabilitation before being repatriated.



Figure: showing worksite and place where injury occurred

Our members' investigation noted the following:

- ◆ The injured person had been told by the banksman not to walk between the casings but disobeyed the instruction;
- ◆ No-one on deck exercised the "Stop Work Policy" (SWP) to immediately halt the operation and correct his unsafe behaviour.

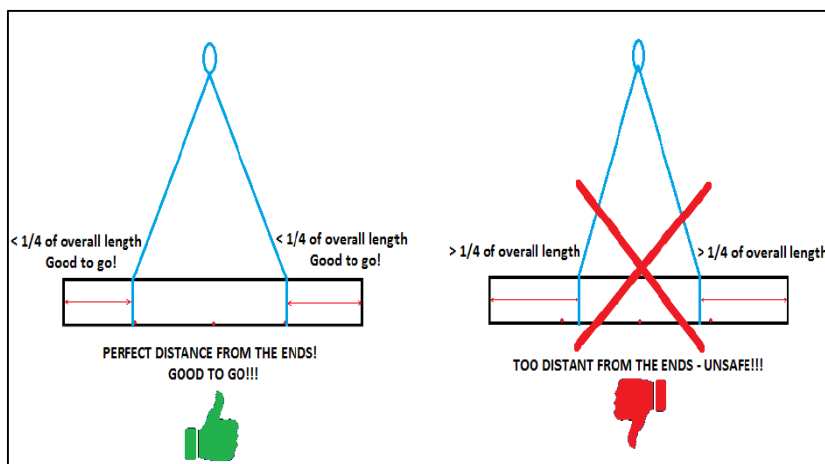
Our member took the following steps:

- ◆ Reviewed risk assessment for cargo handling;

- ◆ Ensured that no crew members walked between, underneath or on top of cargoes;
- ◆ Ensured that all cargoes were adequately secured to prevent unplanned movement during operations;
- ◆ Vessels carrying tubular cargo to check that sufficient quantity of wedges available on board for cargo operations, and raise requisitions in case further wedges were needed;
- ◆ When working with tubular cargo, Samson posts to be used whenever possible, to prevent tubular cargo from rolling.

In working with tubular cargo, the following points may be considered:

- ◆ Cargo should be loaded in such a way as to minimise movements when offloading. Unnecessary movements of tubular cargo may cause displacement from their safe position and move wedges from their chocking position;
- ◆ Wedges used in adequate quantity and size (the size should be at least 25% of the tubular diameter);
- ◆ Slings should be placed from each end so that distances are never more than 1/4 of the total length of the tubular cargo;



- ◆ The use of Samson posts should be considered where possible;



- ◆ Lifting strops should be prepared and laid outside the tubulars so that deck crew can easily access them and make the connection in a safe way.

Crush injuries and other injuries caused by the sudden and unplanned movement of tubular cargo are a recurring theme in IMCA safety flashes. The following similar incidents are just a selection. (key words: *tubular, pipe, injury*):

- ◆ IMCA SF 10/02 – Incident 1. *Pipe stacking fatality*;
- ◆ IMCA SF 08/06 – Incident 2. *Serious injury during pipestalk rolling operation*;
- ◆ IMCA SF 05/14 – Incident 2. *RWC: injury to foot caused by moving roller*.

Members may also wish to review the following fatal incident caused by sudden movement of a load during lifting operations:

- ◆ [IMCA SF 18/13](#) – Incident 1. *Fatality during lifting operations.*

3 Stored Pressure Release – Hydraulic Oil

A member has reported an incident in which there was an unexpected high pressure oil discharge causing injury to someone's left hand. The incident occurred during the reconfiguration of a trenching ROV. A crewman was disconnecting hydraulic pipe fittings to the chain tensioning cylinder on the mid digger section when there was a high pressure release of oil from a pipe fitting, which hit his left hand and sprayed on to his face causing a skin irritation.

The on-board medic assessed the injured person and raised concerns that chemical injection to the left hand was a possibility; the injured person was medevaced by helicopter to hospital for further assessment.

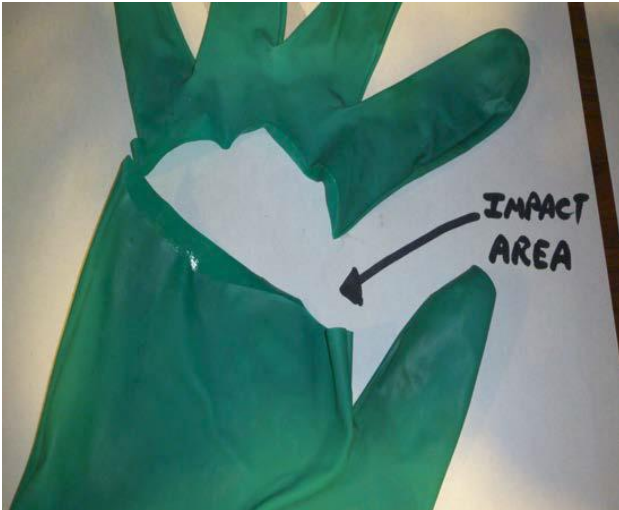


Figure: actual glove worn by injured person



Figure: position of fittings on hydraulic cylinder

Our member's investigation noted the following:

- ◆ Hydraulic pressure was trapped in the annulus side of the digger chain tensioning cylinder and owing to the hydraulic circuit configuration it was not possible to relieve this pressure without opening a pipe fitting;
- ◆ The pressure gauge for the digger chain was piped to the full bore side of the cylinder to measure the pressure exerted on the digger chain; it was possible to have no pressure in the full bore side but pressure may still remain in the annulus side, creating a situation where the annulus side could be pressurised with no indication.

The following actions were taken:

- ◆ Installed adaptor plates and drain fittings to cylinder as a means to detect and relieve pressure;
- ◆ Revised Safe System of Work with detailed information for checking for and relieving stored pressure in circuit;
- ◆ Started review on all jet trenchers and WROV to rule out the possibility of a repeat incident on another vehicle.

Members may wish to refer to the following similar incidents (key words: *stored, pressure, release, hydraulic*):

- ◆ [IMCA SF 06/00](#) – Incident 4. *Hydraulic injury to hand;*
- ◆ [IMCA SF 01/03](#) – Incident 6. *Engine start air fitting incident;*
- ◆ [IMCA SF 18/09](#) – Incident 1. *Fatality during pressure test.*

4 Diver Fainted

A member has reported an incident in which a diver fainted. The incident occurred when the diver arrived at the stage feeling very tired and requested permission to enter the bell without removing his chemical oversuit (barrier suit), (which was being worn due to potential seabed contamination). The dive supervisor subsequently approved this request. Shortly thereafter the diver fainted. He was assisted into his seat where he regained consciousness with the bell being flushed simultaneously.

The other divers in the bell displayed no visible symptoms of fatigue or contamination. The diver then had a drink of water and the bell was prepared for recovery. The bell was recovered under normal procedure as planned at the end of the dive. After mating to the chamber system all divers entered the sat complex as normal and without assistance.

Our members' initial investigation noted the following:

- ◆ Enhanced diving procedures had been discussed with the offshore team and the bells were dressed appropriately;
- ◆ It became apparent that correct procedures had not been followed before and during the incident, particularly the requirements to wear the built in breathing systems (BIBS) and remove the chemical oversuit;
- ◆ The enhanced diving procedural checklist had not been formally retained.

Despite there being a potential for contamination, the incident was considered 'a straightforward episode of faint' and the result of a number of contributory factors such as:

- ◆ Lack of food and drink;
- ◆ Working hard in the water (tidal flow);
- ◆ Balancing on the bell seat;
- ◆ Relief of hydrostatic pressure;
- ◆ Diver not removing his neck dam.

Our member identified the following lessons:

- ◆ Need to enhanced diving procedures, contingency procedures, associated check lists and use of such procedures appropriately for the work site;
- ◆ Need to review bell contamination exercise and carry out and record drills;
- ◆ Need to review dive site assurance process;
- ◆ Need to review method of storing and verifying diving operational checklists;
- ◆ Need to review company guidance with respect to precautionary decompressing divers after medical or health issues.

Members may wish to refer to the following similar incidents (key words: *diver, faint*):

- ◆ [IMCA SF 10/07 – Incident 2. Bell contamination.](#)

5 Near Miss: Quarantine of Fall Arrest Equipment

A member has reported a near miss incident in which lift arrest equipment was found to be faulty and was subsequently removed from use. During an annual inspection of equipment on a vessel, the inspecting person found that on three fall arrest devices, there was no stenciling on the arrestor and the safety device on the hook did not function correctly, as the hook could be opened without using the safety clip.



Figure: showing quarantined fall arrest devices



Figure: showing hooks with faulty safety clips



Figure: “PICC” Fall arrest devices

The inspector noted the following:

- ◆ A clear guideline was the readability of the label. Because the fall arrest devices didn't have the original labels showing the year of manufacture proof of this could not be ascertained;
- ◆ The safety device on the hook was not working; the hook could be opened without using the safety clip.

Members may wish to carry out further spot checks of fall arrest equipment, and ensure that fall arrest equipment is always sourced from a reputable contractor.

Members may wish to refer to the following similar incidents (key words: *fall arrest*):

- ◆ [IMCA SF 14/08](#) – Incident 2. *Failure of fall arresters*;
- ◆ [IMCA SF 13/11](#) – Incident 4. *Fall protection product recall*.

6 Fire in Engine Room on Platform Supply Vessel

The Marine Safety Forum has published the following safety flash regarding a fire in the engine room of a Platform Supply Vessel (PSV). The fire broke out in the engine room when the vessel was in transit to an offshore location. The fire was extinguished with the fixed water sprinkler system with assistance from the crew. Whilst there were no injuries, there was loss of power and propulsion for a long period before a diesel generator could be started to limited power and propulsion. The vessel returned to port under escort.

The root cause of the incident was a burst low-pressure flexible fuel hose allowing fuel to spray over the generator and manifold where it then caught fire.

Further information can be found from www.marinesafetyforum.org/upload-files//safetyalerts/msf-safety-flash-15.10.pdf.

Members may wish to refer to [IMCA SF 10/14](#) – all the incidents in this safety flash deal with fires in engine spaces.

7 Near Miss: Draw String on Storm Jacket nearly Drawn into Rotating Equipment

A company has reported a near miss incident in which the draw string on worker's clothing was observed hanging close to a revolving spindle. The incident occurred on an offshore platform when a construction team were fitting pipe supports. Part of this task involved drilling holes through the deck plate with a magnetic drill. Owing to poor weather conditions, the crew were wearing “parka” style storm jackets. One of the work party members noticed that the drawstring and toggle on the

bottom the drill operator's jacket was hanging very close to the revolving spindle of the magnetic drill. There was potential for the drawstring to be drawn into the tool causing injury to the operator.

He immediately stopped the job and the hazard was highlighted. The entire work party removed the drawstrings from their jackets and the hazard and intervention was shared with the rest of the crew. The intervention was further discussed at start of shift meetings and it was apparent that these lanyards could and had become snagged when climbing ladders and had got caught on plant and equipment etc. It was agreed that the drawstrings were impractical as their use on this type of jacket would restrict both leg movement and body positioning.



Figures: showing storm jackets with draw string and illustrating potential hazard

The following points were noted:

- ◆ The immediate cause of the incident was that long, “parka” style storm jackets were supplied with a drawstring and toggles that could become snagging hazards. This was especially hazardous when using or working with rotating machinery or equipment;
- ◆ Members should ensure their crews are aware of this form of hazard;
- ◆ As far as possible, alternative clothing without draw strings should be used.

Members may wish to refer to the following similar incidents (key words: *clothing, caught*):

- ◆ [IMCA SF 09/03](#) – Incident 5. *Machine guarding*.