

IMCA Safety Flash 08/15

June 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 Near Miss: Hot Work in No Weld Zone

A member has reported an incident in which crew were found conducting welding operations in an area of a vessel where hot work was forbidden. The incident occurred when arrangements were being made for the installation of steel shelves in a storage cage on the upper tween deck. This area 'upper tween deck' is below the main deck, amidships.

A permit to work was raised for this operation and was signed by the rigging supervisor as Area Authority. The welder set up the required equipment at the worksite and was in the initial stages of the task when the Chief Engineer walked by on a routine inspection and stopped the job. The Chief Engineer explained to the welder that he was about to weld onto a fuel tank which is located on the other side of the deck, and called an **ALL STOP**.

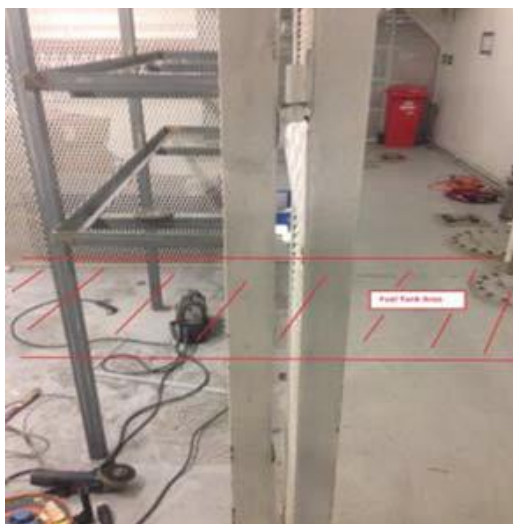


Figure: Work site (No Weld area highlighted)



Figure: "No welding" marking which was covered over

Our member summarises a series of failures which brought about this event:

- ◆ Inadequate task plan;
- ◆ Inadequate communication of task plan;
- ◆ Lack of awareness/perception of risk;
- ◆ Inadequate attention to detail;
- ◆ Unclear/conflicting lines of responsibility;
- ◆ Insufficient warning signage;
- ◆ Following usual task;
- ◆ Poor housekeeping.

The following actions were taken:

- ◆ Reviewed this incident and communicated it to all appropriate personnel;

- ◆ Identified all **no weld** areas on vessels and ensured they were suitably marked/highlighted and **'No Welding'** signage was clear from all directions;
- ◆ Ensured that vessel GA (General Arrangement drawings) were used to show location of open permits and to assist in de-conflicting permits and hot work, had all the **no weld** zones/areas clearly marked to assist in the approval of Hot Work permits and to prevent approval being given for hot work on '**no weld** areas';
- ◆ Ensure that persons responsible for issuing Permits to Work were suitably trained and fully understand their roles and responsibilities;
- ◆ Ensure that those who were "Area Authorities" fully understand the hazards and restrictions associated with those areas.

Members may wish to refer to the following similar incidents (key words: *hot work*):

- ◆ [IMCA SF 08/13](#) Incident 5 – *Fire caused by hot work*;
- ◆ [IMCA SF 06/14](#) Incident 7 – *Pontoon compartment explosion on floating roof tanks*.

2 ROV Main Lift Umbilical Failure

A member has reported an incident in which an ROV main lift umbilical parted causing the ROV to drop to the seabed (1360m water depth). The incident occurred while recovering a ROV to deck. With the use of the vessel crane and the assistance of a second ROV, the fallen ROV was recovered to deck and inspected; there was no damage. There were no injuries.

Our members' investigation noted the following:

- ◆ The main lift umbilical had recently undergone third-party destructive testing and load testing and had been certified as fit for purpose;
- ◆ The scheduled maintenance and inspection was found to be in accordance with the manufacturer's original requirements;
- ◆ An umbilical lubrication system was in place and operational;
- ◆ The current lubrication system had been installed a year earlier as a systems upgrade to the originally fitted system;
- ◆ At the time of the incident, the vessel was located in a safe recovery zone away from subsea assets;
- ◆ During inspection, internal strands of the main lift umbilical were found to have damage consistent with previous water ingress (rust), and there was no evidence of lubricant present in the inner core.

Our member determined that the cause of the failure was internal (hidden) damage of the main umbilical, following from lack of lubricant penetration.

The following lessons were learnt:

- ◆ All rope parts should be thoroughly examined and tested to determine if wire damage has occurred in locations that are not visually accessible;
- ◆ Conducting ROV launch and recovery operations clear of subsea assets was a mitigation; this prevented further equipment damage that could potentially have occurred.

Recommendations and corrective action:

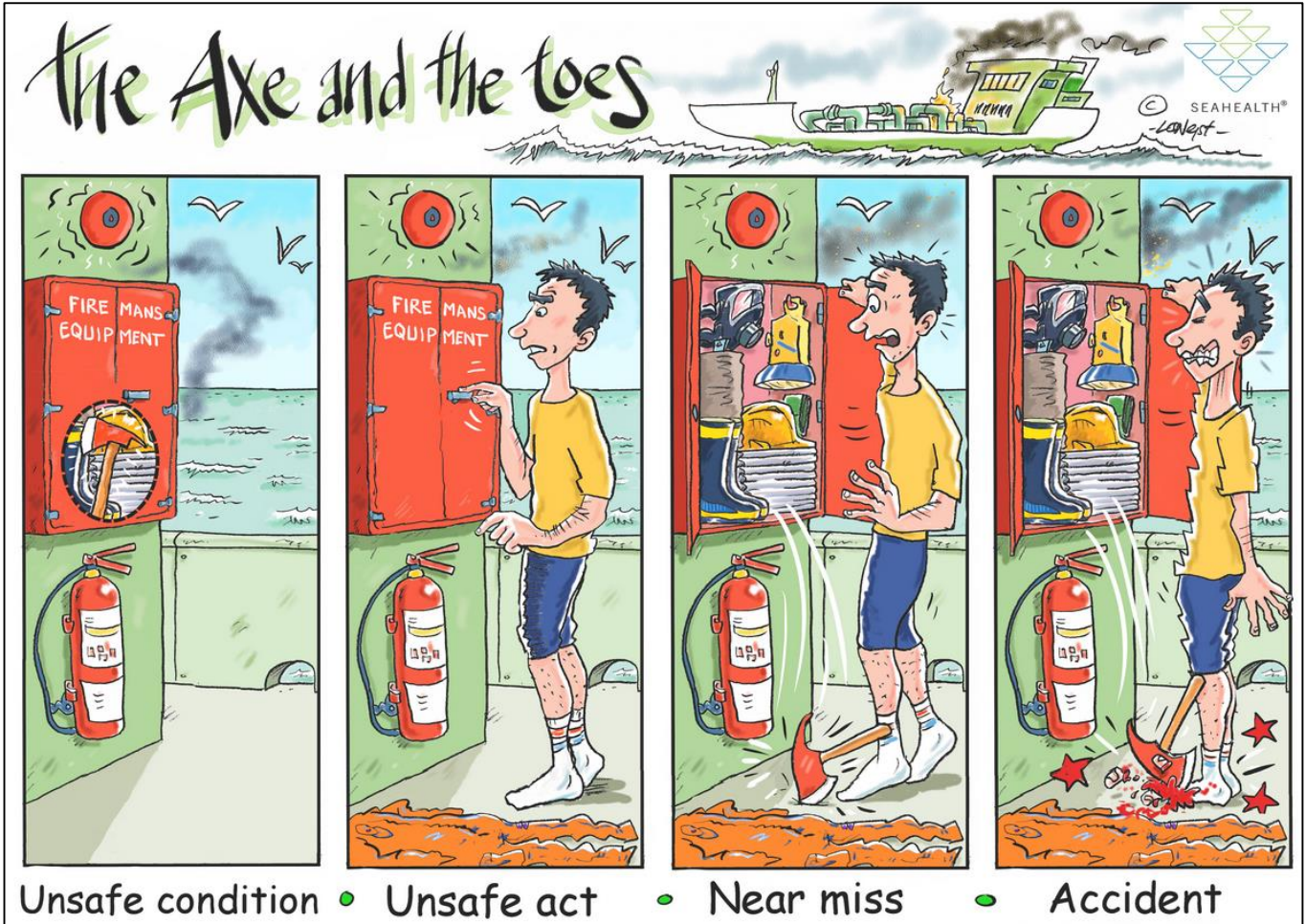
- ◆ Ensure that close visual inspections are carried out on each strand of all layers of the umbilical during the annual cut back and re-termination;
- ◆ Ensure the condition of the strands was reported on the umbilical destruction test report (Umbilical destruction test procedures now reflect this);
- ◆ Recommend further research into the use of UT scanning and cleaning equipment on ROV umbilicals after 10 years of service.

Members may wish to refer to the following similar incidents (key words: *umbilical failure*):

- ◆ [IMCA SF 18/09](#) Incident 4 – *Loss of ROV – dropped object*;
- ◆ [IMCA SF 06/13](#) Incident 2 – *Loss of ROV after umbilical termination failure and damage to ROV during recovery*;
- ◆ [IMCA SF 13/14](#) Incident 4 – *Main ROV lift umbilical parted*.

3 Near Miss: Fire Axe Falls Out of Cabinet, almost Hits a Fireman's Toes

The Danish organisation SEAHEALTH www.seahealth.dk/en has published the following near miss report of how an axe fell from a cabinet, narrowly missing someone's toes. A crewman was preparing to get fire-fighting equipment out of the fireman's equipment cabinet, when the fire axe fell out and fell 1.5m to the floor. The axe landed blade down only a few centimetres from the crewman – who at that moment was in his socks, wearing no toe-cap boots, as he was preparing to don a fireman's outfit.



This cartoon can be found at <http://uk.nearmiss.dk/media/24433/Axe-UK.jpg>.

This cartoon neatly explains the difference between unsafe conditions, unsafe acts, near misses, and actual incidents. Further similar cartoons and explanatory information was available here: <http://uk.nearmiss.dk/knowledge/what-is-what/>.

4 Fatalities: Engine Room Fire Caused by Fuel Spray Ignition

The United States Coast Guard (USCG) has published Safety Alert 4-15 entitled "ENGINE ROOM OPERATIONS: Maintaining Machinery, Knowing Escape Routes, & Conducting Thorough Engineering Watches".

The safety alert deals with an engine room fire that occurred onboard an older cruise ship while it was at berth. A fuel oil spray under pressure developed from an operating engine's fuel supply line when a bolted flange parted. The fuel spray ignited when it contacted the engine's exhaust piping or turbocharger components. The vessel's fine mist extinguishing system automatically activated and performed as designed extinguishing the primary fire. Fuel pumps and shutoff valves were also secured.

However, the short-duration fire also ignited cable bundles, quickly filling the machinery space with smoke. As a result, one crew member and two technicians were unable to egress and perished in the engine room.

The US Coast Guard has issued this safety alert in order to:

- ◆ Reiterate the importance of vessel engineers recognizing and taking action on engine manufacturer technical bulletins and service letters;
- ◆ Remind personnel working in machinery spaces to have a personal exit plan no matter where they were working;
- ◆ Stress the value of having engineers frequently perform detailed engineering space inspection rounds on engines, systems, and other equipment.

The full safety bulletin can be found [here](#).

Members will be aware of a number of similar engine room fire incidents, some of which were caused by fuel spray ignition. [IMCA Safety Flash 10/14](#) deals solely with engine room fires.

5 Bulk Hose Drawn into Thruster – Severe Damage and Delay

The Marine Safety Forum has published the following safety flash regarding a hose incident. Around 100m of bulk transfer hose including fittings were drawn into the port azimuth thruster of the vessel, resulting in destruction of the bulk hose and significant delays to operations.

The safety flash can be found here: www.marinesafetyforum.org/upload-files//safetyalerts/msf-safety-flash-15.13.pdf.

Members may wish to review the following similar incidents (key words: *hose, thruster*):

- ◆ [IMCA SF 04/14](#) Incident 3 – *Oil spill incident*;
- ◆ [IMCA SF 11/11](#) Incident 6 – *Oil spill in port whilst discharging waste oil*;
- ◆ [IMCA SF 13/13](#) Incident 2 – *Bunkering hose cut by propeller*.