IMCA Safety Flash 24/17

October 2017

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.

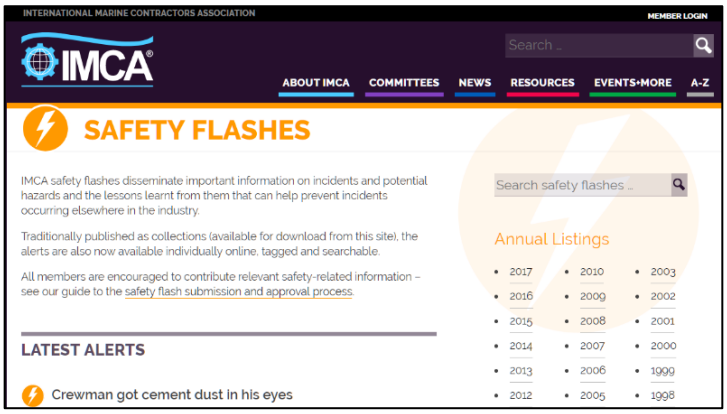
The effectiveness of the IMCA safety flash system depends on receiving reports from members in order to pass on information and avoid repeat incidents. Please consider adding the IMCA secretariat (imca@imca-int.com) to your internal distribution list for safety alerts and/or manually submitting information 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.

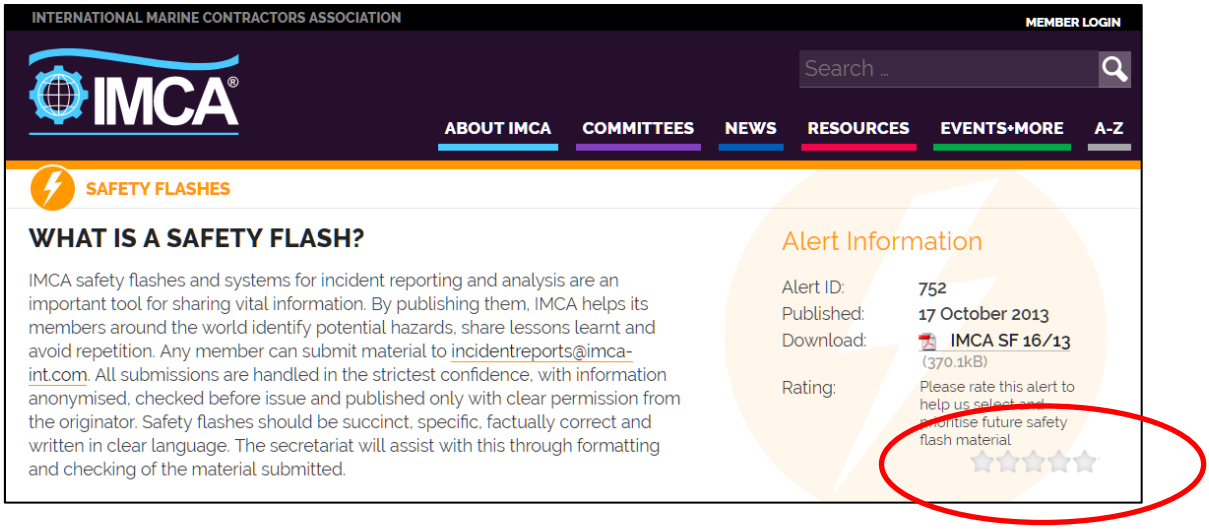
Safety Flash Incident Feedback

IMCA safety flashes normally comprise between four and seven separate incidents, sometimes with a common theme. These safety flashes are circulated by email to IMCA members as a PDF. However, all published incidents are available to the public on the IMCA website https://www.imca-int.com/alerts/safety-flash/.



Readers can now provide feedback to IMCA, using a 'star rating' system. We would encourage all users of IMCA safety flashes to do so. This feedback will enable IMCA to continue to improve the quality of safety flashes and ensure that lessons learned are appropriate and useful to members.

To provide feedback, simply click on the stars on the right side of the screen:



This is also a timely moment to remind members and readers of these safety flashes that the on-line content can be searched. The search is not just of "key words" or titles but of the full text. To search for something in an IMCA safety incident, go to https://www.imca-int.com/alerts/safety-flash/ and type in your desired search words in this box:

1 Lost Time Injury (LTI): Loose Grating Fell from Crane, a Man Fell Through and was Injured

What happened?

A crane operator stepped on a loose piece of grating on the crane walkway. The grating fell 18m to deck below, damaging some stairs. The crane operator fell 4.5m through the open grating, and suffered a fractured left leg.

The incident occurred after the crane block hit the walkway during lifting operations, when the crane was completely boomed up to reach the load. The crane block began to swing in an uncontrolled manner causing the block to hit the lower walkway (grating) around the crane pedestal. The crane operator aborted the operation, called the deck foreman, and parked the crane in the boom rest. He stepped out from the cabin and started inspecting the walkway around the pedestal, looking for damage to the handrails after the crane block had struck. It was during this inspection that he stepped onto the loose piece of grating and fell through.

No solid structural support between the support arms. Kick plate is welded to grating and one side of kick plate is against the handrail.

What went wrong? What were the causes?

- The grating was loose and fell:
  - the securing clips came loose as a result of the impact of the swinging crane block, and the loose grating was then dislodged
  - this piece of grating was fixed to the walkway structural frame in only two places
  - there was a kick plate welded onto the grating and not on the structure as on other cranes
  - the piece of grating had not been identified as potential dropped object;
- The crane was boomed up above the limit, and the crane operator did not deal properly with this;
- Changes had occurred which were not properly managed or controlled;
- The crane operator inspected the walkway looking at the guardrails, not the grating.

What lessons were learnt? What recommendations were made?

- Safety stand down held with all crew; grating replaced and secured;
- Engineering improvement of walkway design to be made, to prevent recurrence;
- Improvement of training for crane operators and lifting teams, particularly with regard to:
  - emergency procedures
  - handling unusual scenarios
  - management of change (MOC)/risk assessments/toolbox or pre-Job meetings.

Members may wish to review the following incidents:

- Fall Through Open Hatch In Walkway
- Dropped Object Fell From Crane – Poor Communication/Lack Of Awareness/Control Of Work

2 Near Miss – Grating Dislodged and Fell, Leading to Crewman Slipping

What happened?

During flow-line installation work on an oil platform, a section of plastic grating became dislodged as a crewman stepped on it. The incident occurred when crew were making up a flange bolted connection, on a hang off platform (HOP). A member of the rigging team slipped into the gap but did not fall further, and was uninjured. The piece of grating, which measured 90cm x 30cm and weighed 5kg, fell into the sea.

Hang off platform (HOP)

Piece of grating that dropped

grating clip used for securing

What went wrong? What were the causes?

It was assumed that the grating securing clips had come loose and fallen off, due to the flexing of the entire HOP during operations. There was no potential for persons to slip fully through the gap created by the dislodged grating due to the size of the gap.

What lessons were learnt? What actions were taken?

- The rigging team held a time out for safety, then made a proper check of the security of all areas of the HOP;
- Before starting work again, the grating section was replaced and secured in place;
- The team members working on the flange were wearing full fall-arrest equipment and were clipped on;
- The surrounding area covering the HOP was completely barriered off;
- A subsequent ROV sweep grid survey was completed, and the grating section was located and recovered to deck by ROV.

Members may wish to review the following incidents:

- Fatality: Fall From Height
- Near-Miss: Missing Grating On Platform In Fuel Tank
- Falling Object – Grating Fell Onto Pipe Deck

3 Flooding in Steering Gear Compartment

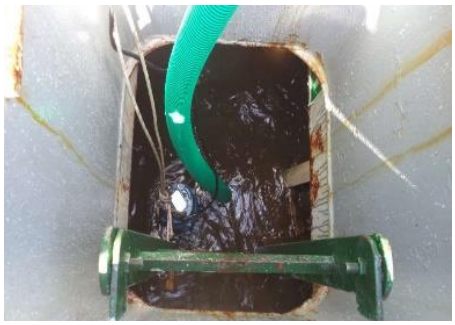
What happened?

A vessel lost control of its steering gear due to leakage through the Karm fork seals, leading to uncontrolled flooding in the steering compartment. The engine room received a steering gear compartment bilge high level alarm and the bilge pump was started. After fifteen minutes of pumping out, the alarm was still active, and only then were the Chief Engineer and Captain informed. The Chief Engineer went to the steering gear compartment and found water below the floor plates.

The vessel was facing heavy seas and rolling heavily. After thirty minutes, the bilge alarm went off, the bilge pump lost suction, and it was stopped. On the bridge, there was a power failure alarm on the steering control panel, and

vessel steering was lost. The steering gear compartment was found flooded to 30cm above the floor plates. The bilge pump was started again and the equipment in the steering gear compartment isolated.

An announcement was made on the PA system regarding the steering gear failure; the client was informed and vessel assistance was requested. The Chief Engineer also found the bilge alarm float level-arms in broken condition (see rightmost image). A submersible pump was used to pump out water from the flooded compartment. Also, steps were taken to lighten the vessel by pumping out a number of freshwater tanks.



What went wrong? What were the causes?

The main cause of the flooding was found to be the worn-out condition of the towing pin/Karm fork seal. Due to the rough weather, water was coming onto the deck and entered the steering compartment through the leaking seal.

What lessons were learnt?

- Immediate action should always be taken when any alarm sounds. Alarms should not be reset as a routine. The cause of the alarm should always be investigated and rectified;
- The steering compartment was not part of any crew inspection rounds - compartments such as steering gear, bow thruster, shaft spaces etc. should be regularly inspected and the inspection logged;
- Appropriate precautionary measures for heavy weather conditions had not been taken;
- The condition of the towing pin and Karm fork seals had not been monitored or noticed.

What actions were taken?

- A thorough check was made of the condition of the covers of control panels, starters etc. in the steering gear compartment;
- A schedule of regular and logged checks was put in place for compartments below the waterline, with any deficiencies/observations reported to the office;
- The operation of the bilge level sensors was checked, as per PMS recommendations.

Members may wish to review the following incidents:

- An Error With Fire Flaps Led To Engine Space Flooding, Causing Costly Damage
- Grounding And Flooding Of Ferry – Complacency

4 Small Boat Deployment Near Miss Incident

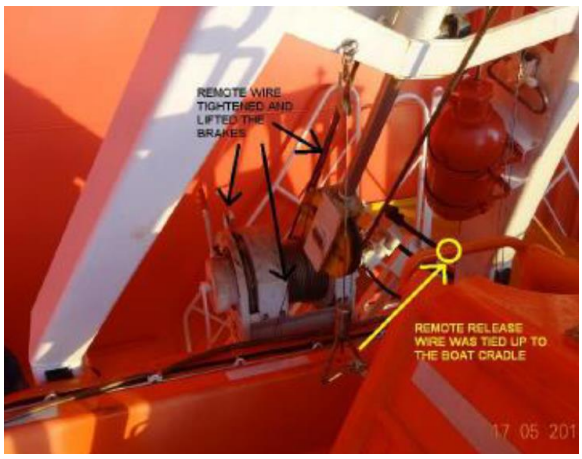
What happened?

A vessel was carrying out a monthly rescue boat drill when, as a result of procedures not being followed, there was a sudden and unplanned deployment of the boat into the sea. No-one was injured, and no equipment was damaged. Appropriate permission from Port control had been granted; a permit to work was in place, together with a risk assessment, and all hazards had been discussed before launch.

The lashings of the rescue boat were released and the boat was lowered to embarkation level. Painter lines were controlled by two crew members, and three crew members entered the rescue boat for launching. Two of these persons had safety harnesses connected to a fall arrestor at a strongpoint on the davit. The third had a safety harness connected to a ladder on the vessel through a rope which he held onto during lowering.

The remote-control wire was tied to the boat to prevent it from swinging during launching. The lowering of the boat was controlled by joystick from the control station. The remote-control wire became tight (since it was tied to the boat) about 5 meters above sea level and the electric motor tripped. This caused the rescue boat to descend under the influence of gravity until it was waterborne. As a result, the fall arrestors became activated and two crew members were left hanging 5 meters above the rescue boat. The third man followed the boat until it was waterborne.

Power was restored and the boat safely hoisted to deck level with all crew members.



What went wrong? What were the causes?

The immediate cause of the incident was carelessness – the remote-control wire was tied up to the boat. A causal factor was that the correct launching procedures not followed. The root causes were determined to be:

- Lack of training;
- Instructions not followed.

What lessons were learnt? What actions were taken?

- Crew to be trained in correct launching procedure as per manufacturer's instructions;
- All boat crew should be using fall arrestors if available on board during launching and recovery of rescue boat drills and training;
- Review of maintenance instructions and certification of fall arrestors;
- Review and update risk assessment for small boat launch and drill.

Members may wish to review the following incidents:

- Inadvertent Lowering Of Lifeboat
- Damage To Rescue Boat During Lowering

5 Fatality: Overpressure of an Explosion-Proof Enclosure

What happened?

International Association of Oil & Gas Producers (IOGP) has published an alert regarding an incident in which an engineer was fatally injured. He was killed when he removed the cover on an explosion-proof enclosure, as part of a routine task. The threaded cover, measuring 35cm across and weighing around 6kg, was forcefully propelled from the enclosure as the engineer unscrewed it, inflicting fatal head injuries.

Figure 1: Re-enactment of cover removal

Figure 2: Example of Explosion-Proof Enclosure

What went wrong? What were the causes?

- Pressure built up inside the enclosure from leaking sample gas or instrument air components;
- The enclosure was not equipped with an external indicator to indicate the pressure inside;
- There was no means to relieve internal pressure in the enclosure.

What lessons were learnt? What actions were taken?

IOGP identify the following lessons:

- Recognize the potential hazard of trapped pressure in explosion-proof electrical enclosures from all sources of energy entering the enclosure;
- Identify explosion-proof enclosures which are susceptible to trapped pressure scenarios and do not have pressure indication or pressure relief protection;
- Work with equipment manufacturers to develop a mitigation plan that addresses the trapped pressure situation while still maintaining the electrical certification of the identified enclosures.

The incident can be found here http://safetyzone.iogp.org/SafetyAlerts/alerts/Detail.asp?alert_id=288**.**

Members may wish to review the following fatal incidents. It will be seen that the sudden and unplanned release of stored pressure is a high potential incident and frequently lead to serious injury and fatalities.

- Fatality: Pressure Build-Up Leading To Sudden Release Of Mechanical Plug
- Fatality During Pressure Test
- Explosion Causing Fatal Injury During Maintenance Of Metocean Buoy