

IMCA Safety Flash 26/17

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.

1 Loss of Sight in Right Eye: Misdiagnosis of Illness

What happened

A crew member on an ocean-going cargo vessel lost the sight in his right eye. He was self-medicating what he thought was a common cold for 4-5 days before he sought help from the Master. The Master initially continued to treat what he also believed to be a common cold.

The crewman had a liver infection which, due to some deficiency in his immune system, quickly spread and affected his right eye. It became apparent that the crewman had a more serious condition affecting his eyes, particularly his right eye.

Medical advice was sought on the radio, and that advice was to administer antibiotics (Septrin) and paracetamol for fever while on board. He was later referred to hospital when the vessel reached port, for further treatment.



Image: <http://healthfacts.ng>

What went wrong/causes

- ◆ The immediate cause was found to be that the crewman did not report to the Master earlier or seek immediate medical attention;
- ◆ A causal factor was that the Master assumed that the diagnosis was not critical – that it was a common cold;
- ◆ The root cause was found to be *'Inadequate Compliance/Tolerable risk – Self-medicating for common cold'*.

Lessons learnt/actions taken

- ◆ Crew encouraged to report diagnosis and seek immediate attention for any medical treatment;
- ◆ Private medication held by vessel crew to be registered with shipboard management and reason for its use to be known to the Master;

Members may wish to review the following incident:

- ◆ [Dangers of medicine abuse](#)

Members may wish to refer to [IMCA SEL 033 – Guidance on occupational health](#)

2 High Potential Dropped Object Near Miss: Object Fell from Cargo

What happened

The Marine Safety Forum (MSF) reports an incident in which a piece of grating weighing 17kg fell from a load. It fell 6-7m to deck. Crew were on deck but not nearby. There were no injuries or environmental impact.

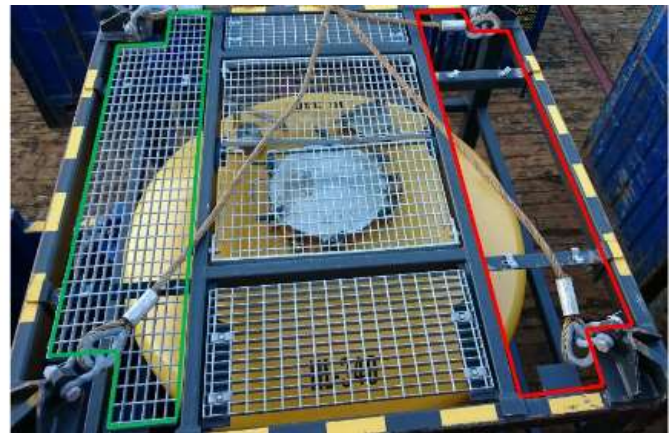
The incident occurred when the rig's starboard crane was tasked with repositioning a cargo tank on the aft deck of the vessel, so it could be secured more effectively before vessel departure. Whilst manoeuvring the lift, a piece of grating from the top of the tank fell from 6-7m to deck. Two deck crew were around 15m forward of where the object landed.

The incident was considered to have high potential. A 17kg object falling 6m and hitting someone would be a potential fatality.

What went wrong/causes

The tank frame has grating sections on the top of the unit to allow crew to get to the hatch on the top. The centre sections of grating hinge to allow the hatch to be opened. The outer sections of the grating are intended to be fixed in place with four bolts and butterfly clips.

On subsequent investigation in port it was found that only one clip was correctly fitted on one side grating and all four clips appeared slack on the side from which the grating fell. One of the clips was also bent.



Lessons learnt/actions taken

- ◆ Instructions were given to the tank vendor to ensure checks are made to the securing arrangements on all their cargo units;
- ◆ The MSF has issued this safety alert to warn all other suppliers, vendors, logistics service providers, road transport companies, vessel and installation crews of **the dangers of unsecured loose objects on cargo units** and the potential for dropped objects. Loading and discharging cargo in an offshore environment is very dynamic often with significant vessel and crane hook motion which may sometimes lead to the cargo unit colliding with other containers or structures, leading to potentially dislodging loose items;
- ◆ This incident aptly demonstrates the importance of vessel and installation crews staying well clear of suspended crane lifts at all times where there is a potential for falling objects.

See [here](#) for the original MSF Safety Alert.

Members may wish to refer to the following similar incidents:

- ◆ [Near-miss: Dropped object from cargo](#)
- ◆ [Loading and securing of cargo](#)
- ◆ [More than a dropped object – The need for vigilance during cargo operations](#)

3 Pin from Crane Block Sheave Guard Fell 25m

What happened

A member of UK Step Change in Safety reports an incident in which a main block sheave guard came loose from the main crane block and fell approximately 25m to the deck below.

The incident occurred when a container was being repositioned on a laydown area. The crane was being used, utilising the whip line and a pennant. The crane main block was not used due to the low weight of the load.

During the lift, a member of the deck crew heard a loud noise. On investigation, he found that the securing pin from a main block sheave guard had come loose, and had fallen to deck. Crane operations were immediately halted and the crane main block was brought to deck level for inspection. The fallen part weighed 0.8kg and fell 25m; it landed 2m from a member of the deck crew. This is could have been a potential fatality on the DROPs calculator.



What went wrong/causes

The sheave guide was secured by a spring clip. The crane block was supplied with this spring clip configuration. It cannot be determined if the clip had failed or was not installed correctly.

Lessons learnt/actions taken

The spring clip on the sheave guide was removed and replaced by a bolted configuration. All cranes in the fleet were inspected to ensure the same configuration was not present; if it was, it was corrected. Suppliers were informed of incident to ensure they no longer supply blocks with this configuration. Planned maintenance tasks were amended to ensure checks are carried out on condition of sheave guards.

The Step Change in Safety 'Safety moment' can be found [here](#).

Members may wish to review the following incidents:

- ◆ Near miss: Rigging recovered with missing nut from tri-plate shackle
- ◆ Near miss: Dropped object fell from crane boom

4 Stored Energy Near Miss: Person Nearly Hit by Equipment Caught During Light Daughtercraft Operations

What happened

A stand-by diver on a light daughtercraft (LDC) was nearly hit by a flying block and tackle, which was thrown towards him by an unplanned release of tension during mooring operations. The incident occurred when a team of divers were carrying out a familiarisation diver rescue drill in preparation to work from an LDC alongside a floating production storage and offloading unit (FPSO). In preparing to return to the mother vessel, the LDC was disconnected from two mooring lines suspended from the FPSO. The forward FPSO mooring line caught under the T-section of a removable diver rescue davit arm installed on the LDC. This created a tension on the arm which self-released, causing the arm to move very suddenly. Attached to the end of the arm was a block and tackle weighing approx. 1.5kg. This was jettisoned at head height and flung towards a bulkhead adjacent to the stand-by diver.

What went wrong?

Investigation concluded that the incident occurred as a result of the LDC drifting forward whilst being made ready for transit, with the diver rescue davit in the deployed position. The deck crew on the LDC were preoccupied in the stowage of equipment and did not notice the LDC had drifted forward to the point where the forward mooring line was midships with the LDC. When the coxswain engaged the motor to depart the worksite, the mooring line had caught under the T-section of the diver rescue davit; when the LDC turned to starboard, the davit arm forcefully recoiled to its stowage position.

What were the causes?

- ◆ The coxswain console is on the starboard side of the LDC and is fitted with a TV monitor for observing both sides of the LDC. The port monitor was not working; the cox could only see the starboard side;
- ◆ The diver rescue davit had been left in the deployed position as a diver recovery drill had just been concluded;
- ◆ The team were under the impression they were required to hurry back to the mother vessel. As a result, preparations for LDC transit were not thorough enough;
- ◆ Procedures for connecting and disconnecting mooring lines to the LDC did not specify that confirmation should be made that all lines were disconnected and the LDC was ready to transit.

Lessons learnt

- ◆ This was the first time that six of the seven divers on the LDC had been involved in the operation and even though all personnel had completed the diving contractor's familiarisation programme, no time had been factored into the schedule for practical exercises;
- ◆ Interim project crew changes were partially staggered to facilitate continuity of personnel, but the number of personnel required to carry out marine type training exercises on the LDC for diving personnel was not defined;
- ◆ This particular vessel is a purpose built LDC and was fitted with a TV monitoring system to allow both the supervisor and coxswain to view deck operations. It was not clear to the crew what action should have been taken if any part of the system was inoperable.



Showing mooring line caught on diver rescue davit in deployed position



Showing tension created on the diver rescue davit by the entangled mooring line



Showing block and tackle recovery device striking bulkhead

Actions taken

- ◆ Revision of task plan to include the requirement to confirm all lines are released and the LDC is ready to depart prior to sail away from the worksite;
- ◆ Elimination of time limits for diver recovery drills;
- ◆ Revision of diving contractors' LDC operating checklists;
- ◆ Procedures for disconnecting moorings revised to include a hold point to confirm the LDC is ready for transit;
- ◆ Revision of LDC coxswain's job description with a more detailed responsibility for management of LDC marine operations and what actions to take in the event of any equipment failure;
- ◆ Revision of company LDC familiarisation procedure to include the requirement for diver rescue drills in sheltered waters as well as theoretical training when the majority of a dive team is changed out.

Members may wish to review the following incidents:

- ◆ [High potential stored energy incident: Inner buoyancy module clamp failure during removal](#)
- ◆ [Lost time injury \(LTI\): Rigger struck by rigging under tension](#)

5 UK HSE: Worker Loses Fingers in Crush Injury During Lifting Operations

What happened

The UK HSE reports that a company has been sentenced after a worker lost his middle two fingers at work. The incident occurred whilst he was trying to repair a main entrance gate. A guide roller on the underside of the gate had collapsed and two employees were tasked by their line manager to make the repair.

What went wrong/causes

The two workers attached a four-leg lifting chain to a fork lift truck to lift the gate, which weighed in excess of 400kg. However, the chains were too long, so they were adjusted using a shortening hook. One of the men used the forklift to lift the gate approximately 45cm above the ground so that his colleague could access the guide roller on the underside. As he reached under to do so the chains slipped and the gate fell onto his hand. He lost the ring finger and his middle finger up to the first knuckle on his right hand.

Lessons learnt/actions taken

The Health & Safety Executive inspector commented that this kind of injury was easily prevented:

The risks should have been identified. Those in control of work have a responsibility to devise safe methods of working and to provide the necessary information, instruction and training to their workers in those safe methods along with effective supervision and monitoring.

Members may wish to review the following incidents:

- ◆ [Finger injury during maintenance work – Restricted work case](#)
- ◆ [Lost time injury \(LTI\): Finger injury whilst working in engine room](#)
- ◆ [Finger injury during loading operations](#)

Please also watch IMCA's short video [Be prepared to work safely – watch your hands](#).

6 US Coast Guard Safety Alert 07/17 – CO₂ hazards

During two recent vessel inspections Coast Guard marine inspectors participated in and witnessed occasions where the testing and maintenance of a CO₂ system resulted in serious safety threats that could easily have led to loss of life.

Incident 1

A chief mate and a Coast Guard inspector were testing the fire detection system. The mate and inspector went to the vessel's hydraulic equipment room and the mate stood on a spare parts box in order to apply a heat gun to the heat actuator. The CO₂ subsequently discharged directly above their heads and filled the room. The mate was overcome by the CO₂ release and had to be revived by CPR after being pulled out of the space unconscious.

The problem was that the mate directed the heat to a 'heat actuator' and not a 'heat temperature transmitter'.

The crew were unfamiliar with the vessel's systems and had not referred to the associated manuals.

Thus, their testing of the system was conducted without an understanding of the impacts of their actions, placing them and the Coast Guard inspectors at risk.

Incident 2

A certification inspection was taking place while technicians were working on the CO₂ system. A Coast Guard inspector in the machinery space was told that CO₂ technicians were going to release the CO₂, which was not part of the planned inspection. He was informed that the system became accidentally primed for release when the pilot system was activated by a technician in training. As the technician was reconnecting the cable-actuated release levers attached to the tops of the bottles, the activation cables remained connected to the levers. When the bottles were moved later in the servicing process, the cable tension increased to the point where the levers were lifted resulting in the release of charged bottles against a closed valve which prevented immediate release into the space.

The technicians ultimately decided they needed to release the entire engine room CO₂ system to remedy the situation. They communicated their intentions to the vessel's engineers, who accounted for all vessel personnel in the space. However, their count was incorrect as they missed a Coast Guard inspector who was still in the engine room. The inspector was found and left the engine room.

As a result of inadequate accountability measures and poor understanding of, and communication of, the hazards involved, the safety of crew members and a Coast Guard inspector was placed at risk.

The US Coast Guard writes:

CO₂ fire extinguishing systems present an inherent risk to the personnel involved with their inspection, testing, and maintenance. Over the years the Coast Guard has become aware of multiple events where these systems have inadvertently released or leaked and caused the deaths of shipboard personnel, technicians and inspection personnel. CO₂ system inspection, testing, and maintenance require thoughtful planning and risk mitigation efforts to prevent such events from happening.

The Coast Guard notes that both of these instances reflect a lack of knowledge and risk awareness by the persons involved. The Coast Guard strongly recommends that:

- ◆ Only persons adequately trained and properly evaluated be permitted to participate in CO₂ testing and maintenance procedures on board vessels;
- ◆ Every person involved must know and consider the resulting outcomes for each step of the testing procedure prior to it taking place;
- ◆ Risks associated with CO₂ and other systems should never be underestimated. Risk prevention activities should always lean towards providing the greatest safety margins for those involved including 100% accountability of all personnel aboard the vessel prior to conducting an operational test of a system.

The Coast Guard has previously released CO₂ related safety alerts. Safety Alert 15-14 recommends conducting a comprehensive pre-test meeting and simulated step-by-step 'walk-through' between involved parties prior to actual testing of complex or potentially confusing systems. Operational controls for those involved should be implemented to maximise safety and reduce risk. Additionally, the Coast Guard strongly reminds all maritime operators of the importance in performing regular vessel specific emergency drills and to ensure that all crewmembers have the proper knowledge, skills, and abilities to respond to any potential emergency.

The alert can be found [here](#).

Members may wish to review the following incident:

- ♦ [Awareness: CO₂ flooding system activation points](#)