

IMCA Safety Flash 21/17

August 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.

Theme: Dropped Objects, Lifting and Cargo Handling

The first three of these incidents are dropped object incidents, the latter two being related to lifting operations. The next two incidents also relate to lifting operations – one covers unplanned movement of a crane during heavy weather, and the other, slips and trips during loading operations. The final incident is an unfortunate fatality during cargo handling.

1 Dropped Object Near Miss – Hammer Dropped from Scaffolding

What happened?

A hammer weighing 1.1kg was inadvertently dropped from height and fell over 12m to the deck. Third party scaffolders were erecting scaffolding along the funnel of a vessel. At the time of the incident, the decks below where the scaffolders were working were barriered off as required by the risk assessment. When moving from one level to the next, a hammer caught on the floor plate and was tipped out of the scaffolder's belt loop. The hammer slipped free from the attached lanyard (see photo), fell and bounced off the handrail of one of the lower decks and came to rest *outside the barriered area* on the forecastle deck. No-one was harmed.

Before the scaffolding contractors had started, it had been identified that they did not comply with company dropped object prevention requirements. The vessel officers and project team informed the scaffolding supervisor and shipyard of the requirements for tool tethers to be used on tools. The scaffolding contractor then bought the necessary equipment to comply with company requirements.

What went wrong? What were the causes?

- ◆ The lanyard and hammer were not suitable to be used together;
- ◆ Due to the inexperience of the scaffolding contractors with working at height tooling, the scaffolder and supervisor did not identify the issue;
- ◆ **The barriers were insufficient** – they were not wide enough and were not in line with the “cone of exposure” guidance provided in the dropped object prevention procedure.



What lessons were learnt? What actions were taken?

- ◆ Although aware of the requirements for lanyards, the scaffolders were not skilled/trained in their use to the same level as the company personnel. When dealing with subcontractors who have different custom and practice, it is important to take a more active supervisory role to ensure things are done correctly and safely;
- ◆ Company requirements were communicated to the yard and scaffolding supervisor verbally at the site. There was no documented transmission of procedures. All documentation should be formally transmitted to all subcontractor's management to ensure that requirements are rolled out from the top down;
- ◆ Members may wish to reiterate:
 - the importance of the “cone of exposure” when dealing with dropped object protection, and ensure that this is discussed and given careful consideration
 - the importance of ensuring lanyards and tool tethers are applied correctly when working at height.

Members may wish to review the following incidents:

- ◆ High Potential Dropped Object;
- ◆ Near Miss: Dropped Object: 6kg Sledge Hammer Head;
- ◆ Dropped Object: Failure Of Lump Hammer;
- ◆ Hammer Dropped From Height.

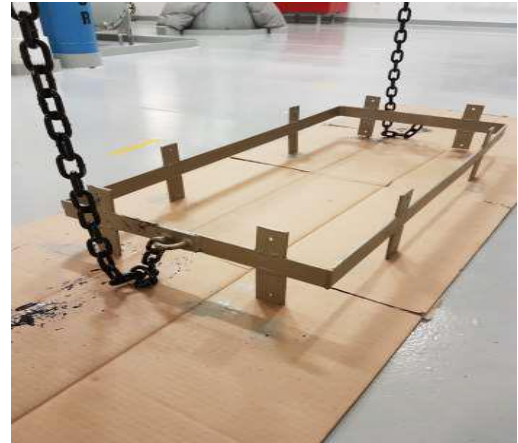
2 High Potential Near Miss: Dropped Object – Buffer Plate Fell from Crane Boom

What happened?

During lifting operations with the main crane, a buffer plate fell from the crane boom. It fell approximately 10m, weighing 70 kg and was 90cm x 40cm. It landed inside the barriered off area on the back deck; there were no personnel nearby. Clearly this could have been a potential fatality had someone been struck by the plate. The purpose of the buffer plate is to be a buffer between the jib and the boom so the steel is not damaged.

What went wrong? What were the causes?

- ◆ The **immediate cause** was found to be that the bolts holding the buffer broke due to metal fatigue;
- ◆ The **root cause** was found to be inadequate or insufficient planned maintenance/inspection. Fatigue in the bolts had been allowed to develop over several years in operation as there had been no proper inspection of the bolts. It was not possible to see damage to the bolts during the visual inspections of the crane which were regularly carried out.



Showing buffer plate and subsequent secondary securing chains

What lessons were learnt? What actions were taken?

- ◆ The bolts used subsequently to re-attach the buffer plate were increased in size from M12 to M14;
- ◆ Secondary securing of the buffer plate was installed to prevent it from falling;
- ◆ On all the members' vessels with similar cranes, the planned maintenance system was modified to include maintenance/inspection of the buffer plate including bolts;
- ◆ A DROPS check of all cranes was made in order to assess for potential dropped objects during operation.

Members may wish to review the following incidents:

- ◆ [Dropped Object Near-Miss: Small Parts Falling From Crane Rest;](#)
- ◆ [Near-Miss: Dropped Object From Crane;](#)
- ◆ [Crane Boom Dropped Object.](#)

3 Bunkering Hose Dropped to Deck – Incorrect Lifting Procedure

What happened?

A bunkering hose was dropped to deck from 11m in the air. A vessel had just completed cargo operations with a supply vessel. The operation had included the transfer onto the vessel of a fuel bunker hose. In preparation for fuel bunkering operations the vessel rigging crew lifted the hose using the pre-installed hose saddles and lifting slings that were attached. When the hose was approximately 11m up, one end of the hose dropped to the deck. No-one was harmed.



Rigging crew positioning during lift

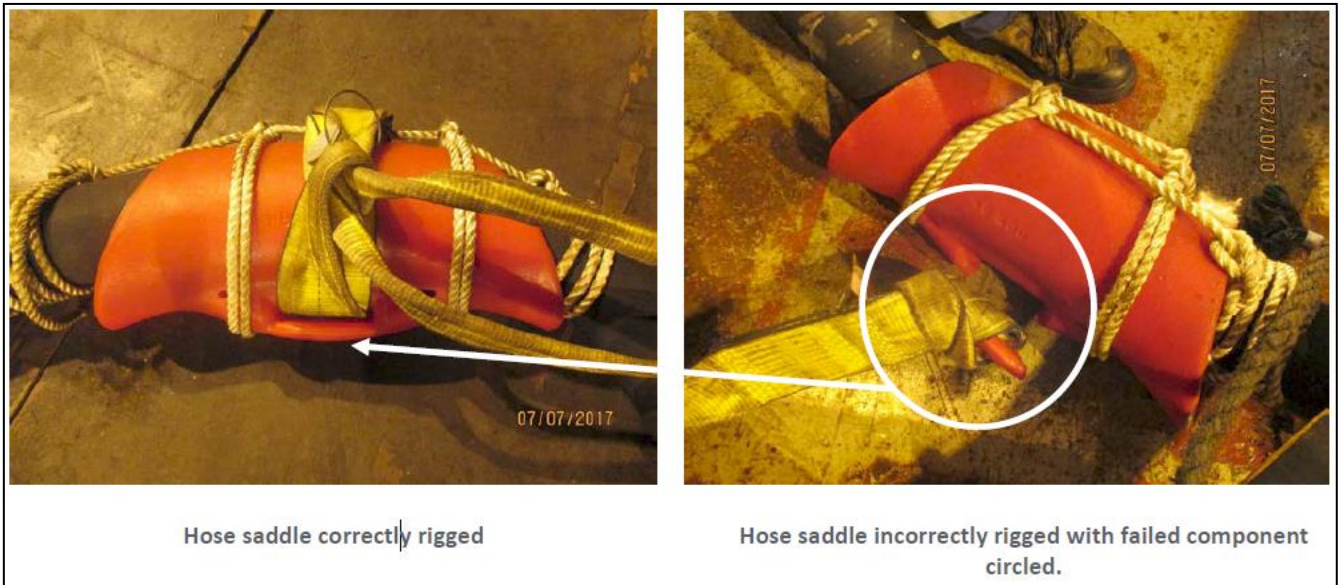


Dropped fuel hose on deck

What went wrong? What were the causes?

On inspection, it was identified that the lifting sling had been incorrectly installed onto the hose saddle. The sling should have been choked around the saddle and fuel hose but instead, was found choked around the non-load bearing urethane sling guide.

Although no-one was harmed, and no-one was stood directly under the load, CCTV footage shows the deck crew being in “at risk” positions during the lifting operation and handling the load for no apparent reason.



What lessons were learnt? What actions were taken?

- ◆ Safe positioning of lifting crew during crane operations – active supervision at all times;
- ◆ Thorough inspection – before use – of all pre-rigged lifting equipment coming from external parties;
- ◆ Reiteration of the importance and the correct use of Lift plans;
- ◆ Stop the job when exposed to unfamiliar equipment!

Members may wish to review the following incidents:

- ◆ [Near Miss: Dropped Torque Tool](#);
- ◆ [Incorrect Lifting Equipment Used](#).

4 Uncontrolled Movement of Crane Block and Pennant During Lifting Operations at Sea

What happened?

During bunkering operations between two vessels at sea, there was an uncontrolled movement of a crane block, resulting in a pennant striking a supply vessel, placing personnel in the line of fire. The receiving vessel’s crane was positioned along the supply vessel’s port side where deck crew were waiting to secure and connect the hose to the rigging. The supply vessel rolled to Port due to sea swell. This caused the crane’s auxiliary hoist block to make contact with the supply vessel’s ROV launch and recovery system platform, which in turn caused the hoist block and attached pennant to swing.

While swinging, the pennant and hook made contact with the work station close to where the supply vessel’s deck crew were stationed. Following the incident, an **All Stop** was called. After the task was reassessed, the supply vessel proceeded to re- route the hose along the main deck. The operation was successfully completed.



What went wrong? What were the causes?

- ◆ Before starting the operation, the following requests were made:
 - route the hose along the main deck aft instead of the port side – rejected by the supply vessel crew
 - use a longer pennant to increase the distance between block and the intended load – rejected by receiving vessel crew who felt the longer pennant would increase potential swing
 - before transferring the bunker hose, the supply vessel requested that the receiving vessel make a heading change to reduce thruster wash as it was making it difficult to maintain station. The heading was changed, station keeping stabilized, and control of the operation was handed to the receiving vessel's deck crew;
- ◆ The two vessels had never previously conducted bunkering operations together;
- ◆ There was minimal communication between the vessels before the job started. The only discussion was regarding the length of the hose (60m required by receiving vessel, as opposed to supply vessel's suggested 30m);
- ◆ There was no comprehensive planning or control of work between departments on board the receiving vessel:
 - engine control room raised a permit to work with a risk assessment covering the operation, no deck officers or deck crew were included in the toolbox talk or signed onto the permit
 - the permit to work was generic for cargo operations.

What lessons were learnt? What actions were taken?

- ◆ Activities involving different departments should be jointly and thoroughly planned with clearly defined roles and responsibilities;
- ◆ Operations involving crews unfamiliar with one another (as on visiting supply vessels, etc.) should be fully planned in advance.

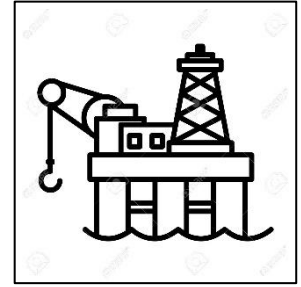
Members may wish to review the following incidents:

- ◆ [Able Seaman Injured When Vessel Moved During Cargo Operations;](#)
- ◆ [Near-Miss: ROV Broke Free Of Cargo Strops During Heavy Seas;](#)
- ◆ [Lost Time Injury \(LTI\): Crush Injury – Arm Trapped By Movement Of Crane Block.](#)

5 High Potential Near Miss: Slip on Tag Line During Crane Operations

What happened?

The Marine Safety Forum (MSF) reports an incident in which a crewman slipped and fell during lifting operations. The incident occurred when a vessel was preparing for cargo transfer to an offshore installation. Two crew were on deck ready to hook a load onto the installation crane. A tag line was attached to the load. As the load was hooked on, one of the seamen was seen to fall to the deck. Crane movement was stopped; the seaman got back on his feet and was uninjured.



The MSF notes that this near miss had a high potential for serious injury:

- ◆ The crane could have lifted the load and it could have collided with the seaman when he had fallen;
- ◆ The crane could have lifted the load and the tag line could have tightened around the seaman's leg lifting him off the deck.

What went wrong? What were the causes?

After hooking on, the seaman had hold of the middle part of the tag line, and took a step back. He stood on the tag line, tripped and fell.

The MSF notes that industry guidelines (Guidelines for Offshore Marine Operations (GOMO)) state that the use of tag lines should generally be avoided. However, it is recognised that certain conditions may require the use of them – this operation required the use of a tag line due to the relatively very light and fragile nature of the item being transferred.

The guidelines go on to state:

- ◆ *All sections of the line, including slack must be kept in front of the body, between the handler and the load;*
- ◆ *Where two or more persons are handling the same line, ALL must work on the same side of the line. Any slack must be kept in front of the group.*

The MSF alert continues: *"It is recognised that utilising tag lines with standard cargo units inherently puts distance between the handlers and tag line due to the dimensions involved. In this case, with a small box to be transferred, the tag line was far closer to the handlers and required further care and preparations to avoid conflict."*

What lessons were learnt? What actions were taken?

- ◆ The MSF notes that additional pre-planning should have been conducted:
 - identify which side of the loads the cargo handlers were to work from and the direction in which they will move away
 - run the tag line at the opposite side of the load and in the other direction;
- ◆ The risk assessment for deck cargo operations was reviewed particularly with respect to the use of tag lines. The crew were formally briefed (and a recork kept thereof) on the contents of the reviewed risk assessment;
- ◆ Additional training in the use of tag lines, particularly when dealing with small or fragile loads, was carried out;
- ◆ Future operations would be more closely monitored from the Bridge.

Members may wish to refer to the following guidelines:

- ◆ [IMCA SEL 019 Guidelines for lifting operations](#);
- ◆ [Guidelines for Offshore Marine Operations \(GOMO\)](#).

Members may wish to review the following incidents:

- ◆ [Tagline Incident](#);
- ◆ [Incidents Involving Poor Crane Operations](#).

6 Fatality During Unpacking of Heavy Electrical Panel Equipment

What happened?

Step Change UK report a fatal incident which occurred during the unpacking of heavy electrical equipment on an offshore production platform. A Variable Speed Drive electrical panel, weighing 1500 kg, was being unpacked from its transit packaging, when the unit fell forward, trapping and killing one of the work party.

The unit was contained within an export type storage package, with removable sides and ends and retaining batons on the long horizontal sides. It was during the removal of these elements that the panel fell forward.

What lessons were learnt? What actions were taken?

Step Change notes:

- ◆ Ensure risks have been suitably risk assessed to “*as low as reasonably practicable*” and that control measures are being effectively implemented;
- ◆ All persons interacting with potentially unstable equipment should ensure that they have an escape route identified in the event that the equipment should become unstable and move or fall suddenly;
- ◆ All persons should **STOP THE JOB** if they consider the risk of potentially unstable equipment has not been suitably risk assessed, or if control measures are inadequate or are not being effectively implemented.

Members may wish to review the following incidents:

- ◆ [Fatality Results From Incorrect Handling Of Equipment](#) [an electrical panel was being moved];
- ◆ [Unsecured Cargo Inside Containers](#);
- ◆ [Stored Energy – Injury Sustained Whilst Removing Metal Straps](#).

