

## IMCA Safety Flash 15/17

June 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](mailto: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](http://www.imca-int.com/links). Additional links should be submitted to [info@imca-int.com](mailto: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.

### Lifting and Rigging

All the below incidents involve failure of lifting, rigging or mooring equipment. In the first, a hydraulic line failure led to a crane collapse. The next two are near misses, one involving someone noticing defects in a subsea lifting wire, the other the high potential failure of a mooring rope. Then we share a National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) alert on issues with collared eyebolts used as lifting equipment, and finish with a Marine Safety Forum (MSF) near miss report of lifting gear snagged on a load.

#### 1 Equipment Failure Leading to Crane Collapse

##### What happened?

A vessel was tied up in port alongside another vessel (double banked). An attempt was made to lift a 20' freight container cabin from a truck, onto the vessel. The crane of the inboard vessel was used for the operation. A hydraulic line burst and the crane head fell on top of the portacabin. As a result, the freight container fell between the jetty and the inboard vessel, and was badly damaged. No-one was injured.

A shore crane was then used to recover the container and place it back on the jetty.



## What went wrong? Investigation and findings

The immediate cause of the collapse of the crane was the failure of the hydraulic line.

## What lessons were learnt? And what were the actions?

IMCA notes:

- ♦ Hydraulic lines might burst at any time. It is of the greatest importance to ensure that regular inspection and replacement of such parts is included in the planned maintenance programme;
- ♦ There were significant control of work issues here which were not addressed, in that the crew of the outboard vessel used the crane of the inboard vessel with no assurance as to its condition or fitness for the operation.

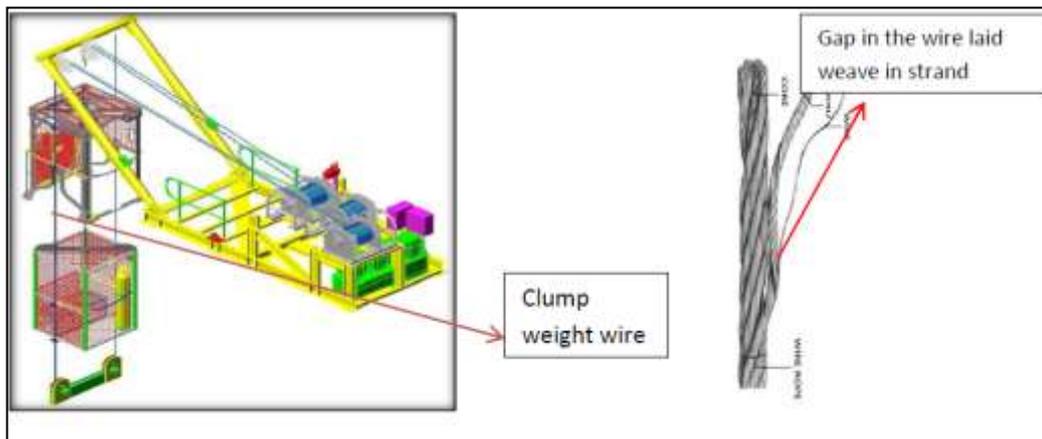
Members may wish to refer to the following incident:

- ♦ [Hydraulic Hose Failure Caused Collapse of Heavy Haulage Trailer.](#)

## 2 Near Miss: Fault Spotted in Subsea Lifting Wire

### What happened?

During diving operations at 10 msw, it was noticed that there was a slight gap in the lay of the diver launch and recovery (LARS) clump weight wire. The diver was asked to visually inspect the affected area. It was observed on the divers' helmet camera, and afterwards confirmed by the diver, that no rope strand was broken, only that there was strand protrusion from the rope lay/weave. The following day the rope was re-checked by the dive team & client and a few strands of the clump weight rope were found to be out of the rope lay/weave.



### What lessons were learnt, and what actions were taken?

- ♦ Ropes should be monitored frequently to avoid stress due to uneven movements and weather conditions, and an appropriate record kept;
- ♦ Ropes and sockets should be inspected before each dive;
- ♦ Any small defects, damage or abnormality on ropes should be reported immediately;
- ♦ Load testing should be carried out as appropriate after any changes and terminations;
- ♦ Precautions should be in place to avoid stress on ropes during diving caused by weather conditions.
- ♦ **Ropes with core or strand protrusion should be immediately discarded or, provided the remaining length of rope is in a serviceable condition, have the affected section removed.**

See [IMCA SEL 019 – Guidelines for lifting operations](#). Members may also wish to review the following incidents:

- ♦ [Damaged wire rope slings;](#)
- ♦ [Partial parting of a bell main lift wire.](#)

### 3 High Potential Near Miss: Mooring Rope Parted

#### What happened?

Mooring buoy rope parted while the vessel was moored. No injuries or damage to the vessel occurred apart from the parted mooring rope. The potential severity of incident was categorized as “high” owing to the potential injuries that could have arisen had someone been in the snap back zone.

#### What was the cause?

Equipment failure following from wear & tear, in turn following from inadequate or insufficient routine inspection. It was evident from inspection after the fact that the condition of the mooring rope was bad.

#### Lessons Learnt/Preventive Action

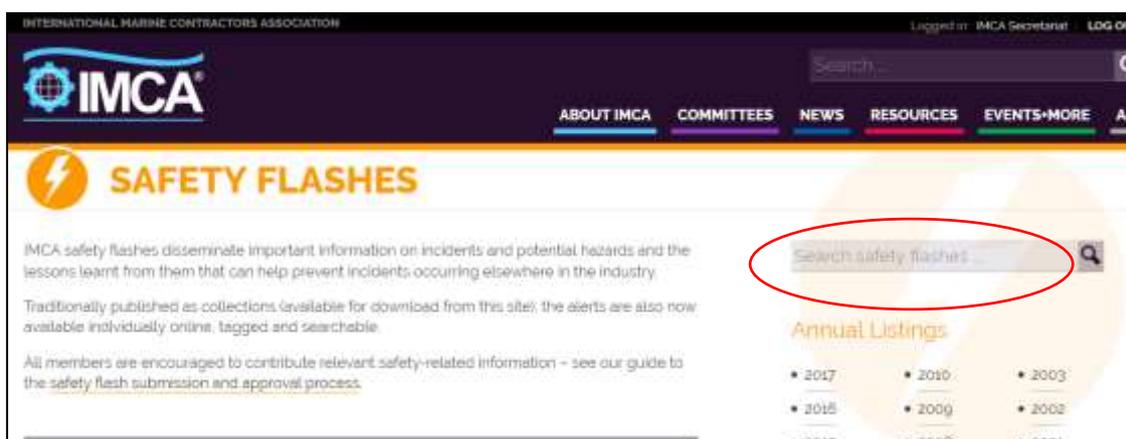
- ◆ Planned and regular inspection of mooring ropes;
- ◆ If mooring ropes are found in poor condition, they should be taken out of use;
- ◆ All crew associated with mooring operations should be properly informed and fully briefed with regard to:
  - the mooring operation in general;
  - checking for defects with the ropes;
  - proper precautions relating to keeping out of the snap back zone.



Members should be aware of existing IMCA documentation as follows:

- ◆ [IMCA SEL 029](#), [IMCA M 214](#) – *Mooring practice safety guidance for offshore vessels when alongside in ports and harbours*;
- ◆ [IMCA SEL 038](#) *Mooring incidents* (video).

Members may wish to review a list of mooring-related incidents – this can be done by visiting the IMCA [website safety flash page](#) and entering the appropriate **search text** (e.g. parted mooring) in the box entitled “Search safety flashes...”



We will highlight two similar incidents here, although in both cases, injury resulted from parted mooring lines:

- ◆ [Lost time injury \(LTI\) during mooring operations](#);
- ◆ [Mooring line failure resulting in serious injury](#).

## 4 Collared Eyebolts as Lifting Equipment

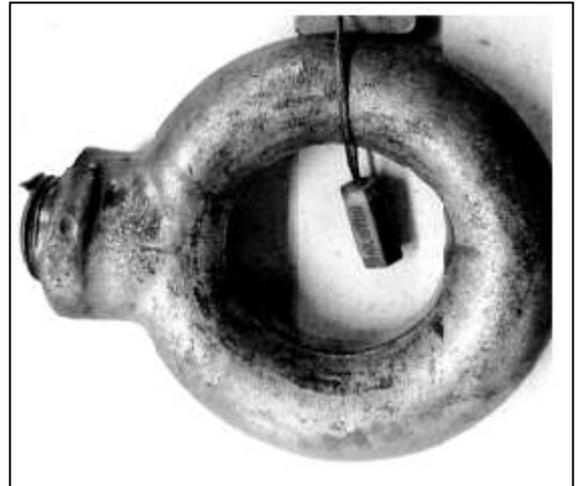
### What happened?

NOPSEMA has published [Alert 64](#) relating to the failure of collared eyebolts when used for lifting. A piece of equipment was being lifted during maintenance and repair, when one of the two collared eyebolts used to lift it, sheared. The piece of equipment, which weighed 21.7 tonnes, fell a distance of 1.2-1.8m. There were no injuries.

### What were the causes of the incident?

NOPSEMA reports that the primary, immediate causes of the incident were as follows:

- ◆ The lifting equipment was configured such that the direction of pull was at an angle to the shaft of the eyebolt, so that a “fleet angle” from the vertical was created. Such an angular load reduced the Working Load Limit of the eyebolt to a significant degree;
- ◆ The collar of the eyebolt was not fully flush with the body of the piece of equipment being lifted, causing a sheering force due to the fleet angle to be applied to the shaft of the eyebolt, instead of the load being spread across the eyebolt and the surface of the equipment being lifted (as per design);
- ◆ A **root cause** identified was **ineffective lift planning**.



The full Safety Alert can be found on NOPSEMA’s [website](#). Members may wish to refer to NOPSEMA’s earlier [Safety Alert 59 Lifting and Rigging Plans](#).

Please also refer to [IMCA SEL 019](#), [IMCA LR 006](#), [IMCA M 187 – Guidelines for lifting operations](#).

## 5 Near Miss: Snagged Lifting Bridle

### What happened

The MSF has published [Safety Alert 17-03](#) in which lifting rigging got snagged on an open top mini basket type unit. The incident occurred on a platform supply vessel (PSV) alongside an installation in calm weather. Whilst discharging an open top mini basket type unit, one leg of the basket's lifting bridle snagged on the bottom corner of the unit, almost causing it to tip over.

The vessel's deck crew immediately informed the installation crane operator when they noticed the snagged bridle, and with some careful manoeuvring the crane operator managed to free the bridle from under the corner of the unit. The basket was then lifted to the installation as normal.

MSF notes: *The vessel deck crew were commended for not rushing towards the snagged bridle to free it, as they could have placed themselves in a potentially hazardous situation.*

### What were the actions?

- ◆ Container manufacturers to consider re-engineering units to eliminate/reduce snagging hazards;
- ◆ The length of the unit lifting bridle will be measured to ascertain if it was too long, leading to this incident;
- ◆ The installation crane operator to be informed about any lifts with a potential to snag;



- ◆ All parties are reminded that good communications between the vessel and the installation crane are essential for safe lifting operations.

Further information and safe operating practices can be found in:

- ◆ [IMCA SEL 019](#) – *Guidelines for lifting operations*;
- ◆ *"Best Practice for the Safe Packing & Handling of Cargo to & from Offshore Locations"* available at [www.onshoreoffshorecargo.com](http://www.onshoreoffshorecargo.com).

Members may wish to review the following incident:

- ◆ [Lifting bridle snagged](#) – Failure to "stop the job" (also from the MSF).