

IMCA Safety Flash 14/17

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) 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.

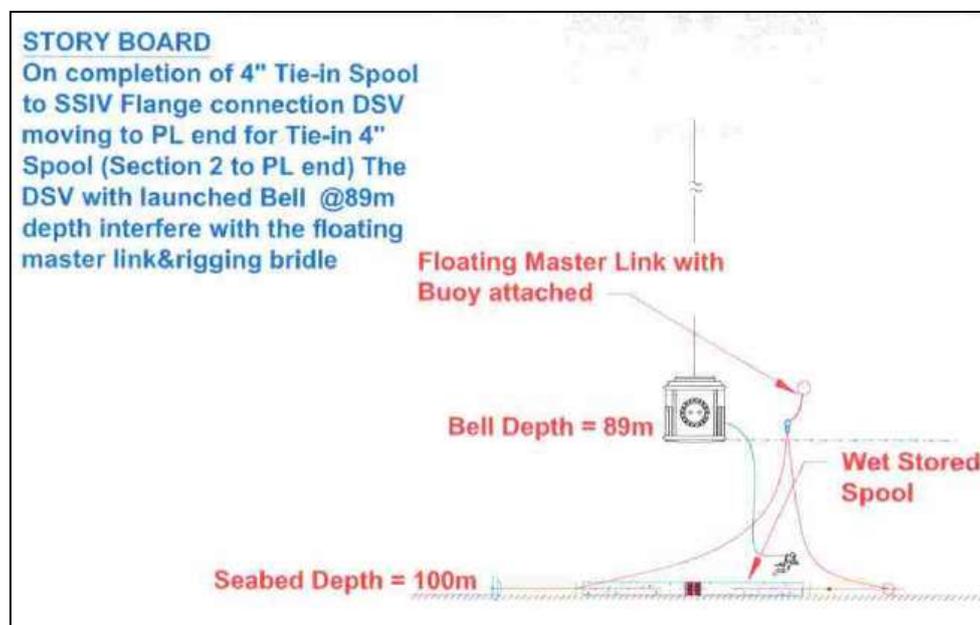
The following incidents have no common theme, though as far as possible, broadly similar issues are grouped together. This safety flash includes four incidents relating to lifting and rigging equipment, chains and towing equipment; an incident relating to the failure of a large casting and the discovery of a huge leak in the fresh water system on a vessel.

1 Near Misses During Diving Operations

Incident 1: diving bell nearly carried into subsea lifting equipment

During a bell run at 90msw a task was completed and the diving support vessel (DSV) needed to relocate to a pipeline end. The move was started with the diver on the bell clump. He called an 'all stop' when he saw the wire rope and four-part lifting bridle approaching the bell.

The vessel move was stopped and a new path to the next job was plotted. The DSV was relocated safely and work continued. There were no injuries and there was no damage to equipment.



Our member noted the following:

- ◆ There was no information available as to the depth of the buoys;

- ◆ There was added risk of umbilical entanglement when the divers passed unknowingly through the wire lifting slings;
- ◆ An ROV was deployed to the worksite and found buoys at 13m above seabed. The bell was being held at 90 msw (10m above seabed).

Members may wish to refer to the following incident:

- ◆ [Near-Miss: Divers Nearly Hit by Weight on Taut Wire](#) [“In undertaking its work, the DP vessel had moved, resulting in the taut wire running above the divers and the subsea structure.”]

Incident 2: subsea dropped object – stud bolt dropped to seabed

A stud bolt 3½” x 1015mm was dropped to the seabed from the vessel side whilst attempts were being made to secure it to a device being prepared for subsea use. Dive control immediately alerted divers on the seabed, who were working on a pipeline flange 16m away from the drop point. The divers cleared out from the job and the bolt landed without harming anyone or anything.

Subsequently a safety stand-down was held at the next bell turnaround. It was arranged for further items to be deployed in a dedicated tool basket.

DROPS online have published a handy two-page reference on subsea dropped objects which can be found [here](#).

Members may wish to refer to the following incident:

- ◆ [Near Miss – ROV Shackle \(potential dropped object\)](#)

2 Near Miss: Broken Chain on Self Propelled Hyperbaric Life Boat (SPHL) Recovery Rigging

What happened?

A self-propelled hyperbaric lifeboat (SPHL) was being lifted to the main deck for an hyperbaric reception facility (HRF) mating trial. During this activity, the aft lifting chain on the SPHL broke whilst transferring the weight of the SPHL from the davits to the crane. The SPHL was approximately 50mm clear of the cradle when the aft chain snapped. At the time of the incident the crane reported an 8 tonne load. The dry weight of the SPHL was 13 tonnes. No persons were in the SPHL or in the immediate vicinity at the time of the incident. There were no injuries.



What went wrong? – Investigation and findings

- ◆ The rigging had been sent ashore for annual testing and failed on-board the vessel, shortly after it had been inspected by a 3rd party;
- ◆ The rigging was not tested as per 3rd party inspection procedures;
- ◆ The rigging was being stored outside in open environment – this will have contributed to the condition of the chain;
- ◆ A canvas sock around the rigging made it more difficult to inspect and see corrosion;
- ◆ A chain link failed at 2 positions and appears to not be deformed – indicating existing crack propagation.

What were the causes of the incident?

- ◆ Storage of the recovery rigging on top of SPHL exposed chain to the external environment – this contributed to the chain becoming corroded;

- ◆ Inspector checked lower links of the chain only and did not inspect the section hidden by the protective cover. The Inspector assumed that he had inspected sufficient percentage of the chain from which to infer the condition of the entire length. Chain under protective cover had significant corrosion.

What lessons were learnt? And what were the actions?

- ◆ All chain slings older than 12 months to be destroyed;
- ◆ SPHL recovery rigging to be stored below decks and fitted only when SPHL is required;
- ◆ Audit to be conducted of 3rd party to ensure compliance with inspection procedures. Improved liaison and communication with 3rd party auditor.

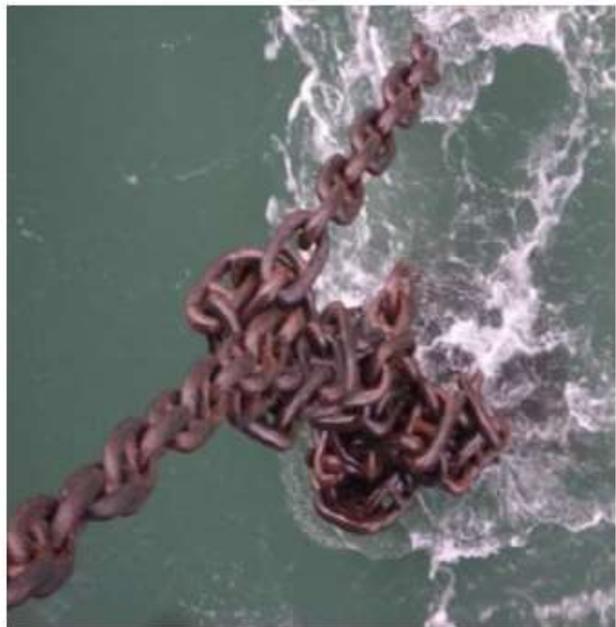
Members may wish to refer to the following incidents:

- ◆ [Near-Miss: Broken Chain On Sling Of Personnel Lifting Basket;](#)
- ◆ [Hyperbaric Lifeboat Emergency Lifting Chain Link Failure.](#)

3 Both Anchors Lost Due to Chain Fouling

What happened?

A vessel had used both anchors whilst waiting for 3 days off the coast. Both chains were fouled and could not be cleared by the vessel. External assistance was provided but owing to the weather and sea conditions, the anchors could not be cleared, and both chains had to be cut. Attempts at retrieval of the anchors from the seabed were unsuccessful. The vessel lost both her anchors with one length of cable on the port and two lengths of cable on the starboard side anchor.



During anchoring and anchorage time, wind speed was less than 15 knots. There were strong diurnal tidal currents approximately 2.5 knots at the anchorage area.

Both anchors had to be cut free and arrangements made for the vessel to go alongside for repairs. The vessel was off hire for 12 days.

What went wrong?

- ◆ The Master, based on his previous experience, had the vessel use both anchors to reduce the swinging speed and angle of yaw of the vessel;
- ◆ There was inadequate discussion between the bridge team and anchoring team before anchoring;

- ◆ There was not an effective anchor watch maintained.

Recommendations to prevent recurrence

- ◆ More effective communication and meeting between bridge and anchoring teams before anchoring;
- ◆ More thorough planning and risk assessment before arrival into the anchorage or when deciding to remain at anchor.

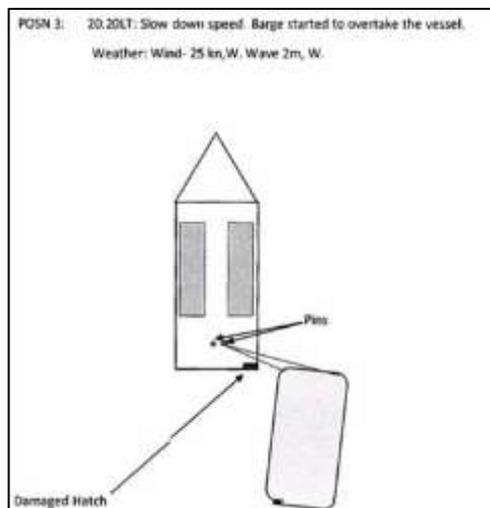
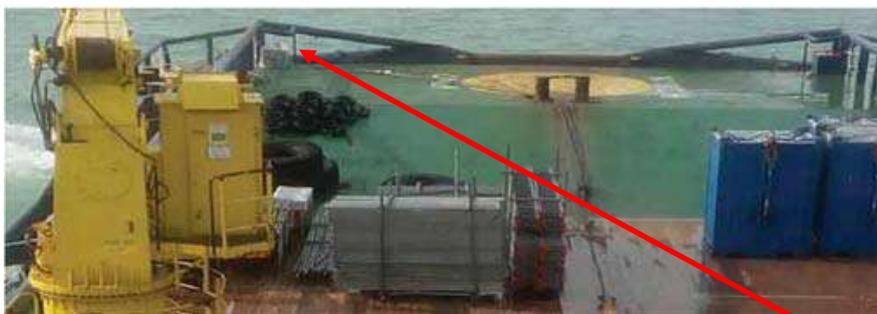
4 Engine Room Emergency Hatch Damage

What happened?

An anchor handling tug supply (AHTS) vessel, whilst towing a barge, encountered heavy seas (wind on the beam, 25 knots, waves, 2m) and began to roll heavily. In order to avoid damage to the barge, the Master decided to slack off the towing wire by 10m. As soon as the vessel and barge came to calmer water, speed was picked up to 6-8 knots. Then, for other reasons the Master had to reduce the speed of the vessel again. The momentum of the barge was such that it continued to move in such a way that the towing line caught the open hatch of the emergency exit from the Engine Room, which had been kept open at sea.

What went wrong? Investigation and findings

- ◆ All watertight openings were not physically inspected before sailing to ensure they were secured for sea, despite requirements in company operations manual that this should be done;
- ◆ Crew had decided to keep the Engine Room hatch open due to insufficient Engine Room ventilation leading to a high air temperatures, in turn leading to alarms being triggered;
- ◆ The problem with the ventilation system in the Engine Room had been experienced for a long period of time, but had not been reported to the relevant parties nor any investigation conducted;
- ◆ The original stern fenders of the vessel had been temporarily replaced by smaller fenders, which made it difficult to keep the towed barge tight to a stern of the vessel while towing.



What lessons were learnt? And what were the actions?

- ◆ Any defect or abnormal condition onboard should be reported immediately to relevant parties;
 - the problem with engine room ventilation system would be investigated. A new hatch to be fabricated and installed as soon as possible;
 - further training provided on board emphasizing importance of timely defect reporting;
- ◆ Original fenders would be reinstalled at stern for safer towing operations;
- ◆ Further coaching and training provided on board to ensure proper physical inspection of all watertight openings before sailing.

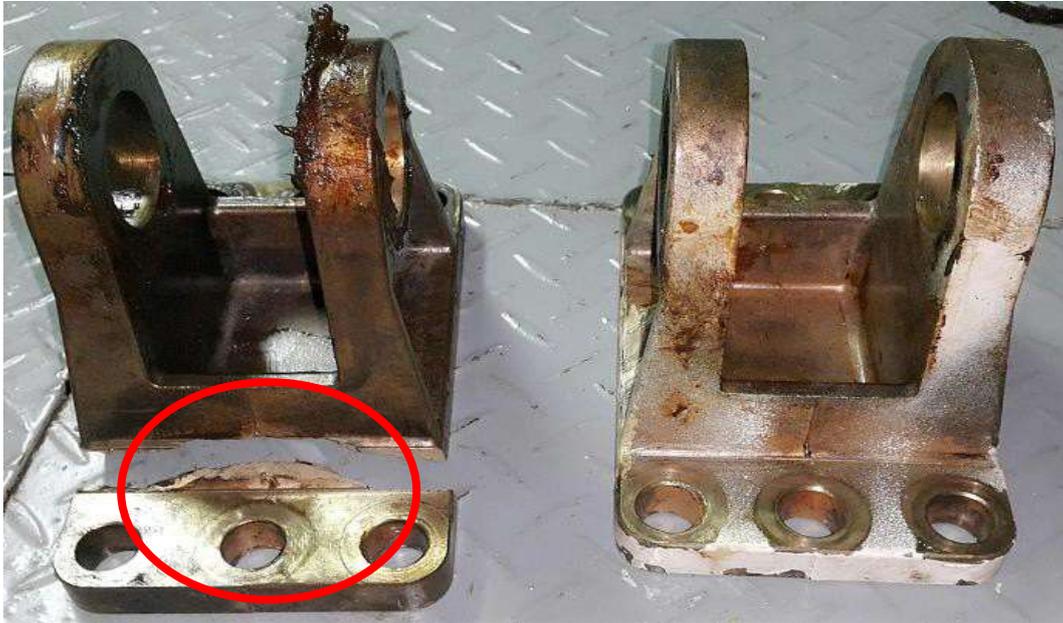
Members may wish to refer to the following incident:

- ◆ [Don't lose your tow in heavy weather.](#)

5 Failure of Casting: Foundation Brackets for Steering Gear

What happened?

Damage was reported to the steering gear hydraulic ram foundation brackets connecting the ram to the structure of the vessel. The foundation bracket casting failed.



What went wrong? Investigation and findings

- ◆ The failed brackets were of a cast bronze design and by nature of the material were unable to withstand shock loads;
- ◆ It can be seen in the above photograph that the casting had a design flaw whereby there is no radius where the main body meets the flat mounting plate. The clearly shown sharp corner results in a stress raiser where the crack has occurred;
- ◆ Subsequent inspections across the fleet revealed several vessels with damaged brackets.

What lessons were learnt? And what were the actions?

- ◆ Thorough inspection of steering gear ram foundation brackets for cracks is recommended;
- ◆ Appropriate modification of vessel planned maintenance system to include this visual inspection;
- ◆ Our member noted that later vessels have brackets fabricated using welded steel plate.

Failure of welding (search “weld failed” on the IMCA website <https://www.imca-int.com/alerts/search-safety-flash/?swpquery=weld+failed>) yields a number of incidents, but failure of an actual casting is less commonplace.

6 Huge Leak Discovered in Fresh Water System

What happened?

Daily soundings of fresh water tanks on a vessel revealed that they were emptying fast – 35 tonnes over 24 hours. A thorough check was conducted of all cabins including the hospital and cabins not currently in use, and no leak or open tap was discovered. Engineers checked all possible valves on the system for leakage, and made a double check of all tanks, which when compared with the previous sounding, found that there was no change in reading – the water was gone; it was not an error of measurement.

What went wrong? Investigation and findings

It was noticed in due course that water was flowing continuously from an overboard discharge on the port side. The galley, laundry room and mess room were thoroughly checked once again. A bain-marie (the device used to keep food warm at the serving point in the mess) inlet and discharge valve were left open. Since there was no overflow from the bain-marie, the leak had not been detected at first.

What were the causes of the incident?

The root cause was considered to be inadequate supervision.

What lessons were learnt? And what were the actions?

A poster with location of valves for bain-marie with marked close/open position was displayed in the mess room and the operation of the valves explained to mess crew.

Members may wish to refer to the following incident:

- ◆ [Near-Miss: Unexpected Water Ingress During Fault Finding Of A Cracked Water Pipe.](#)