IMCA Safety Flash 12/20

March 2020

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 Chain Hoist Failure Resulting in a Serious Near Miss

What happened?

Applicable Life Saving Rule:


During maintenance of a vessel's main engine there was a requirement to remove the charge air cooler weighing 400kg. The third-party contractor who was tasked with the maintenance job was in the process of lifting the item when the (electric) chain hoist failed, resulting in the load dropping two metres to the engine room deck plating.

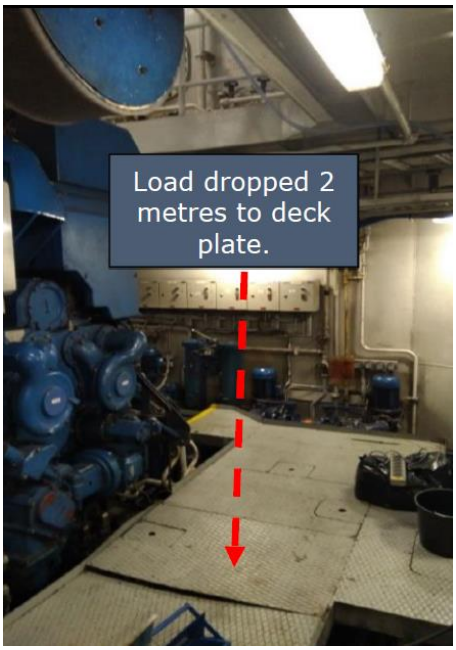
Hoist clutch plate (overload device) showing extensive corrosion on friction bearing surfaces.

The chain hoist used for the vertical lift (SWL 500kg) was permanently installed on an engine room running beam located specifically to facilitate this type of operation. After the incident, the hoist was quarantined and analysed by a third-party specialist company in order to establish the cause of failure.

What were the findings?

The inspection and maintenance regime for the hoist was within date but was considered inadequate as it only involved a visual inspection and function test (without load).

The unit was infrequently used and was not subjected to internal inspection; this allowed the internal braking mechanisms to suffer corrosion, and this prevented the braking function operating properly when under load.



The above resulted in the clutch failing to hold the load, lowering the charge air cooler to the engine room deck plating in an uncontrolled and rapid manner.

Good planning and rigging practice were observed by the lifting team, personnel were in 'safe zones' during the lift and not in the line of fire. Slight damage to the deck plating was observed.

What actions were taken by our member?

- Full inventory made of all powered hoists (pneumatic and electric) to include both chain hoists and wire hoists and not restricted to permanently installed units;

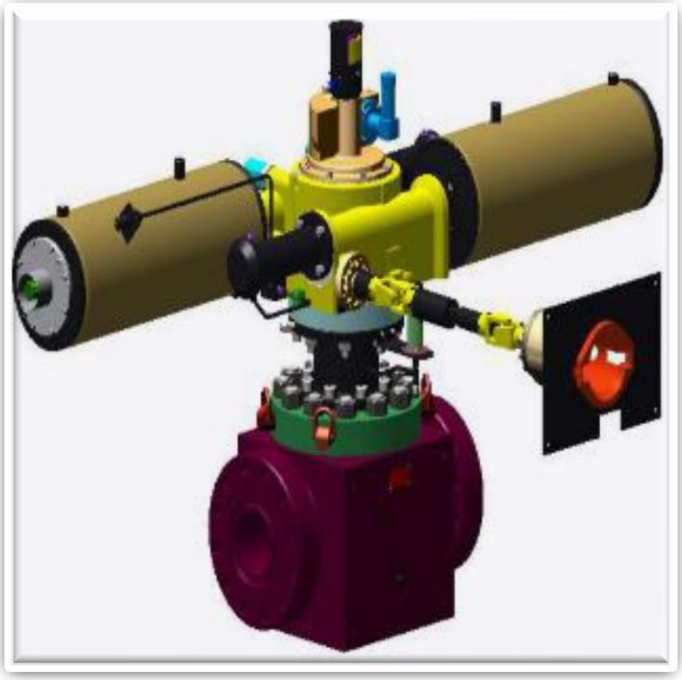
- Additional relevant maintenance scope added to planned maintenance scopes for all these devices;
- Powered hoists fitted with overload devices should be set at working load limit +10% and checked annually as part of the planned maintenance regime.

Members may wish to refer to:

- Failure of bell winch clutch coupling during bell recovery

2 Potential for Diver Injury Operating a Hand-Held Torque Wrench

What happened?



A diver was involved in a near miss that could have resulted in serious injury when he was asked to function an ROV valve override on a subsea isolation valve with a hand-held torque wrench.

A diver was asked to operate an ROV override switch with a hand-held torque wrench. The operation was observed by a third-party technician who intervened and stopped the job. The use of a hand-held torque wrench to operate an ROV override on the valve was inappropriate due to the possibility of a sudden uncontrolled unwinding of the spring mechanism, which could have caused the torque wrench to rotate and hit the diver.

What went wrong?

- The warnings on the GA (general assembly) drawing stating that hand-held tools should not be used were ambiguous and were missed;
- The valves procedure issued by the client did not include a warning or highlight the dangers of using hand-held tools to operate the ROV override;
- Engineers were not issued with the appropriate installation operations manual, which included warnings not to use hand-held tools;
- The assumption was made that a hand-held torque wrench could be used. Our member notes that similar incidents have occurred within the organisation.

What actions were taken?

Any operation of an ROV override on a double actuated spring ¼ turn ball valve (fail safe) should not be operated with a manual hand-held torque tool, unless there is clear confirmation from the client or the valve manufacturer that it is safe to do so.

Members may wish to refer to:

- LTI: Contact With Refrigerant Gas Causing Hand Injury
- Serious Finger Injury: Procedures During Engine Maintenance
- LTI: Injury To Right Wrist

3 Near Miss: Engine Room Hatch Left Open Without Barriers

What happened?

During routine maintenance, it was reported that the engine room hatch was left open with no physical barriers around, creating the potential for serious injury if distracted persons were to fall down the hatches.

What went wrong?

A crew member who was on the deck left the area for an urgent task *forgetting to implement the control measures identified*. [IMCA italics]

What were the causes?

The hatch was not closed when not in use – if the hatch was required to be left open, suitable barricades and warning communication should have been in place.

What were the recommendations? What actions were taken?

A safety meeting was conducted emphasising the potential fall hazards and the requirement to **STOP WORK** when unsafe conditions are identified.

Members may wish to refer to two incidents highlighting the importance of not forgetting and not getting distracted:

- Two near miss incidents with a risk of scalding [lesson learnt: *crew on-board had already acknowledged the hazard, but the learning had not been implemented into daily work and routines. Constant reminders are required as time goes by, basic safety issues could easily be forgotten*.]
- Near miss: onboard O_2 bottle leaked into diving bell [what went wrong: *the Bellman got distracted during bell pre-dive checks*…]

Applicable Life Saving Rule(s):

4 Worker Fell from Height and Suffered Life Changing Injuries

What happened?

A worker was paralysed from the waist down when he fell 3.4 metres to the bottom of a ships hold. A 28-year-old worker, a stevedore employed to unload a merchant vessel at Hull, UK, lost his footing and fell through an access ladder gap in the walkway.

What were the causes? What went wrong?

HSE investigation found that for the stevedores to inspect all the cargo from port to starboard it was custom and practice for them to step over an access ladder gap on the walkway to get to the other side. The stevedore made his way along the walkway and went to step over the gap. He was astride the gap, holding onto the guard rail, when his high-vis jacket got caught on an eyebolt on the rails. He took his hand off the rail and turned to free his jacket when he lost his footing and fell through the gap to the bottom of the hold.

The HSE inspector commented: *"Falls from height often result in life-changing or fatal injuries. In most cases, these incidents are needless and could be prevented by properly planning the work to ensure that effective preventative and protective measures are in place."*

Members may wish to refer to:

- LTI: Hand Injury Resulting From Clothing Catching On Door
- Fatal Fall From Height On-Board Seatruck Pace In Liverpool In December 2018

5 Agitator Started Moving During Mud Tank Cleaning – Leading to Injury

What happened?

An agitator in a mud tank started up when an employee of a third-party contractor working in the tank was in the way. He was hit by the agitator paddle in his lower back and fell to the tank floor.

The contractor came on-board to wash mud tanks with a high-pressure washer. Mud tanks on the vessel had been emptied earlier in the day and agitators were running until the tanks were empty. The agitators were stopped on bridge IAS only and had not been isolated or locked out. As the last of three tanks was being washed, the agitator (42rpm) suddenly started with one person inside the tank. The person was hit by the agitator paddle in his lower back and fell to the tank floor. He had his back to the agitator at the time and didn't notice it starting. He managed to climb out of the tank by himself and was transported to hospital by ambulance. He was discharged the same day with bruises and one broken rib.

Picture of bridge IAS control left and properly isolated control valve hydraulic flow right

What were the causes?

Investigation found several direct and contributing causes for the incident:

- Procedures concerning isolation of moving or rotating equipment were not followed:
  - isolation of the agitator was simply forgotten even though there was no rush to start work, nor were the bridge crew particularly busy
  - an isolation certificate was consequently never issued
  - there were no properly implemented routines for isolation when initiated by bridge;
- Risk assessment contained check of isolation, but was not thoroughly reviewed;
- The third-party company had in their procedures to verify/check isolation, but this was not done as this was considered a vessel responsibility;
- There was not full involvement of the engine department in tank washing operations, as isolation requests were usually initiated on the bridge, i.e. they had no independent sense of responsibility and merely acted on bridge initiative to isolate equipment;
- The agitator started by itself, for as yet unknown reasons. Investigation is ongoing as to the technical cause, but this is considered less important as the incident would never had happened had the agitator been isolated as per procedures.

What actions were taken?

- **Physical verification** that safety isolations and barriers, controls and lockouts are in place – double check;
- Focus on how to **improve compliance with existing procedures**;

- **Review relevant risk assessment**;
- **Better communication** between bridge department and engine department, particularly relating to tank maintenance operations;
- Improve isolation routines to include lock and tag and issuance of isolation certificate;
- Third-party tank washers will **improve their procedure** to include physical verification that agitators are properly isolated before entering tank.

Members may wish to refer to:

- Fatal accident in connection with the operation of an A-Frame based launch and recovery system (LARS) used For ROV Operations *[the combination of technical and human error had resulted in an unfortunate breach of barriers causing the fatality]*
- Near Miss (HIPO): Engine started and running whilst crew member working on shaft generator *[lesson learned: the necessity for a permit to work (PTW) and isolation of equipment should have been identified. This would have ensured proper isolation of equipment, ensured that bridge and engine control room (ECR) personnel were informed of on-going work, and ensured the crew member could complete the task with all safety precautions/barriers in place]*