IMCA Safety Flash 29/20

October 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

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1 Crane hydraulic hose caught on protruding grease fitting

Applicable Life Saving Rule:

Bypassing Safety Controls

Safe Mechanical Lifting

What happened?

While retracting the outer jib of the boom during crane operations, one of the hydraulic hoses caught on the protruding grease fitting of the boom bearings, which could have led to a failure of the crane and hydraulic oil spill due to hose rupture.

Hydraulic hose caught on the protruding grease fitting

Correctly secured hydraulic hoses

What were the causes? What went wrong?

The hydraulic hose routing on the crane boom was incorrectly lined up allowing the excess of the hose to catch the grease fitting – there was insufficient pre-use inspection of the crane.

Actions taken

- Stop Work Authority was used by Master and crane operations were suspended until a fix could be arranged;
- The hose was fixed in a correct way to prevent it catching;
- Proper pre-use inspection should be conducted before each crane operation;
- Check your own cranes for the possibility of snagging or catching of this sort.

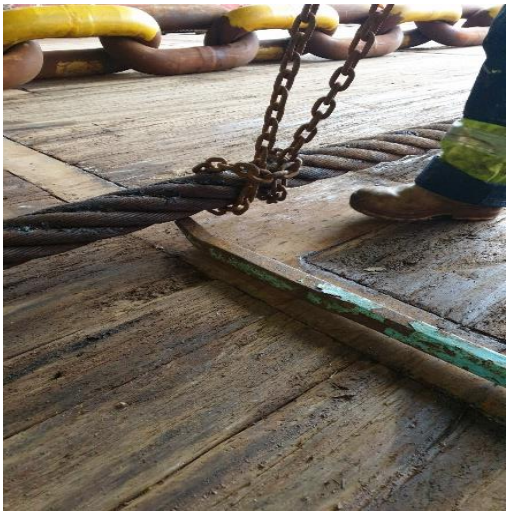
2 Crushed finger injury during wire transfer operations

What happened?

Applicable Life Saving Rule: Line of Fire

Able seamen were assisting with overboarding an ROV hook (connected to the lower drum tow wire) over the stern of the vessel until it could run freely on the winch. The socket and ROV hook were already over the stern but the wire needed assistance to run freely. The tow wire was dragged down the deck with the capstan by using a stopper chain double-choked around it. When the wire started running freely over the stern it was all stop on both the capstan and the winch (tow wire).

The crew then used a crowbar to try and free the stopper chain from the wire. This was done by inserting the crowbar underneath the wire to lift it up from the deck. One of the AB's was removing the stopper chain whilst the crow bar held it up. Unfortunately, the crowbar was removed too early resulting in the wire falling to the deck whilst his hand was still underneath it. This resulted in a crush injury to the left index finger.



Crowbar used to support the tow wire

Disconnection of the chain (post-incident solution)

The job was immediately stopped and the injured person was taken into the vessel hospital to be assessed by the medical team offshore in communication with the onshore medical advisory service. The vessel sailed into port for assessment of the finger injury at the hospital.

What were the causes?

Our members' investigation revealed the following:

- The size of the chain stopper wrapped twice around the tow wire made access difficult for removal without placing a hand underneath the wire;
- The tow wire was heavy and difficult to move;
- There was no alternative means available to move the tow wire;
- Complacency – "task seen as routine":
  - It was not foreseen that the tow wire would move;
  - This was a routine activity completed many times before;
  - This method was viewed as "standard practice";
- The risk assessment was not reviewed:
  - It did not identify that there should be verification of 'hands clear' before the crowbar was removed;
  - There was "normalisation" of the perception of risk of finger entrapment not identified;
  - A failsafe for the tow wire slipping was not identified.

- Stop Work Authority was not discussed nor seen as part of dynamic risk assessment;
- There was poor situational awareness of the line of fire hazard.

Lessons learned

- Ensuring that where hazards for hand entrapment exist, a suitable assessment of the risk is completed and communicated to all parties involved;
- Re-emphasise the importance of ensuring that hand and fingers remain out of the line of fire.

Members may wish to refer to

- Finger Injury while using a crowbar to try to shift a large shackle
- Line Of Fire/Pinch Point – Fractured Fingers
- Lost Time Injury (LTI): Finger Injury Whilst Working In Engine Room

3 Oil production riser gas ignition

What happened?

During recovery of a 10" oil production riser at an FPSO, gas in the riser bore ignited and a smoke cloud was seen on deck in the vicinity of the shear cutter. The vessel Master was on the bridge and saw the occurrence. Crew were working nearby on the HLS (horizontal lay system) and work platform removing buoyancy modules and inner clamps.

The pre-cut subsea hog bend slit on the riser was below the work platform at this point; hot work was being carried out approx. 1 metre above to remove retaining bands. Three crew were forward working with a forklift and positioning buoyancy modules into open top containers, when a noise was heard on deck.

There were no injuries and no damage to equipment.

Time	Event
22:10	Cut taken of 10 " Oil production riser with shear cutter, crew working on the horizontal lay system platform removing buoyancy with gas torch, three others working on deck positioning buoyancy modules into open top containers using a forklift.

22:17 Noise heard coming from the area of shear cutter. Master was on the bridge and saw “smoke”, crew on deck heard a loud crack and thought a hydraulic hose from the shear cutter had burst.

22:40 Deck was cleared; carried out readings in the area of shear cutter and HLS platform / moonpool, and no traces of any combustible gases, only CO (smoke)

23:15 Full discussion of event on the bridge with OM, Master, SS and CR.

23:25 Returned to deck and met with foremen and deck crew and suggestions offered on way ahead and what occurred. As part of this discussion the point was highlighted that the pre-cut “ slit” in the riser was below the area where hot work was being carried out and would have been a path for a spark that entered into the riser bore and could have ignited any gases inside

23:40 The riser recovery risk assessment/job safety analysis was revisited and updated and further mitigations for carrying out work on deck were raised:

1.Keep area around shear cutter well clear during all cutting operations , on both sides;

2.Do not bag ends of cut sections to avoid being in the riser cut section area (the bags serve little purpose as they rip when the riser is pushed along the chute);

3.Readings to be taken before and after cuts and at HLS platform and report on any combustible levels, with any further action as required.

4.Attempt to always use low pressure air-driven tools [“windy gun”] for removal of buoyancy modules and inner clamps, and avoid hot work. If hot work required attempt to use a grinder (this type of cut can bring its own hazard to manage as the clamp bands can spring when cut)

5.Shear cutter “water mister” to be engaged when cutting.

00:05 Client rep. notified on plan ahead and revised risk assessment/job safety analysis reviewed with all nightshift deck crew.

00:20 Deck crew return to recovery and cutting operations

What were the causes? What went wrong?

Our member’s analysis brought the following results:

- **Underlying cause:** A slit was completed to mitigate an identified hazard, however it also introduced a new hazard that resulted in current incident. This hazard was not identified in HAZID or HAZOP & Risk Assessment sessions onshore. New elements were introduced to the procedure without identifying the new risk. When introducing new elements to a procedure, all consequences (if any) must be investigated
- **Immediate cause:** Ignition of gas in riser bore with smoke exiting at shear cutter end due to spark from hot work being carried out at the HLS platform – opposite end
- **Root Cause:** Slit in riser outer sheath through into riser bore allowed air ingress and gave a path for any hot sparks to ignite any residual gas in the riser bore

Members may wish to refer to

- Gas Release From Pipeline During Diving Operations
- Near Miss: Gas Release From Subsea Pipeline
- Fire In Incinerator Exhaust Gas Manifold
- HSSE 001 *Guidelines for management of change*

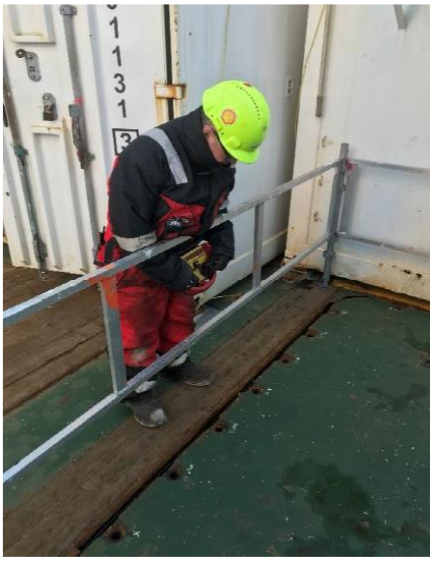
4 Dropped object - wireless crane control unit

What happened?

A dropped object event occurred when a crane wireless remote control unit fell from the main deck to the ROV winch room deck below. An operator was controlling a 3 tonne crane with a wireless remote control unit (1.5kg) strapped to his waist. As the operator stood at the edge of the hatch to view the crane hook, the belt buckle failed, and the remote-control unit dropped almost 7 m to the ROV winch room deck below.

Applicable Life Saving Rule: Line of Fire; Working at Height

Two riggers assisting the crane operator were in the ROV winch room. Both were correctly positioned well outside the DROPS exclusion zone.



Position of the operator at the hatch

Fall path and final position of the wireless crane control unit

Upper: undamaged belt buckle
Lower: belt buckle post-incident

What were the causes? What went wrong?

The wireless remote controller was secured around the waist of the crane operator by a belt with a plastic side release buckle clip (securing mechanism). The original manufacturer's securing mechanism was used. Given the age of the crane, it was estimated that the belt was approximately 10 years old. The service logs did not indicate any changes, replacement or repairs to the remote unit or the belt.

For six months prior to the incident the remote control unit was stored in a dry store without direct sunlight. It could not be determined where it was stored before that.

Actions

- Include inspection and replacement of securing mechanisms within PMS (planned maintenance systems);
- Inspect securing mechanisms of wireless remote-control units and consider the use of a secondary retention strap such as a DROPS lanyard;
- Review the application of kick boards around hatches and areas with the potential for dropped objects;
- Reinforce the importance of pre-use visual inspections of equipment.

5 Positive: parted mooring lines spotted before damage could occur

What happened?

Two barges were tied up and moored at an anchorage. Crew were working on a third barge when they spotted the unusual position of another barge, and suspected that a mooring line had parted.

Mooring line broke

Barges untied

In this particular anchorage there were a number of unmanned barges all tied to mooring buoys. Noticing that there was a serious problem and spotting the damage required a sharp eye and more than that, a high sense of responsibility. The unsafe condition reported to the office; the damage to the mooring line damage was confirmed by one of the company's tugs, and the damaged line replaced.

Our member took the following actions:

- Continued encouragement of acts of responsibility for company and other assets among all personnel;
- Nominated crew of the barge for appropriate recognition and reward;
- Made arrangements for regular rounds of the anchorage to check the condition of laid-up barges, especially before forecast high wind speeds;