IMCA Safety Flash 22/16

September 2016

Summary

This safety flash has no common theme or focal point other than to bring to members' attention some basic safety principles in a number of different areas of work. The first incident is a confined space fatality of the most tragic and frequent kind, where someone lost his life going in unprepared, to rescue someone else. The second incident is a "line of fire" near miss where someone unwittingly placed themselves in the bight of a cable.

The third and fourth incidents are from the UK Marine Safety Forum (MSF). One is a dropped object near miss, the other, a cargo handling incident highlighting the importance of "stopping the job" in unsafe conditions. The fifth incident, from Seaheath.dk, covers an equipment failure which led to someone being severely scalded.

1 Confined Space Fatality – *Sharp Lady*

The Isle of Man Ship Registry has published Casualty Investigation Report No. CA118 on a confined space entry fatality that occurred on a crude tanker. The incident occurred after discharging crude oil. Equipment was lost at the bottom of a tank. It was decided that once the discharge was finished and crude oil washing completed, the equipment should be retrieved before loading the next cargo into this tank, to avoid any potential damage to the ship's equipment.

The Chief Officer and Cadet entered the cargo tank after an enclosed space work permit and risk assessment had been completed. When the Chief Officer and Cadet reached the bottom of the cargo tank they felt debilitating effects of hydrocarbon vapour present at the lower level of the cargo tank. Both the Chief Officer and Cadet attempted to activate their Emergency Escape Breathing Devices (EEBD) and exit the cargo tank.

The Master observed the Cadet in difficulty and quickly entered the tank, ignoring the advice of a fellow crew member. The Chief Officer successfully exited the cargo tank but the Cadet had collapsed unconscious on the tank bottom. When the Master reached the tank bottom to aid the Cadet he was overcome by hydrocarbon vapour and collapsed.

The alarm was raised and a rescue was quickly initiated. The Master and Cadet were retrieved from the bottom of the cargo tank and brought to the main deck where first aid was administered. The report concludes that the Master died and the Cadet was injured as a result of entering the cargo tank containing a concentration of hydrocarbon vapour at the bottom of the cargo tank. The ship's safety procedures for enclosed space were not

fully complied with and the risk posed by the hydrocarbon vapour measured in the cargo tank was not appreciated by those involved in the tank entry preparations.

The report also concludes that opportunities were missed on board to stop the tank entry by several crewmembers and that the death of the Master could have been prevented had the safety procedures on board been followed in full.

The full report can be found here. A summarised version of this report has also been circulated by the Nautical Institute MARS system – please see here.

Members are reminded of IMCA's safety material – safety video IMCA SEL 034: W*orking in confined spaces*.

2 Near Miss During Cable Handling – Standing in the Bight

A member has reported a near miss potential "line of fire" incident during cable handling operations in which a member of the deck crew stood close to a heavy duty cable that was about to come under tension. With the recovered cable bight secured to a deck stopper, one of the deck crew was working in the vicinity of the cable just prior to cutting the bight. The Master observed the crew member's unsafe position and exercised a "stop work" to prevent potential injury.

Diagram outlining positions at the time "Stop Work" was exercised;

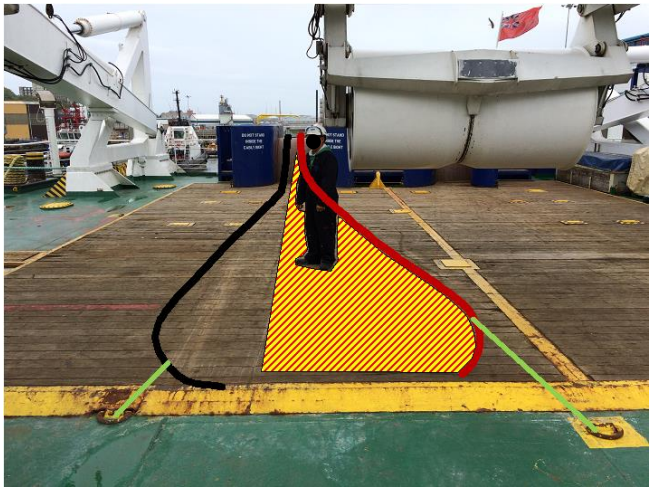


Diagram outlining the crewman's position – directly in the "Line of Fire" - if the cable had been cut.

The hatched area indicates the "Snap Back" zone and the red line, the possible path of the cable

A Safety Observation was raised and discussed at the Safety Committee meeting, and all deck crew were reminded of "lines of fire" and to keep clear of "snap back zones" in the vicinity of cable, wires and ropes.

The incident serves to reiterate the need for awareness of the "line of fire" and "snap back zones". Whenever working with cables, wires and ropes, be aware of the surroundings and any actual or potential hazards. Watch out for team mates – keep an eye on all colleagues to ensure they are safe at all times. Never be afraid to "stop work" – whenever unsafe acts or conditions are encounters, stop the job and do not restart until you are safe to do so.

Whilst this is not strictly a mooring incident, the issues involved – wires and ropes under tension, risk of snap-back, standing in the "line of fire" - are the same. Members may wish to refer to the following incidents:

- IMCA SF 04-09 – Incident 3 – *Mooring incidents* – from the UK P&I Club:
- IMCA SF 07/16 – Incident 2 – *Mooring: port operator fined after worker injured by capstan.*

Guidance and safety promotional is also available from IMCA:

- IMCA safety video – IMCA SEL 036: *In the line of fire;*
- IMCA safety video – IMCA SEL 038:*Safe Mooring;*
- IMCA Safety Poster – IMCA SPP 12: *Mooring safety* .

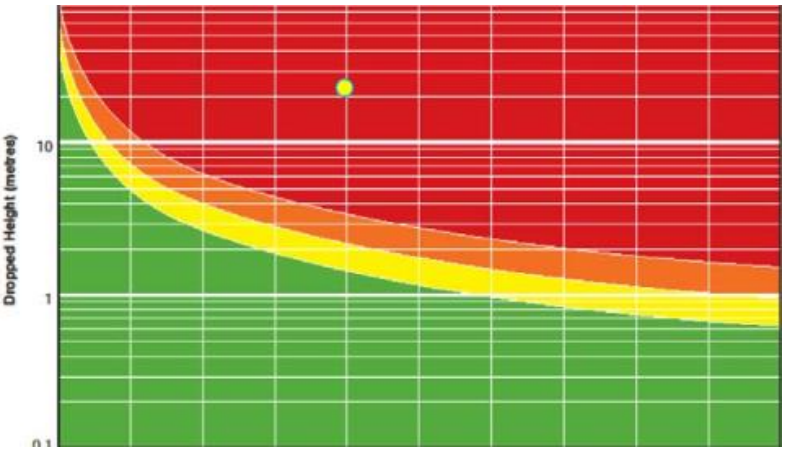
3 Potential Dropped Object During Cargo Offloading Operations

The MSF has published a safety alert regarding a potential dropped object. Following cargo offloading operations from a vessel to an offshore platform, the platform crew notified the vessel that a post cover had been found on top of a mud skip that had been received from the vessel. The post cover had the potential to be a dropped object of major consequence. The post cover weighed approximately 4kg.

The post cover had been removed while lashings were fitted to cargo. The post cover was placed on top of the mud skip and not been removed before the oncoming shift hooking the off-going mud skip onto the crane. The post cover had gone unnoticed and the mud skip was offloaded to the platform. Post covers are known to come free during adverse weather and previous incidents have involved the lodging of post covers in forklift pockets of containers.

Investigation identified one **immediate cause** and one **root cause**:

- **Immediate Cause** – Crew member left post cover on top of mud skip during cargo operations;
- **Root Cause** – No process in place for managing the removal and replacement of post covers during cargo operations.

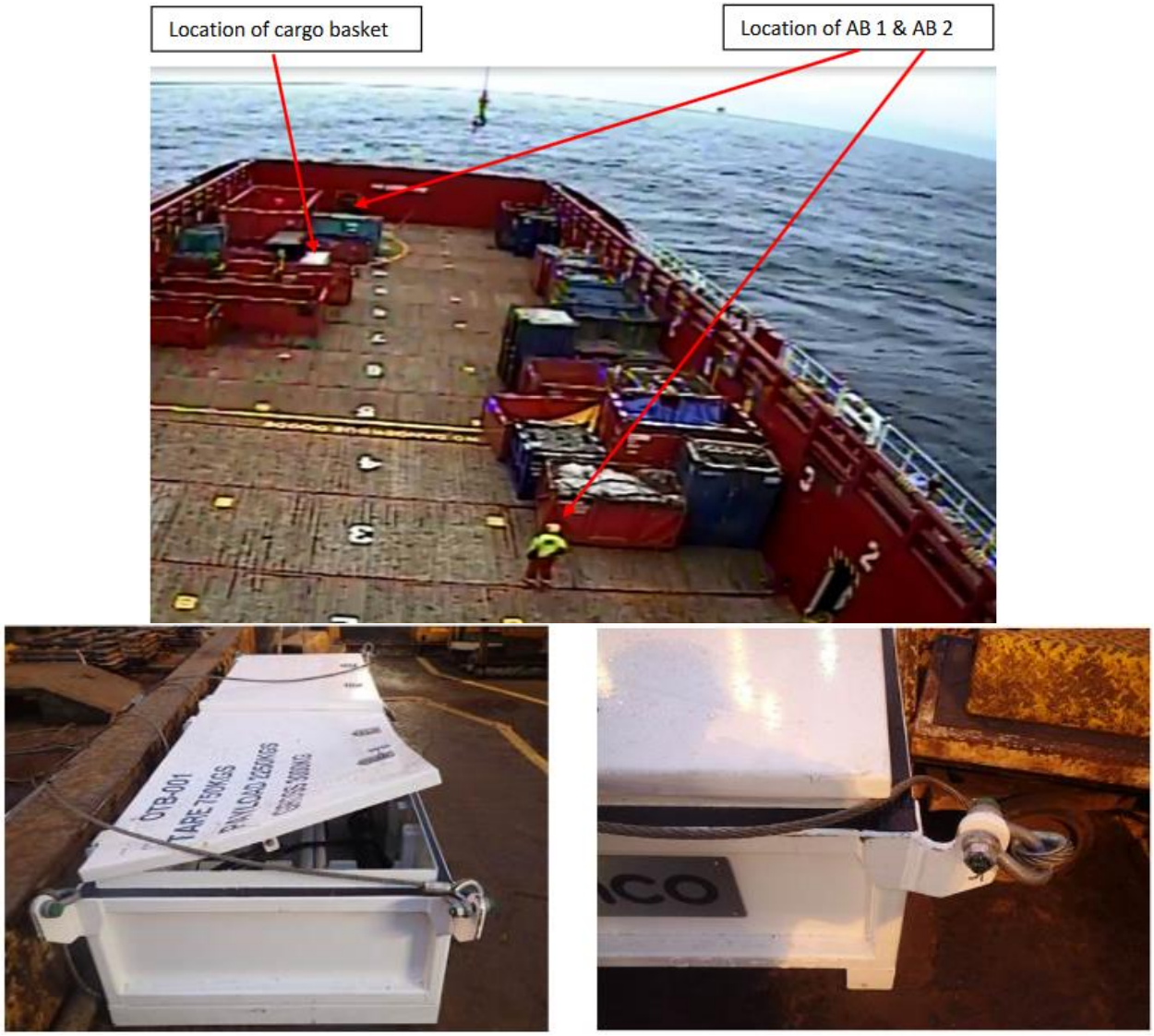


Further information can be found here.

4 Lifting Bridle Snagged – Failure to "Stop The Job"

The MSF has published the following safety alert regarding lifting during cargo operations. A Platform Supply Vessel (PSV) was working alongside an offshore installation carrying out cargo operations, which included the discharge of a small cargo basket. After unhooking the previous back loaded cargo carrying unit (CCU), crewmen 'walked the crane' approximately 15 metres and hooked on a cargo basket – they then left the area and the crane began to take the strain. As the slack was being taken up, the lifting bridle caught under the lid of the basket. Fortunately, the crane driver noticed the lifting bridle snagging and lowered the load. Both the crewmen had walked away from the basket in different directions neither observing the basket being lifted, and so neither were aware that the lifting bridle had snagged, nor could they see each other to highlight the problem.

After a short time both crewmen made their way back to the basket and cleared the lifting bridles. They then stood clear in a safe haven nearby while the crane took up the slack but once again the lifting bridle caught on the lid, this time buckling the lid exposing the cargo inside.



The MSF made the following points:

- All involved (both on the vessel & on the installation) were reported as experienced in PSV operations;
- The crewmen on board the vessel routinely carried radios to maintain contact with the bridge and crane. All were reported as fully operational although they did not routinely talk to the crane driver during every lift;
- As the incident progressed there was minimal communication between the crane operator and the crewmen regarding what problems were being encountered and how they would proceed;
- The full operation and difficulties encountered were witnessed by at least three persons, none of whom "stopped the job".

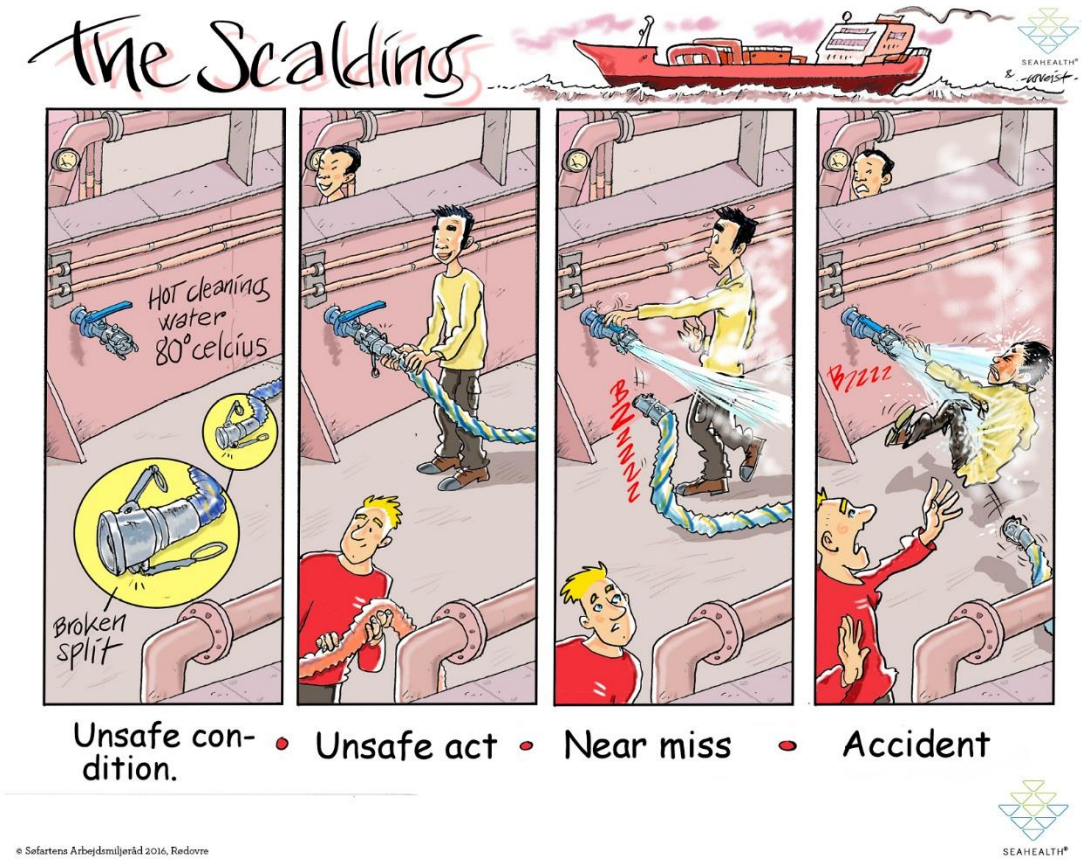
Please see Safety Alert MSF 16-15 here.

5 Crewman Badly Scalded During Tank Cleaning

Seahealth.DK (http://www.seahealth.dk) has circulated a report of an incident during tank cleaning in which a crewman was badly scalded, receiving first and second degree burns over a third of his body. The incident occurred during hot water cleaning on lube oil tanks, when cleaning machines were exchanged between sequences of cargo tanks. When changing sequence, the tank cleaning hose, when pressurized, opened up and hot sea water released freely from the line. The injured party was positioned alone right in front of the hydrant

and not expecting the failure. None of the crew saw what caused the failure, but they noticed steam clouds from hot water coming off the hydrant and the injured person next to the hydrant.

Another crewman jumped towards the valve to close it down. The injured person was sitting down under shock and not responding. He was helped to undress and put under running freely safety shower to cool down.



Investigation noted the following:

- The personal protective equipment (PPE) used for this operation were boiler suits, safety shoes, safety goggles, helmets, safety gloves, all according to company procedures;
- The plan for the tank cleaning had been discussed and a risk assessment had taken place as part of the procedures;
- The sequence in which the tanks were to be cleaned had been agreed before preparations started;
- Tank cleaning hoses for the next sequence of cleaning were prepared in advance and connected to the system during the previous sequence;
- The cleaning temperature was approx. 80 °C;
- At the time of the incident six crew members were working on deck: Bosun, pumpman, two AB's and two seamen;
- Crew were standing by different tanks opening and shutting down appropriate tank cleaning machines.

Immediate cause

Investigation revealed that the most likely cause was that the securing mechanism/locking mechanism for the camlock coupling was either defective or not properly locked, leading to the coupling to break off when pressure was applied. When the hose was found, after it had gone off the connection point, one of the locking handles was found broken off; the shaft missing and the gasket was found on the deck.