IMCA Safety Flash 29/16

October 2016

Focus: Cargo Handling, Crane Operations, Dropped Objects

This safety flash comprises a review of cargo handling and lifting incidents:

- The first incident details how acid was spilt when a load collided with some chemical drums during lifting operations;
- The second is about a crane failure which caused a load to come down inappropriately;
- The third incident is a near miss covering the inadvertent release of a latch on an Intermediate Bulk Container (IBC) carrier, which could have led to the IBC falling from height;
- The fourth covers an injury sustained as a result of the vessel pitching and rolling during cargo operations;
- The fifth incident, produced by the Marine Safety Forum (MSF), is a reminder to members to maintain vigilance against the risk of dropped objects, particularly during cargo operations and lifting operations.

1 Spilt Acid During Lifting Operations

A member has reported an incident in which there was a spillage of acid during lifting operations. The incident occurred during delivery of deck cargo to a jack-up rig. While lifting deck cargo from the supply vessel, the load made contact with one of the plastic drums of acid stowed on the vessel's deck. This resulted in the drum getting damaged and acid leaked from the drum, but the leak was contained on deck and the area was immediately cleaned. No-one was harmed.

Rolling and pitching of the supply vessel allowed the load being lifted to make contact with the cargo on deck.

Our member noted the following **lessons learned** and **preventative actions**:

- During loading and lifting operations, there should be effective communication and signalling maintained between the rig crane operator and the vessel deck and bridge;
- Risk assessment should have taken into account the weather and sea conditions, and any necessary additional controls if required should be put in place as necessary;
- In case the Master feels that the weather is not favourable for safe operations, then operations should be deferred until the weather improves;
- Consideration should be given to loading hazardous substances such as acid in appropriate drums protected with a cage.

Members may wish to refer to the following incidents (search words, *cargo, weather*):

- IMCA SF 21/15 – Incident 3 – *Fatality during loading operations;*
- IMCA SF 17/16 – Incident 1 – *Near miss: cargo shifted in heavy seas whilst alongside platform;*
- IMCA SF 15/15 – Incident 3 – *Spillage of methanol during cargo operations:*
  - all the incidents in this safety flash deal with incidents taking place during lifting operations, but incident 3 may be of particular interest to members.

Members may also wish to consult IMCA SEL 019 – *Guidelines for lifting operations.*

2 Crane Malfunction During Lifting Operations

A member has reported an incident in which there was a crane failure during lifting operations. The incident occurred when a platform supply vessel (PSV) was working with a platform crane. The crane lifted the basket (filled with 5m pipes) to crash rail level, but couldn't manage to take it further. The crane got stuck in hoist mode for a moment and later the hook with the tilted basket landed and rested on top of another basket.

The crew, who were holding the tag line, moved swiftly to safety. After unhooking the lift and steadying the tilted basket with wedges, the PSV retreated from the 500m zone. Later the PSV came back in and the platform crane was used to establish the basket properly on deck.

Our members' investigation revealed the following and **Corrective Action** was taken:

- There was an equipment malfunction on the platform crane;
- The Master immediately informed the crane operator to place the basket back on deck and arranged for it to be secured.

Our member noted the following:

- It is important that the correct load is mentioned on the cargo manifest at the time of loading the cargo at base;
- The platform crane should be properly maintained and able lift the cargo manifested for it.

Members may wish to refer to the following incidents (search words: *crane, stuck*):

- IMCA SF 11/05 – Incident 5 – *Near miss during lifting operations;*
- IMCA SF 05/15 –Incident 3 – *Winch brake failure.*

3 CCU Door Unlatched Whilst Being Lifted from PSV to Platform

The MSF has published a safety alert regarding an incident in which the door on a cargo carrying unit (CCU) unlatched during lifting operations. The incident occurred when an IBC carrier was being stowed on-board a PSV. As with the rest of the cargo, the door had been closed and secured with a tie-wrap prior to shipment. As the container was being lifted across the installation, it was observed that the door handle had unlatched. On opening the IBC carrier, it was identified that the IBC itself had not been secured within the carrier.

On further investigation, it was determined that the IBC carrier was of inadequate design. There were no securing points within the unit to enable the IBC to be secured and externally there were no buffers to prevent the door handle from being snagged by other cargo. It would have been possible for the IBC to have shifted internally creating sufficient force to open the IBC carrier door, with the result that the IBC may have fallen out during lifting operations from the platform.

The full MSF alert can be found here. Further information on CCU packing and handling can be obtained from http://onshoreoffshorecargo.com.

Members may wish to refer to the following incidents (search words: *door, cargo, lifting*):

- IMCA SF 10/13 – Incident 2 – *Loading and securing of cargo;*
- IMCA SF 15/15 – Incident 2 – *Incidents involving poor crane operations* (7th bullet point).

4 Able Seaman Injured When Vessel Moved During Cargo Operations

A member has reported an incident in which someone was injured during cargo operations, as a result of the vessel pitching and rolling. The incident occurred when the vessel was engaged in offloading a food compactor to a jack-up barge. The load was connected to the barge crane and was ready to lift up onto the barge, when it was observed by the lifting crew that one shackle on the compactor was stuck in the wrong position, rendering the load unsafe to lift.

The lift team leader on deck immediately informed the crane operator of the barge via VHF and requested slack on the crane wire in order to clear the stuck shackle. The crane operator lowered the cargo and once it rested on the deck of the vessel, the injured person went to clear/correct the problem and re-arrange the shackle. As he

did so, due to slight to moderate pitch and roll, there was a movement of the vessel which caused the load to lift and move towards the injured person, hitting him in the chest. The injured person was taken ashore to hospital for further examination and treatment. Following examination, he was found to be unharmed and fit for work.

Our member noted the following:

- The injured person confirmed that he was vigilant and alert and had noticed the movements of the compactor towards him. He had attempted to escape from the area, but it was too late and he was struck by the food compactor and injured;
- The **immediate cause** was a sudden movement of the vessel due to weather condition, sea and swell, which in turn caused slight movement of the food compactor which hit the injured person;
- A **root cause** was determined to be lack of supervision on deck.

Our member noted the following **lessons learned**:

- There should be timely reporting and follow-up related to any unsafe act/procedure/condition;
- The importance of toolbox talks/job hazard analysis, risk assessment and procedures could not be underestimated;
- Better team work in this incident might have led to a different outcome;
- Care should be taken with respect to space constraints on deck during lifting operations;
- The capability of the individual to handle/tackle should be taken into consideration;
- It is important to ensure that the persons in charge of lifting operations fully understand their roles and responsibilities and provide effective supervision.

Members may wish to refer to the following incidents (search words: *cargo, crane, sea*):

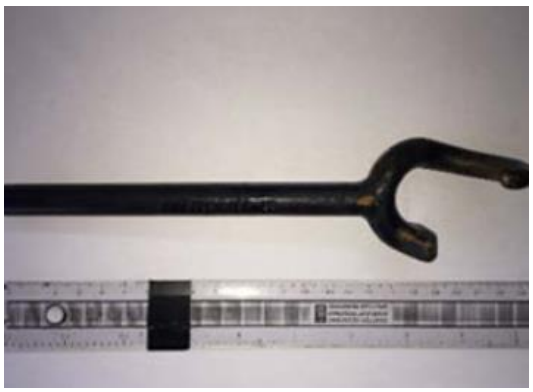
- IMCA SF 21/15 – Incident 3 – *Fatality during loading operations;*
- IMCA SF 17/16 – Incident 1 – *Near miss: cargo shifted in heavy seas whilst alongside platform.*

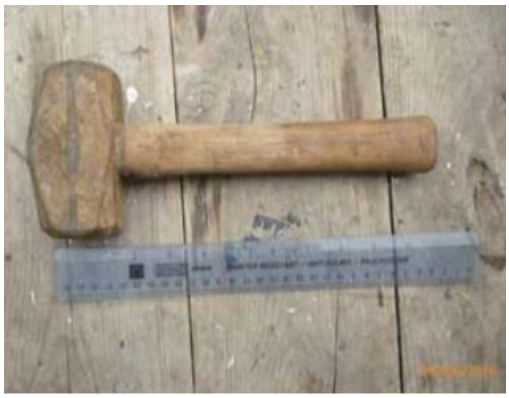
5 Dropped Object Awareness

The MSF has published safety alert 16-19 on dropped object awareness. The contents of the safety alert are based on a submission from one vessel owner.

The issue of dropped objects and potential dropped objects remains a persistent problem within the offshore, renewables and marine contracting industries. This vessel owner noted that during the whole of 2015, they had received 19 dropped or potential dropped object incidents. However, by mid-Q3 2016, the same vessel owner had already received a total of 18 reports – and this increase took place in spite of reduced exposure due to the downturn.

Members may wish to look closely at cargo and loading operations and reiterate that there can be no relaxing of vigilance against complacency. The following pictures are all items from back-loaded cargo and all are over the weight necessary to cause a fatal injury if they were to fall and strike a crew member.





Actions taken/recommendations:

- Continued observance of the highest standard of good seamanship in remaining well clear of lifts in a safe area until the cargo is landed on the deck and it is clear to approach;
- All dropped or potential dropped objects should be reported as soon as identified;
- Continued sharing of lessons and engagement with all stakeholders to encourage proper identification of causes of dropped object incidents.

IMCA publishes safety promotional material on dropped objects, including a pocket safety card, poster and DVD, which can be found here.

The full MSF safety alert can be found here. Further information on dropped objects is also available from:

- www.marinesafetyforum.org;
- www.dropsonline.org;
- www.onshoreoffshorecargo.com.