IMCA Safety Flash 10/20

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

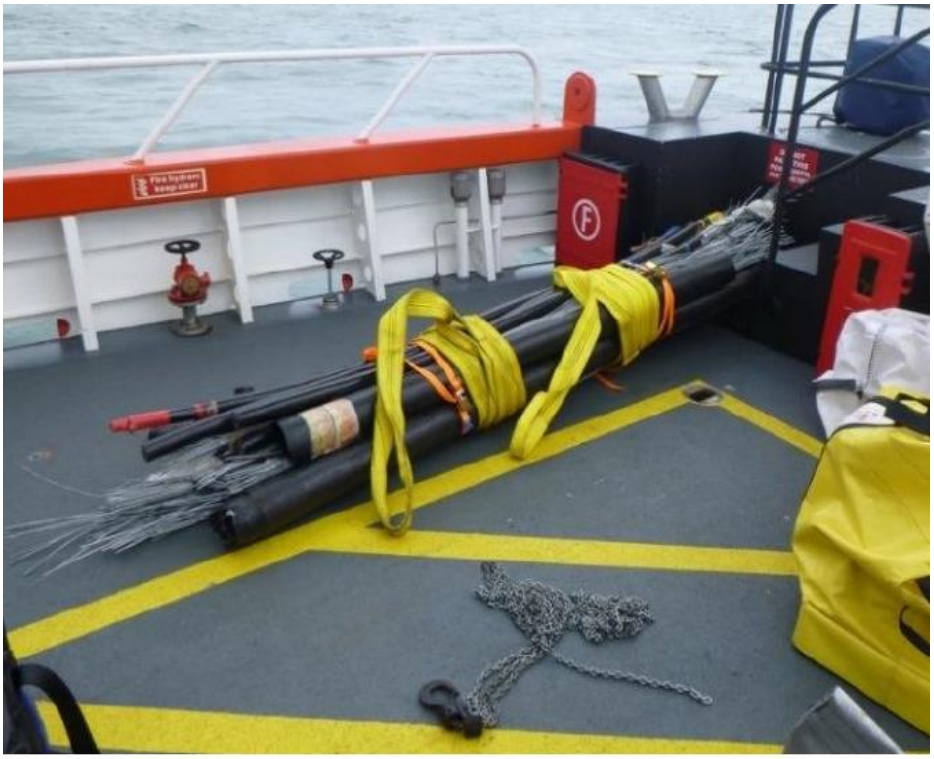
Any actions, lessons learnt, recommendations and suggestions in IMCA safety flashes are generated by the submitting organisation. IMCA safety flashes provide, in good faith, safety information for the benefit of members and do not necessarily constitute IMCA guidance, nor represent the official view of the Association or its members.

1 Dropped Load and Failed Chain

What happened?

A chain link failed causing a load of over 260kg to fall 1.5m to deck. The incident occurred during transfer of a bundle of scrap cable, when a chain link snapped causing the load to fall the last 1.5m to deck. The load weight was estimated to be between 260 and 390 kg. The failed chain link was approximately 10.5m from the hook.

As per correct lifting practices, no people were near the load during the lift. There were no injuries and no damage.



Dropped load and failed chain

Original link

Link after break load testing

Failed link from incident

What went wrong?

Our member's investigation noted the following:

- The most recent inspection of the chain hoist was 3 months prior this incident;

- At the time of the occurrence, the chain link that failed was in the vertical plane and mid-air – the failure was unexpected and not caused by any torque, friction, tension or bending;
- The chain was at approximately 12% of its theoretical lifetime. Post incident break load testing showed an actual break load of the chain of 3400 kg. Metallurgic and fracture investigation were conducted on the actual chain;
- The failed link showed to have had an external impact on the weld side, which caused weakening of the structure by approximately 90%. This caused a failure mechanism different from normal overload breaking.

What lessons were learned?

- Regular visual inspections of your lifting gear;
- Be aware that any external impacts on lifting gear may have a negative impact on its strength;
- Any damage spotted on lifting equipment should be reported and when necessary, such equipment quarantined and re-inspected.

Members may wish to refer to:

- Hyperbaric Lifeboat Emergency Lifting Chain Link Failure
- Load Chain Failure owing to Corrosion [UK Step Change in Safety]
- Near Miss: Broken chain on sling of personnel lifting basket

2 Lifting Operation Resulting in Dropped Objects from Flexible Intermediate Bulk Container

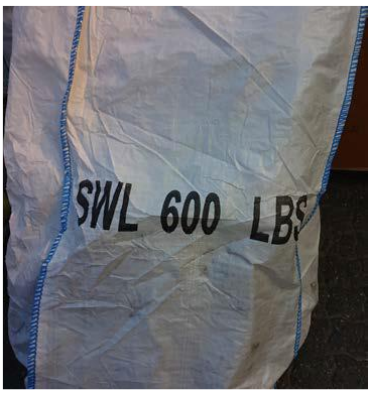
What happened?

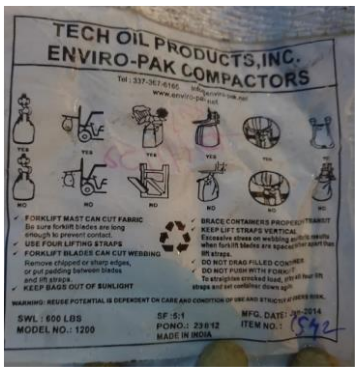
Multiple metal objects were dropped during a lifting operation using a flexible intermediate bulk container (FIBC). It was being used to lift garbage from a below deck stores area. The lift crew were unaware that several metal components ranging from 1.1kg – 2.3kg had been placed into the FIBC and then inadvertently covered over with cardboard and paper.

As the FIBC came through the hatch and over the main deck, high winds forced the FIBC into contact with the crane boom resulting in a shock load to the bag and the bottom tearing open. The lift supervisor called an all stop on the radio; however, this was not heard by the crane driver which then resulted in the contents being dropped across the deck and quayside.

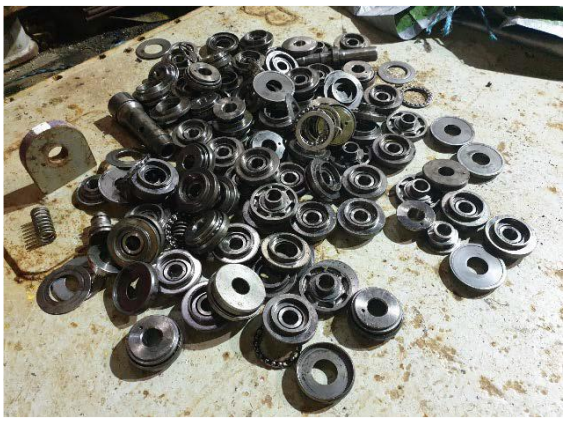
The distance that the objects fell varied between 8 and 25 meters. The DROPS calculations indicate that multiple items had the potential to cause a fatality.

The job was stopped and a time out for safety carried out.





Type of FIBC used for lifting operation



Type of engine components which fell

What actions were taken?

Our member's investigation noted the following:

- Inspect FIBCs' prior to use ensuring they are free from damage that can compromise its strength;
- Post signage next to any FIBC being used as a waste container indicating waste material type to be placed inside;
- Check FIBC contents (where practical) to ensure correct waste type is inside prior to lifting;
- Lift FIBC as per the manufacturer and supplier's instructions;
- Consider the use of tag lines to control lifts where practical;
- Do not re-use FIBCs or use them for disposal of waste metals, wood, glass or other items than can puncture the bag;
- Ensure the vessel has the appropriate storage containers for scrap metal;
- Ensure that suitable lift baskets are available for the transportation or movement of loose items, such as metals, batteries etc.

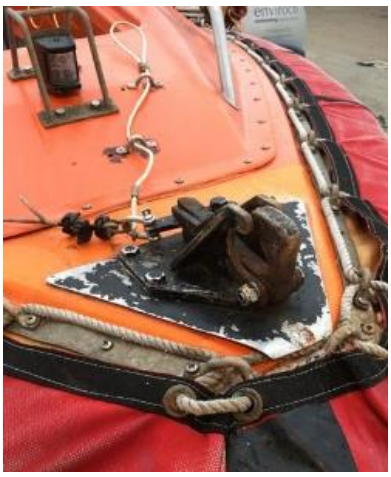
Members may wish to refer to:

- Dropped Object – Intermediate Bulk Container (IBC)
- Port Company Fined After 600kg FIBC Bag Falls On Employee

3 Marine Safety Forum: Two Incidents Relating to Fast Rescue Craft

The Marine Safety Forum (MSF) has published two recent Safety Alerts relating to Fast Rescue Craft (FRCs). In the first, an FRC capsized during launch. The second covers launching conditions for Fast Rescue Craft.

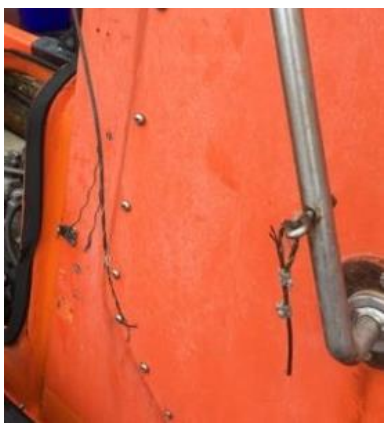
Incident 1: FRC capsize during launch



During the launch of a Fast Rescue Craft (FRC) for validation trials, the cable that releases the hook for the fall wire parted, resulting in the coxswain being unable to release the hook. The bowman mistook a gesture from the coxswain and released the bow line. This caused the FRC to turn 90 degrees to the vessel and quickly capsize, resulting in the three crew members falling into the sea. The Safety Alert notes that they were all recovered with no significant injuries. The FRC was righted with the self-righting bag and was recovered, having sustained significant damage. See here for MSF Safety Alert.

What actions were taken?

The following actions were put in place by the vessel owner:



- All vessels are to hold a time out for safety with FRC/DC crews on launch and recovery, the focus of which is the function/release of the bow line and communications between crews. Also, vessels are to review their launch/recovery procedures and risk assessment highlighting critical points including the need for visual verification of release;
- Refresher training to be given to all boat crews highlighting the need for clear communication regarding all aspects of FRC operations, particularly during launch with regards to releasing the bow line;
- Add checks to remote release mechanisms to daily/weekly routines checking for kinks, corrosion and broken strands;

- Crews to be reminded that regardless of time pressure, launches and recoveries should be conducted in a systematic way that strictly adheres to procedure with clear and concise communications.

Incident 2: launching conditions for fast rescue craft

A platform supply vessel recently experienced an incident whereby the emergency launch equipment failed following a successful launch and recovery of the vessel's Fast Rescue Craft (FRC). Having already recovered the FRC back to its stowed position, the emergency launch was to be tested next. When the emergency launch was activated the davit should have swung the FRC over the side and then lowered it to sea level. However, the davit remained in place and immediately lowered (quickly) the FRC to the deck directly below causing slight damage to the FRC's hull.

What went wrong?

Upon investigation, it was found that the arm on the emergency lowering valve which activates the winch sequence was stuck in the lowered position. This meant that when the emergency lowering system was activated the system treated the davit as being swung over the side, and it proceeded to the FRC on to the deck. Following the investigation, it was also found that the jobs in the planned maintenance system relating to the valve had not been completed in full, due to a lack of understanding of the task description.

What actions are taken?

Following recovery of the FRC,

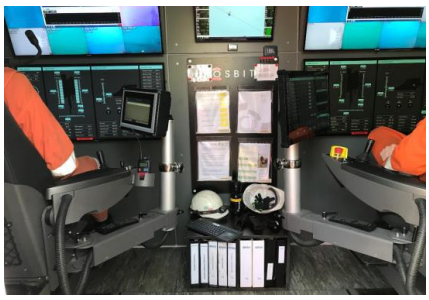
- The valve was overhauled and replaced and tested for full functionality;
- The procedure for testing the emergency lowering was amended to ensure that the valve is checked prior to activation;
- Planned maintenance system was reviewed to ensure clarity;
- The MSF recommends that all companies review their own procedures to assess potential for similar incidents along with appropriate control measures.

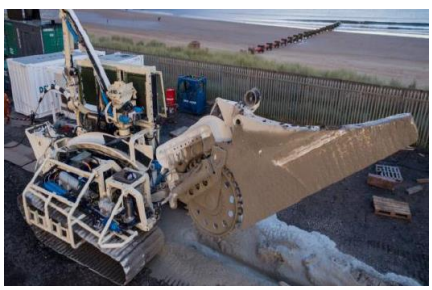
See the full MSF Safety Alert here.

Members may wish to refer to:

- Fast Rescue Craft damaged by inappropriate use
- Damage to rescue boat during lowering

4 Trencher Angle Inadvertently Altered





What happened?

During offshore trenching operations, the ROV pilot unknowingly made contact with the control joystick, inadvertently raising the cutting wheel and thereby decreasing the cutting depth. No equipment or permanent material damage occurred.

The pilot inadvertently operated the tool tilt function by making accidental contact with the joystick control. The subsea trenching tool was lifted to 4 degrees, which raised the tool depth from 1.17 meters to 1.06 meters, resulting in the depressor depth being reduced. This went unnoticed for approximately 7 minutes while the shift handover was taking place and equated to 27 meters of travel along the product.

What went wrong?

- The pilot inadvertently made contact with the trencher control joystick;

- The joystick and software design did not include controls to reduce the possibility of accidental joystick activation (e.g. joystick lock, dead-man switch);
- The tooling alarm tolerance range was set too broad (-0.2° to +0.5°);
- Trenching operations were not stopped to complete the shift handover;
- The pilot/s did not notice the change to the trencher angle as they were distracted by both the shift handover and the reboot of a crashed control computer which was underway at the time.

What actions were taken?

Immediate preventative actions were put in place, which included change in the alarm tolerance with trenching operations ceased during shift handovers and the operating panels being set to maintenance mode, so the joysticks are deactivated.

- Although this alert focused on a trencher the findings are transferrable to a wide range of equipment; therefore a review of equipment controls (such as joysticks) that could be inadvertently operated, or activated unknowingly, without an audible and/or visual alarm or joystick lock capability should be carried out;
- Consider carefully your method of handovers during live operations and the implications of reduced focus on the activity during this time;
- Ensure that personnel involved in operations have access to procedures, manuals and have demonstratable awareness training of associated equipment and processes;
- Consider change of controls, processes, procedures and physical layout of control systems that would prevent a similar incident.

Members may wish to refer to:

- Case Study – Switching From Auto DP To IJS (Independent Joy Stick) mode caused loss of control
- Dropped Object Fell From Crane – Poor Communication/Lack Of Awareness/Control Of Work
- Accidental activation of emergency stop during saturation diving operations
- Near Miss: Emergency Stop Pressed Accidentally

5 Damage and Engine Room Flooding Following Contact by Tugboat

What happened?

A vessel suffered damage to the hull and engine room flooding due to contact with a tugboat during berthing. One of two tugs lost manoeuvrability and bumped into the vessel hull resulting in damage to engine room hull at frame no.42-45 portside. The hull was torn 2 metres horizontally and 6 meters vertically leading to engine room flooding. The flooding was not stabilised by the use of the fire and general service (GS) pump and additionally, no.1 ballast pump for emergency bilge suction was started and then, the flooding was brought under control.

Following the incident, interim and then permanent repairs were made, after which the vessel sailed following classification society and port state control verification of the seaworthiness of the repair.

What went wrong?

Our member noted:

- Weather conditions were reported as rough weather, strong wind (25 knots) with waves of 3-4 meters;
- Vessel speed was 11.3 knots at the time of incident:
  - there was no reduction of speed to allow the tug to make fast to the vessel
  - master and deck officers did not realise how fast the vessel was going whilst the tugs were making fast to the vessel;

- Master/responsible officer failed to provide required stability data as requested by the classification society emergency response services.

What were the causes?

- Immediate causes:
  - vessel master failed to warn the pilot or discuss with the pilot the need to reduce speed for the tugboat to make fast the tug line to the vessel
  - pilot then made the decision to make fast tug line with vessel maintaining high speed
  - tug master failed to maintain safe distance from vessel for stable manoeuvrability
  - rough weather, high seas and high wind;
- Causal factors:
  - ineffective information exchange and communication
  - inadequate supervision:
    - misjudgement of vessel movement and external force (wind, wave and swells)
    - master and bridge team not aware/alert of communication between the pilot and tugs
  - competence factors lack of experience of pilot and tug master for safe operation of tug line handling in consideration of rough weather and strong wind;
- Root causes:
  - complacency – 'task seen as routine'
  - procedures were not followed.

What actions were taken?

- Master to execute his overriding authority effectively and in timely manner;
- The bridge team should understand the pilot is on-board in an advisory capacity only and not in command of the vessel;
- Master/responsible officer to understand and be familiar with the vessel damage control plan and damage stability calculations.

Members may wish to refer to:

- Grounding and flooding of ferry – complacency (UK Marine Accident Investigation Branch (MAIB))
- Vessel made contact with installation
- Vessel hit moored barge whilst turning