

IMCA Safety Flashes summarise key safety matters and incidents, allowing lessons to be more easily learnt for the benefit of all. The effectiveness of the IMCA Safety Flash system depends on members sharing information and so avoiding repeat incidents. Please consider adding [safetyreports@imca-int.com](mailto:safetyreports@imca-int.com) to your internal distribution list for safety alerts or manually submitting information on incidents you consider may be relevant. All information is anonymised or sanitised, as appropriate.

## 1 Serious injury during mooring operations: rope parted

### What happened

The Marine Safety Investigation Unit of Transport Malta has published [Safety Investigation Report 10/21](#) into a serious injury which occurred during the mooring of a chemical tanker of 23000 tonnes on Malta. At the aft mooring station, the mooring team noticed that one of the lines was tight, while the other was still slack. Whilst trying to equalize the tension on both lines, the taut line parted and struck the third officer. He suffered serious facial injuries and was transferred to a hospital ashore.

Applicable  
Life Saving  
Rule(s)



Line of Fire



Figure 2: The aft, port side, twin split-drum mooring winch of *Mount Everest*

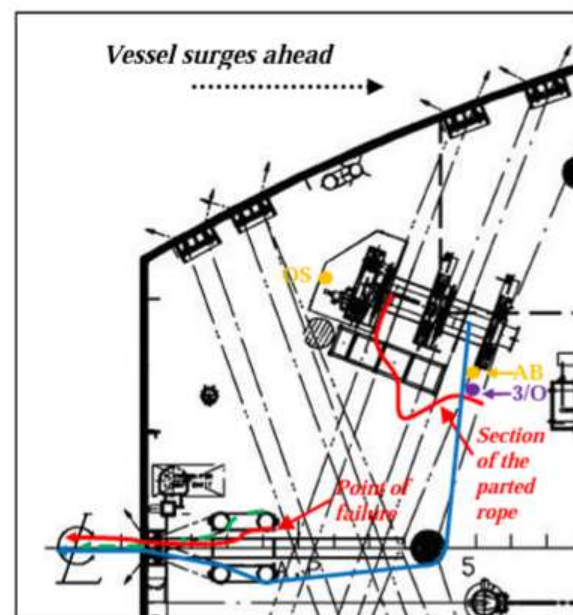


Figure 10: Dynamics of the accident

### What went right

The crew involved, from the Master down to the ordinary seaman, were properly trained and experienced, and were appropriately rested at the time of the incident. The weather was calm. When the third officer was injured, other crew members took appropriate first response action. The report says that the injured person was “wearing a safety helmet, coveralls, leather gloves and safety shoes, all of which were in good condition.”

### What went wrong

- A breaking test of the failed mooring rope, conducted after the accident, revealed that its strength had decreased by more than 50 % of its certified MBL;

IMCA store terms and conditions (<https://www.imca-int.com/legal-notices/terms/>) apply to all downloads from IMCA’s website, including this document.

IMCA makes every effort to ensure the accuracy and reliability of the data contained in the documents it publishes, but IMCA shall not be liable for any guidance and/or recommendation and/or statement herein contained. The information contained in this document does not fulfil or replace any individual’s or Member’s legal, regulatory or other duties or obligations in respect of their operations. Individuals and Members remain solely responsible for the safe, lawful and proper conduct of their operations.

- The rope’s external and internal fibres may have deteriorated due to abrasion / friction and / or chemical contamination;
- Stresses induced in the rope, due to internal friction and chaffing during this mooring operation, were contributory factors to this accident.
- The mooring configuration deployed for this operation was not supported by the vessel’s mooring design – it is likely that it would have been difficult to apply, considering the heights and distances between the mooring equipment on the poop deck;
- Crew members’ attention was shifted to another part of the mooring operation;
- There may have been a breakdown in communication during the discussion on the mooring configuration.

### What was done to prevent recurrence

- Procedures and risk assessment
  - Amendment of procedures to include audit of mooring operations;
  - Amendment of generic risk assessment for mooring operations to emphasize **clear communication** procedures, **minimum number of mooring team members required**, and the **importance of supervision** and overview;
  - Amended company procedures to ensure that VDR data is also saved following similar accidents.
- Equipment
  - Arranged to supply company vessels with better and safer mooring lines with “the latest snapback-arrestor technology”, and introduced a maximum lifetime of 5 years for mooring ropes;
  - Arranged to have one rope per ship tested for residual strength on an annual basis;
- People and training
  - Conducted additional training for mooring operations fleetwide and also on inspection and maintenance of mooring ropes;
  - Introduced minimum crewing requirement for mooring;
  - Initiated and performed campaigns on safe mooring operations and introduced a ‘**stop work authority**’ programme;

Members may wish to refer to:

- [Dutch Safety Board: fatality when mooring line snapped](#)
- [High potential near-miss: Mooring rope parted](#)
- [Mooring line failure resulting in serious injury](#)
- [Mooring practice safety guidance for offshore vessels when alongside in ports and harbours](#) (IMCA M 214, IMCA HSSE 029)
- [In the line of fire](#) (IMCA HSSE 036, video)
- [Mooring incidents](#) (IMCA HSSE 038, video)

## 2 Failure of slings during loading operations

### What happened

Personnel were loading out heavy plant at a land-based location when there was an incident involving failure of slings. A crew were lifting a large tank with a forklift using nylon slings and shackles from the lifting eyes at the top. The forklift carrying the tank to the trailer had to move over some rough ground and the tank was moving around and bouncing, so spotters were used on both sides. One sling failed and the tank dropped to the ground on that side. Then another sling failed, causing damage to both sides of the tank bottom, valves, and one leg was bent. There were no injuries.

Work was stopped to regroup and discuss.

### What went right

- A toolbox talk took place which covered the hazards;
- Spotters were used and all personnel were in their correct and safe positions.

### What went wrong

- The slings broke due to the sharp edges not being protected there would have been high dynamic loads as the load shifted while being manoeuvred over rough ground.



### Recommendations

- Ensure sharp corners and edges are protected before using soft slings – it is possible in this case that the edge of a fork was the sharp edge that cut the sling.
- A better practice would be to use a lifting attachment of some sort, or a crane – could the lift be done without soft slings?

Members may wish to refer to:

- [Broken Chinese Finger](#)
- [Rigging failure during riser recovery – soft slings parted](#)
- [Failure of lifting equipment: Dropped ROV](#)
- [High potential near-miss – Lifting equipment failure](#)

## 3 BSEE: Stored Energy in Slings Causes Multiple Injuries

The United States Bureau of Safety and Environmental Enforcement (BSEE) has published [Safety Alert #445](#) relating to multiple injuries caused by stored energy in slings.

### What happened

The BSEE writes: there have been multiple instances across the Gulf of Mexico in which offshore personnel have sustained injuries to the face while working with slings. These incidents resulted from stored energy in the slings. Recent incidents include the following:

- In December 2021, a contract roustabout slid a sling off a joint of drill pipe, which left a double loop in the sling. While unhooking the shackle from the sling, the stored energy in the double loop released, causing the sling to strike the roustabout in the mouth. The injured party (IP) lost multiple teeth as a result.
- In May 2022, a trapped shackle dislodged from the edge of a beam during lifting operations in which a roustabout was holding a tagline attached to the end of a web sling. As the shackle was freed, it struck the roustabout in the cheek/nose area, causing injury.
- In both 2022 incidents, the persons hurt were Short Service Employees (SSE). BSEE has also seen a recent increase in the number of incidents involving SSEs, as referenced in [SF 21/22](#).

Therefore, BSEE recommends that operators and contractors consider:

- Raising stored energy awareness with crews during safety meetings, toolbox talks, etc.
- Reviewing Job Safety Analyses (JSA) for both high-risk and routine operations and verifying they include job-specific instructions and associated mitigations for potential hazards, including the hazards of stored energy in rigging and improper positioning of rigging in relation to the rigger's body;

Applicable  
Life Saving  
Rule(s)



Bypassing  
Safety  
Controls

- Updating lifting and rigging procedures to include good body positioning and checking rigging for stored energy;
- Incorporating an additional verification measure within operating procedures and/or hazards analyses for situational awareness regarding line of fire exposure;
- Ensuring appropriate personnel have access to the necessary operating procedures and understand them before performing work;
- Reducing risks related to double handling through deck management initiatives;
- Reinforcing the right and obligation to **stop the job** without fear of reprisal;
- Increasing training and supervision of new and inexperienced crew – “short service employees”.

Members may wish to refer to:

- [Release of stored energy from coiled superloops](#)
- [Serious injury incurred while removing wire rope sling from a crane hook](#)
- [BSEE Safety Alert #435 Breakdowns in Communication and Preparation Lead to Failure of Synthetic Slings](#)
- [BSEE Safety Alert #279 - Nylon Sling Failure](#)

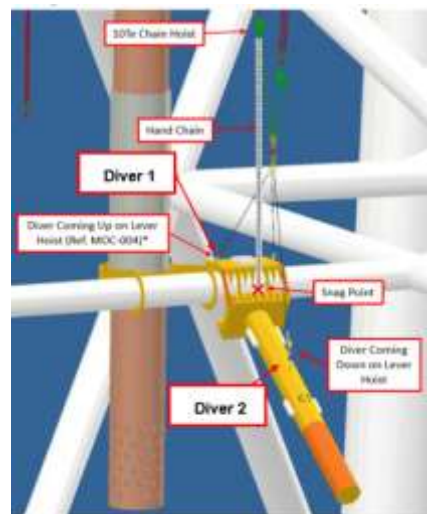
#### 4 Damage to chain hoist subsea

##### What happened

Whilst divers were lowering a large clamp for installation, the chain block used to centralise the clamp on the horizontal member became trapped in the hinge point on the clamp. The clamp was opened when it was noticed and damage to the chain link was observed. There was no damage to the clamp itself.



*Chain caught in the hinge side of clamp*



*Layout of clamp from procedure*

##### What were the causes?

- Although initial checks of the worksite were performed, checks were not frequent enough during the task of lowering and closing the clamp;
- Whilst the procedure did include a safety note on awareness around pinch points, however, it did not specify any checks the hoist chain or loose items of rigging;
- There was no prompt for entanglement or snagging hazards included in the dive team procedures.

The root cause was found to be that the procedures did not identify and highlight entanglement or snagging hazards.

## What our member did

- Caused heightened awareness around snagging hazards when operating chain lever hoists;
- Reviewed procedures to include a prompt for the use of chain / lever hoists identifying the risk of entrapment of chains.

Members may wish to refer to:

- [Incorrect operations result in failure of hoist](#)

## 5 Unsafe transportation and packing arrangements

### What happened

One of our members has recently experienced two near miss incidents, resulting from the inadequate packing of goods during transportation with the potential for more significant consequences and injury.



Common factors from these recent near miss incidents:

- Packing conditions of project equipment were inadequate to provide appropriate containment and support of the equipment and goods during transportation and handling;
- Transportation and packing activities were subcontracted to third parties;
- Specified and appropriate packing instructions were not implemented;
- The obligation to exercise the **Stop work authority** was applicable in both cases, but was only applied in one.



*Post Incident #2 – showing how plastic sheeting failed to maintain pads on pallets*



*Post Incident #2 - showing appropriate wooden crates on pallets to take the load*

### What went wrong?

- Work Planning
  - The full transportation process was not properly considered;
  - There was a lack of formal and appropriate packing instructions;
- Risk Assessment/Risk Perception
  - Multiple opportunities were missed, throughout the transportation process - and specifically at load out - to identify that the packing arrangements were inadequate for safe transportation;
- Quality Assurance and Verification
  - There was a lack of verification of the process and procedures to control packing and transportation during the vendor approval process;
- Supervision – Failure to consistently implement the stop work obligation.



*Post Incident #1 - showing wooden crates damage*



*Post Incident #1 - showing new packaging specification implemented*

Recommendations:

- Take into account the whole process of transportation from start to end. This requires packing the load in appropriate conditions to satisfy all transport activities from load out to off load;
- Ensure formal packing instructions are fit for purpose;
- Ensure packing instructions and expectations are communicated to third parties' subcontractors in a timely manner, prior to packing and transportation activities;
- If it's unsafe – **STOP THE JOB**: Communicate clearly the understanding that all parties including subcontractors have the obligation and expectation to exercise **stop work authority** when required;

Members may wish to refer to:

- [Third-party truck not in appropriate or safe condition](#)
- [Crew member stopped unsafe cargo operations](#)
- [More than a dropped object – the need for vigilance during cargo operations](#)
- [Lifting complex loads – offloading third party equipment](#)