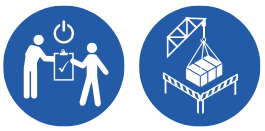
Safety Flash

23/21 – August 2021

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 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 LTI – ankle injury caused during lifting operations

Applicable Life Saving Rule(s)



Bypassing Safety Controls | Safe Mechanical Lifting

What happened

During slewing of the crane during a jacket lifting operation the jacket started rotating. The rigging crew used a steering line in an attempt to stop the jacket rotating. During this attempt a crew member stumbled while trying to hold on to the steering line.

Two steering lines were attached to the jacket to assist with controlling jacket rotation during the lift. These steering lines were used to control jacket orientation until such times that tugger lines attached to the lift rigging could be effectively used for the remainder of the lift. After raising the jacket 3m from the deck the crane slewed to port. During slewing it became apparent that one of the steering lines was too short and had to be released. At this point the jacket started rotating. The 2nd steering line was now being used to 'brake' the jacket rotation however this steering line also had to be released. Before it was released, the member of the crew holding onto the line, stumbled and fell which resulted in a broken ankle and fibula.

What went wrong?

Our members investigation revealed that:

- The injured crew member was not a member of the rigging team and had crossed the barrier put in place to prevent personnel not involved in the lift operation from entering the lift path;
- One of the steering lines was too short;
- There was an alternative tugger arrangement however verification offshore showed that it was not feasible to use this arrangement owing to clashes with jacket furniture.

Preventing this happening again

- Only members of the rigging team should be actively involved in the lift;
- People who are not part of the rigging team should not assist the rigging team and should remain well clear of the lifting operation (do not cross barriers);
- Verify during Toolbox talk and last minute risk assessment that all steering lines are correct, including sufficient length;
- Ensure any tugger line arrangement made during the engineering phase is verified prior to the offshore operation.

Members may wish to refer to:

- HSSE 019 *Guidelines for lifting operations*

- Lifting operations (safety promotional video '*Be prepared to work safely')*
- Lifting equipment (safety promotional video '*Be prepared to work safely')*

2 Lifting complex loads - offloading third party equipment

Applicable Life Saving Rule(s)

Bypassing Safety Controls

Safe Mechanical Lifting

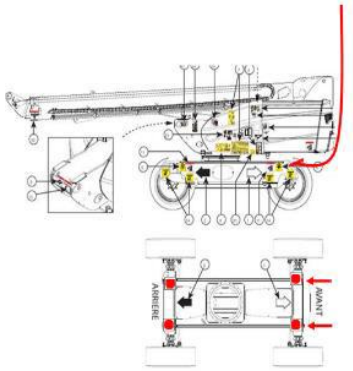
What happened?

As it was being lifted off a vessel, a cherry picker (a movable hydraulic crane with a railed platform used to raise or lower personnel) tipped over, causing minor damage to the vessel bulwark.

The incident happened when crew were in the final hour of preparing the vessel for departure from port. A rented cherry picker which had been used on the vessel for maintenance work during the port call, was being offloaded. After connecting the dedicated rigging provided by the supplier, the crane operator came up on the load in preparation for the lift. The cherry picker tilted towards its counterweight and came to rest against the vessel bulwarks causing minor damage. An All Stop was called, with the bridge and captain informed.

Extract from operations manual

Cherry picker incorrectly rigged



Correct rigging arrangements

Following the incident, a Time Out for Safety (TOFS) with the teams involved was held. An additional Risk Assessment and Toolbox Talk assessed the situation onboard and consulted with representatives from the rental company. The cherry picker was then successfully lifted back to the upright position and returned to the quayside.

What went wrong?

- Inadequate handover, inadequate communication:
  - The cherry picker had been lifted on board by vessel personnel who had subsequently crew changed out before the maintenance works were finished;
  - The initial lift detail and information was not effectively communicated to the oncoming team;
  - When the cherry picker was brought on board, the lift plan took no account of the condition of the unit or the correct rigging required to lift it safely.
- The information in the cherry picker operations manual did not address how to safely lift such a unit;
- The rigging arrangement for the unit created a clash with the lift points and the counterweight. This led the lifting team to consider that the correct set up for the lift required the boom to be placed at a 90° offset therefore removing the clash.

Actions

- Specific to lifting cherry pickers:
  - Develop a specific lift plan for cherry pickers. The lift plans should be readily available and refer to specific guidance from the manufacturer's manual;

  - Ensure correct documentation including operations manuals and information relating to safe lifting operations is available from third-party plant and equipment vendors;
  - Require dedicated and certified rigging to accompany the rental;
  - Discuss this issue with logistics and supply chain personnel and with port agents and suppliers, to safeguard the provision of equipment, information and documentation relating to the hire of plant and equipment.
- Where crew changes may impact operations, plans should be in place to support effective handover of key information such as lift plans;
- Lifting requirements, particularly for complex objects, should be thoroughly understood and confirmed by all persons involved;
- Management and supervisors should continue to support "Stop the Job" with their teams.

IMCA notes that before use of third-party rigging equipment, there should be thorough examination by a competent person.

Members may wish to refer to:

- IMCA HSSE 019 *Guidelines for lifting operations*
- High potential near miss - storage box dropped from forklift *[cause: poor communication; known facts were not communicated to new crew]*
- Dropped object fell from crane - Poor communication/lack of awareness/control of work *[a finding: work conducted…was not communicated…at shift handover/TBT…crane operator was not made aware that work had been conducted…]*
- Rigger sustains injury to left hand *[the load moved in an unplanned and unexpected way]*
- Dropped object – intermediate bulk container (IBC) *[As IBC was moved, the liquid inside was sloshed around (owing to the 'free surface' effect) which changed the centre of gravity.]*

3 Dropped object - unexpected release of spool

What happened?

During offshore installation activities there was an unexpected release of the load resulting in it falling to the seabed. The incident occurred during the relocation of a spool from the riser base to the Pipeline End Manifold (PLEM). The operation was conducted from a members' installation vessel crane, with a third-party provided 52Te lifting yoke previously used in the installation of the spool in 2011 and recertified for use.

What went wrong

Our members' findings indicated the following:

- "Stop knobs" were not retracted resulting in significant unplanned forces being applied to the yoke structure causing yoke integrity failure and subsequent failure to secure the load (spool);
- Third-party written procedures for installation and commissioning of the third-party subsea equipment were not followed and were not completed;
- Company personnel had limited expertise with the use of the tooling used and relied on heavily on the third-party contractor to confirm that all steps in the commissioning procedure were completed;

- There was a misunderstanding in verbal communications in that company personnel thought that the “stop knobs” had been retracted, but they had not been retracted;
- By design the main Yoke pins were the weak points in the lifting configuration.

Actions

- Ensure that tooling design arranges for clear visual indicators on the tooling; and that the fail-safe design of their tooling has been considered;
- Reiterate to third-party contractors the importance of following tasks as per procedure;
- Check and carefully verify the competency, experience, and training of third-party contractor personnel;
- Check to ensure that there is no overlap or duplication between third-party contractor procedures and company procedures;
- In task planning, consider further detail, checking and verification for areas that may be unfamiliar;
- Ensure that risk assessments cover the interfaces or gaps between third-party contractor equipment and procedures, and company equipment and procedures.

Members may wish to refer to:

- Rigging failure - clump weight dropped to seabed
- Weight dropped to the seabed narrowly missing diving bell

4 NOPSEMA: person injured in chain hoist incident

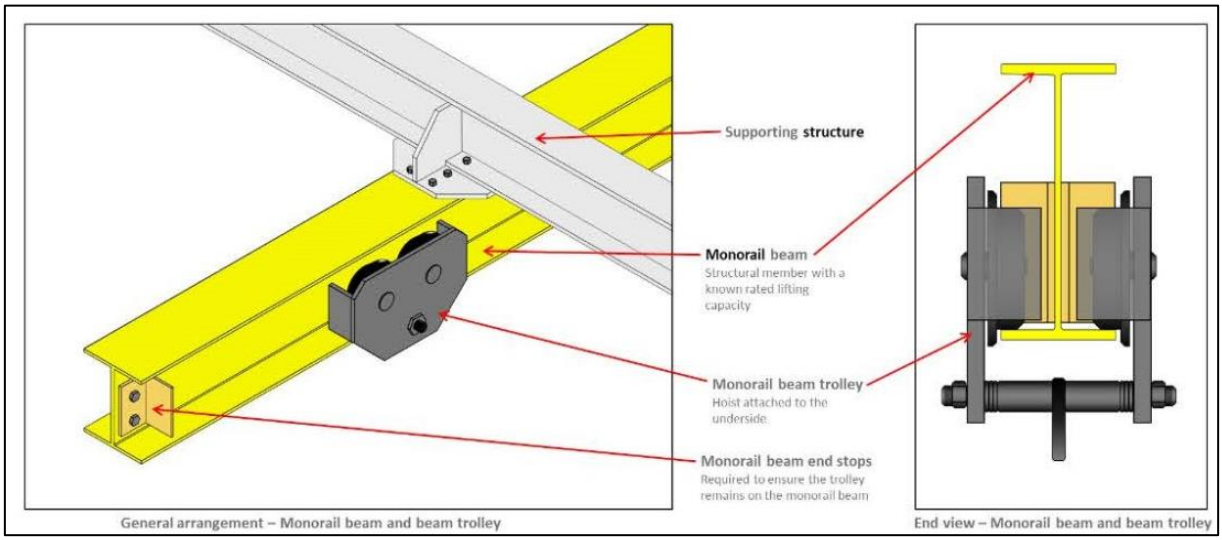
Applicable Life Saving Rule(s)

Safe Mechanical Lifting

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) of Australia has published Safety Alert #73 relating to an incident on an offshore facility where members of the workforce were impacted during a lifting operation. One member of the workforce was injured and transferred onshore for medical treatment.

What happened

The incident involved a monorail hoist dropping a 500kg piping spool (including ancillaries) when its beam trolley, chain hoist and suspended load overran the end-stop.



What went wrong?

NOPSEMA’s preliminary findings identified that

- The monorail hoist was not fit for purpose, specifically the monorail end stops and beam trolley width;
- The beam trolley had been modified outside of management of change processes;
- The lift plan was not followed, resulting in unsafe operation of the monorail hoist.

NOPSEMA reminded duty holders that *"all lifting equipment must be designed, installed, inspected, and maintained in accordance with the relevant standards and by a competent person."*

Lessons learned

NOPSEMA noted the following:

- Monorails, including their end stops and attachment to supporting structures, must be designed, installed, and inspected in accordance with the requirements of the relevant standards by a competent person;
- Serially produced lifting equipment, including monorail beam trolleys, must not be modified from the original equipment manufacturer design;
- Appropriate lifting equipment must be selected for use for the specific lifting application;
- Monorail hoist systems are designed for the vertical lifting/lowering and lateral transfer of loads. Monorail hoists must not be used for dragging loads and non-vertical lifting as it may result in a failure of the monorail beam/beam trolley/end stops and/or the dropping of the load.

Members may wish to review:

- Lost time injury (LTI): Dropped object incident [very similar if not identical incident in 2013, immediate cause being *There was no end stopper and the trolley fell off the H-beam. It fell approximately 1.2 meters, glancing off the injured person's helmet and landing on deck.*]
- HSE: Catastrophic failure of marine loading arm
- Chain hoist failure resulting in a serious near miss

5 Crane contact with pipelay tower resulting in dropped object

What happened

A crane made contact with a pipelay tower handrail during a routine lifting operation, resulting in a serious dropped object event. There were no injuries. The incident occurred during repositioning of a chain link clump weight on the main deck using a 250T crane whip line. The boom rest landing section on the boom knuckle came into contact with the top gutter walkway guardrails on the pipelay tower. A section of the rail (approx. 1.2 m and 5.5kg) broke off and fell approximately 22m to a walkway below.

What went wrong?

This incident is currently under investigation however the following preliminary findings were identified:

- There was a lapse in concentration due to distractions during the operation;
- The banksman was primarily focused on the load and its travel path rather than on the crane itself;
- The crane operator's view was obstructed by the knuckle boom;
- The crew were new to the vessel:
  - There was a lack of awareness of possible clash points and were not highlighted in the deck induction;
  - The crew were not familiar with the vessel set-up when working in close proximity to tower;
- There was an unidentified hazard (i.e. deck structure clash points);
- There were no engineering controls to warn the crane operator of close proximity to a structure.

Our member notes that further actions will be communicated on conclusion of the investigation.

Actions/discussion points

- **Are we out of the line of fire?** Discuss what key controls you have in place to remove yourself and your team members from the potential line of fire;
- Ensure drop zones are identified for any potential clash points when performing lifting operations in close proximity to other structures or equipment;
- Ensure there is a robust and effective barrier management process used to manage all drop zones;
- Ensure all potential crane collision points are identified and included in worksite inductions, toolbox talks and risk assessments;
- Where applicable, ensure additional 'spotters' are used to assist the banksman.

Members may wish to refer to:

- Provisions Crane damaged by Main Deck Crane
- High potential LTI: rigger ear injury
- Reliance on crane limits caused crane damage and dropped objects
- Crane hydraulic hose caught on protruding grease fitting