

UK MAIB: Person injured during lifting of compressor

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The UK Marine Accident Investigation Branch (MAIB) has published Safety Digest 1/2024, consisting of lessons from recent Marine Accident Reports. IMCA has reviewed the report and passes on to members some of the incidents in the report. This is one of them.

What happened?

A worker was crushed by heavy equipment under maintenance, when the vessel rolled slightly. On a very large vessel, a team of specialist contractors were working on a compressor in the engine room. The work required the use of chain blocks and other lifting equipment to lift the compressor which weighed 1865kg. This was further complicated by the compressor having an offset centre of mass.

The contractors were working alone without support from the vessel crew. The compressor was raised using two pieces of steel bar passed through the forklift guide arrangements at its base and then supported with three chain blocks. With the compressor suspended, one of the contractors lay on the deck to reach and disconnect the mounts beneath it.

At the same time, the vessel began its scheduled departure in rippled sea conditions with the wind gusting to 30kts. Shortly after leaving the berth the vessel rolled slightly and the compressor tilted from its suspended position, crushing the contractor.

The other contract workers quickly used the chain blocks to raise the compressor sufficiently for the contractor trapped beneath it to roll free with help. The alarm was raised and medical assistance soon arrived. The injured contractor was extracted from the engine room, stabilised in the ship's medical centre and subsequently airlifted to hospital. The contractor's injuries included multiple rib fractures to both sides of their chest, a puncture to the chest wall into the pleural space and a fractured collarbone.

What went wrong?

Post-incident examination of the lifting arrangements found that:

- Only one of two 980kg working load limit deckhead fixed rings had been used, along with lifting attachment points to a cable tray and a pipe bracket.
- Additionally, the chain blocks used for lifting the aft end of the compressor were

IOGP Life Saving Rules:



Line of fire



Safe mechanical lifting

hooked on to the chains of other chain blocks.

- The steel bars did not have any spreader arrangements and the wide forklift truck 'lifting slots' allowed movement of the bars.
- The workers
 - Were working under a suspended load.
 - Failed to assess or consider the risks involved of the load shifting when the vessel started moving.
 - Using wholly unsuitable strong points from which to lift a load.

Given the complicated lifting arrangement, and the weight of the compressor, this lift should have been subject to the development of a thorough lifting plan that included input from the vessel's senior officers and shore-based technical staff. This would likely have identified the correct lifting method and equipment, as well as appropriate timing for the lift in respect to the vessel's departure from port and the environmental conditions. Working in isolation, including as part of a team, can incur serious consequences.

Lessons

- Lifting operations should be properly planned by a competent person under appropriate supervision and carried out in a safe manner – failure to do this nearly resulted in a fatality.
- Ensure you are familiar with the regulatory requirements and any relevant codes of practice or guidance before undertaking any lifting operations.

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