

## MAIB: Gantry crane wire parted causing injury

Safety Flash Published on 12 June 2023 Generated on 21 January 2025 IMCA SF 14/23

A gantry crane hoist wire parted causing a load to drop, causing injury and damage to equipment.

### What happened?

Engineers were overhauling a large diesel generator, using the engine room's overhead gantry crane to lift a 1200kg cylinder liner into position above the engine.

This required the electric winch motor to raise the crane hook to its maximum lift height, at which point the crane's hoisting wire suddenly parted.

The suspended cylinder liner fell onto the engine, causing damage to both pieces of equipment, and struck the left foot of an engine room fitter who was standing nearby.

The crew member was treated in hospital for a broken toe.

#### IOGP Life Saving Rules:



Line of fire



Safe mechanical lifting



Cylinder liner after wire parted



Parted hoisting wire

## What went wrong?

- The crew member was in the line of fire, near or under a suspended load.
- The failed hoisting wire had been recently renewed but was found to be 7 m shorter than the wire length specified by the crane manufacturer. The shorter length wire affected the operation of the crane's hoist limit switch and prevented it from cutting power to the winch electric motor when the hook was raised to the maximum lift height; the winch motor was therefore able to overload the wire and cause it to fail.
- It was found that the same potential fault was extant on the other engine room cranes. The wire length recorded in the ship's planned maintenance system (PMS) computer was found to be incorrect when compared with the manufacturer's specification.

## Actions

- The cranes were all taken out of service for repair. Engineers conducted a full inspection of engine room hoisting devices and take necessary steps to ensure that all equipment meets manufacturer specifications.
- Test hoist limit switches before operating cranes.

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