

Marine Safety Flash

A16-30 (16th August 2016)

Heavily greased wire rope parts resulting in fatality

Incident Overview

Rescue boat manoeuvres were planned while the vessel was at anchor. Three crew members boarded the rescue boat. After it was loaded, a fourth crew member lowered the boat to the water by lifting the brake. Once in the water the boat was immediately raised again using electric push-buttons acting on the winch. This manoeuvre was repeated several times. On the final recovery the winch wire rope parted and the boat deployed to the water in free-fall, about 13 metres below. The three crew members were quickly evacuated to a shore hospital. One individual was later pronounced dead and the other two were diagnosed with serious injuries.

Key Findings

The accident investigation revealed several important aspects including:

- The wire rope had been rigged incorrectly through the hook, introducing unnecessary stresses.
- The wire rope had a theoretical tensile strength that was approximately 25% less than that recommended by the davit manufacturer.
- Notwithstanding the heavy grease coating, the wire rope was severely corroded at the point of failure.
- The winch automatic shutdown limit switch was found to be defective.

Recommendations

- Always rig boat lowering equipment with wire that meets manufacturer's specifications.
- Copious amounts of grease do not ensure that wire ropes are protected from corrosion, and may in fact hide corrosion deficiencies. Corrosion resistance can be increased through the use of galvanized wire in combination with specialty penetrating oils, which have the added benefit of reaching and protecting the wire rope core and keeping the wire clear for proper visual inspection.
- Ensure all limit switches are functional and wires are properly rigged according to manufacturer's specifications.



Copious amounts of grease are not always a good sign