

Republic of the Marshall Islands

MARITIME ADMINISTRATOR

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MARINE SAFETY ADVISORY No. 01-24 (Rev. 1)

To: Owners/Operators, Masters, Nautical Inspectors, Recognized Organizations

Subject: ANCHOR WINDLASS MOTOR PROTECTION

Date: 1 February 2024

The Republic of the Marshall Islands (RMI) Maritime Administrator (the “Administrator”) has opened a marine safety investigation into an explosion of a hydraulic windlass motor on board an RMI-flagged vessel.

During anchoring, with the windlass brake in the closed position and the winch drive not operational, the anchor chain payed out unintentionally. As a result, the motor catastrophically failed, causing flying debris which struck and fatally wounded a crew member. The initial findings determined that an adequate protection system was not installed to contain debris resulting from severe damage. The operator was not aware of the manufacturer’s recommendation to install an adequate protection system.

Since 2009, similar accidents involving catastrophic failure of hydraulic windlass motors have occurred on board, resulting in serious injuries or loss of life.

Examples of scenarios that led to catastrophic failure of anchor windlass motors included:

- Overload of the system due to external forces (e.g. anchor dragged pipeline);
- Operation of the windlass under severe weather conditions (e.g. over tensioning of the chain while heaving the anchor during pitching of the vessel); and
- Incorrect use of the windlass (e.g. pulling the vessel to the anchor by the chain without support of the engine).

The International Association of Classification Societies has issued [Unified Requirement A3, Anchor Windlass Design and Testing](#), that provides examples of standards recognized by its Members, on the design, construction and testing of windlasses.

This MSA is evaluated annually by the Administrator and expires one year after its issuance or renewal unless otherwise noted, superseded, or revoked.

To reduce the number of accidents during the operation of a windlass, the Administrator strongly urges owners and operators to:

- Understand the design and operating limitations of windlasses fitted on board and to be familiar with the operating instructions in heavy sea conditions. If in doubt of the operating limitations, contact the manufacturer.
- Be familiar with the latest version of the manufacturer's operating manuals, service bulletins and notices to ensure adherence to the latest guidance and instructions.
- Install a suitable protection system around the hydraulic motor. Contact the windlass manufacturer if support is required.