Accidents during mooring operations pose significant risks to both maritime personnel and vessels, resulting in serious injuries and fatalities. Despite advancements in technology and safety measures, the complex nature of mooring activities, combined with unpredictable environmental conditions, continues to present challenges in ensuring the safety of these operations.

MOORING OPERATIONS

TO ADDRESS CONCERNS

THE INTERNATIONAL MARITIME ORGANISATION (IMO) HAS AMENDED REGULATION II-1/3-8 OF THE SAFETY OF LIFE AT SEA (SOLAS) CONVENTION, TAKING EFFECT FROM 1 JANUARY 2024.

The amendment addresses mooring equipment and the design of ships constructed on or after 1 January 2024. However, it's essential to note that these changes also have implications for existing ships, requiring awareness and understanding of responsibilities among crew members.

The introduction of the **'GUIDELINES FOR INSPECTION AND MAINTENANCE OF MOORING EQUIPMENT INCLUDING LINES'** (MSC.1/Circ.1620) formalises many of the good practices that are already contained in publications such as the **'MOORING EQUIPMENT GUIDELINES, 4TH EDITION (MEG4)'.**

THE AMENDMENT AIMS TO IMPROVE MONITORING AND MAINTENANCE STANDARDS CONCERNING MOORING EQUIPMENT AND ADDRESS VARIOUS ASPECTS CRUCIAL FOR ENSURING SAFETY.

THE SAFE USE OF MOORING EQUIPMENT

One of the key components emphasised in the guidelines is the safe use of mooring equipment. Crew members are encouraged to familiarise themselves with company procedures outlined in the safety management system (SMS) and actively participate in planning and risk assessment processes. If improvements can be made, we encourage them to be discussed and procedures updated as necessary.

Mooring lines, mooring tails and associated attachments should be identified, to allow for inspection and maintenance. Always ensure the ability to correlate each of these components with shipboard maintenance records and the original manufacturer's certificate. Any defect discovered in lines or equipment during mooring operations or safety rounds should be immediately reported to a supervisor.

JOBIN MATHEW, LOSS PREVENTION OFFICER, BRITANNIA P&I

SELECTION OF REPLACEMENT MOORING LINES

When it is time to replace a mooring line, ensuring that the new line matches the specifications of the one being replaced is crucial. Various factors influence how a mooring line behaves in use and determine its longevity.

The personnel ordering replacement mooring lines should understand the design specifications and criteria. If mooring lines are supplied with different characteristics from those originally planned for in the design, any deviations from the original plan could necessitate updates to the towing and mooring arrangements. In such cases, seeking guidance from your managing office is advisable.

When ordering new mooring lines, always request a manufacturer's test certificate. It is worth noting that in certain trades, a MEG4 compliant certificate may be required.

If you receive mooring lines from another ship within your company, ensure that you request all accompanying documentation.

INSPECTION AND MAINTENANCE OF MOORING EQUIPMENT

This is paramount to ensure the safety and efficiency of maritime operations. Letting mooring lines deteriorate to the point of potential failure during usage is a risk not worth taking. Instead, your ship should establish and implement a formal maintenance plan.

When it comes to inspecting individual mooring lines, adhere closely to manufacturers' recommendations. Look out for signs of excessive wear or damage, and establish clear criteria for condemning lines if necessary. When uncertain, don't hesitate to seek guidance.

Mooring lines are particularly vulnerable to deterioration when exposed to contaminants such as grit or paint, as well as adverse environmental conditions such as moisture, UV light, chemicals, and extreme temperatures. It is imperative to stow and protect them properly to minimise their exposure to these elements.

Furthermore, poorly maintained mooring equipment and fittings, such as seized pedestal bearings or incorrectly set winch brakes, can significantly increase the risk of mooring line breakage. This equipment should undergo regular planned inspections and maintenance, with detailed records readily available for reference. Taking proactive steps to maintain mooring equipment not only enhances safety but also prolongs the lifespan of crucial maritime assets.

FOR FURTHER INFORMATION

please do not hesitate to contact the loss prevention team at: lossprevention@tindallriley.com

KEY TERMS

BEND RADIUS (D/d Ratio)
The diameter (D) of a mooring fitting, divided by the diameter (d) of the mooring line that is led around or through the fitting. The higher the number the more able to minimise strength reduction due to bending. Manufacturers of lines will indicate performance at standardised D/d ratios on mooring line certificate.

SHIP DESIGN MINIMUM BREAKING LOAD (MBLSD)
Ship fittings and hull structures are designed to meet mooring restraint requirements by accommodating the minimum breaking load of mooring lines. This load is essentially the total restraining load required, divided by the planned number of mooring lines used.

LINE DESIGN BREAK FORCE (LBDF) – **The minimum force a new mooring line will break at. Normally mooring lines when new should be designed with LBDF = 100-105% of MBLSD.**

UPDATING OF SHIP DOCUMENTS AND RECORD-KEEPING

This is a critical aspect of maritime operations. Your company's procedures will outline how long maintenance records for mooring equipment must be kept on board. It is essential to note that at a minimum, these records should cover the period between annual surveys.

For mooring lines and tails, crucial information such as the date of manufacture, date of entry into use, and the number of uses should be readily available. This data is vital for demonstrating compliance with external authorities that may request such information.

TOWING AND MOORING ARRANGEMENTS PLAN

Ships constructed after 1 January 2007 but before 1 January 2024 should possess a comprehensive plan detailing all mooring and towage fittings on board. For ships built on or after 1 January 2024 this plan will include significantly more detail, particularly concerning the intended mooring design and arrangement of mooring lines. All crew members should familiarise themselves with this document and its contents.

While industry guidance on mooring safety often emphasises operational practices, such as those outlined in the Code of Safety Working Practices for Merchant Seamen, Chapter 26, it is equally crucial to consider the condition of the equipment used during operations. Recognising this, amended regulations aim to enhance safety standards, providing a safer working environment for ship crews. Keeping ship documents up-to-date and maintaining meticulous records not only ensures compliance but also promotes safety and efficiency in maritime operations.