



# PREVENTION AT SEA

CIRCULAR 08/2018

MOORING OPERATIONS -  
PARTING MOORING LINE!



Don't Cure,  
**PREVENT**

## Mooring Operations - Parting Mooring Line!

**Case#1:** A bulk carrier was moored at a berth for discharging cargo. At rise of tide, a forward breast line parted, snapped back and hit a Stevedore Supervisor who was monitoring operations from the forecastle deck cargo. The casualty suffered serious injuries and had to be hospitalized.

Investigation revealed that both the discharge of cargo and rise in tide caused excessive tension on the mooring lines and eventually parting of the breast line. All mooring lines were in a fair condition and with one layer on the tension side of split-type mooring drums secured on brakes. All winch brakes were found excessively tightened and no marking was provided that would allow setting the brakes to holding forces sufficiently below the lines' minimum brake loads (MBL) so they would render before the lines parted.

A Deck Rating was tasked with deck watch keeping duties that included to frequently check the mooring stations. He reported that he had inspected the forward mooring station just minutes before the incident, but found everything in normal condition and therefore did not touch the winch brakes. He was not aware about the rise of tide.

The Chief Officer, who had planned the discharge operation was aware about the expected reduction of draft and rise of tide and reflected this in the discharge plan. However, none of the deck watch keepers were briefed about the expected conditions or had received specific instructions in regard to maintaining a safe mooring condition during this critical period.

### What went wrong?

- Winch brakes were set to holding forces significantly exceeding the MBL of the mooring lines. This was because ***the winch brakes were not tested for their holding forces and no marking was applied for winch brake settings corresponding to safe holding forces***. Therefore, the mooring team could not know which holding forces were exerted on the brakes and thus were unable to apply safe settings.
- The ***Chief Officer failed to inform the deck watch members about the expected draft and tide conditions and their effects on tension of mooring lines***. He also failed to instruct the deck watch keepers when to check tension on the mooring lines and how to perform this task safely.
- The ***Stevedore Supervisor was not warned about the dangers in the vicinity of the mooring lines*** and was not warned to leave the forecastle deck.



BAD PRACTICE TO RUN MOORING LINES STRAIGHT OFF A STORAGE REEL



Line tension due to the weight of the line over side and the pull of the linesmen

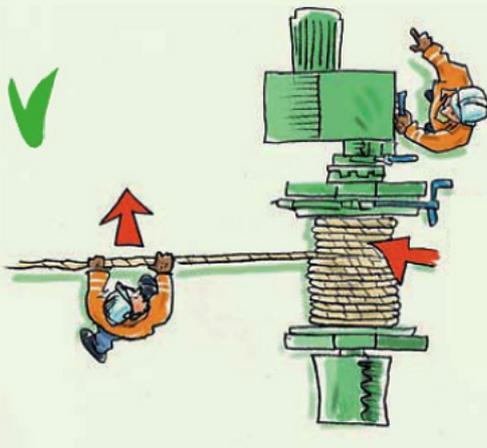
Source: SEAHEALTH – A guide to prevent accidents while mooring

## Best Practice

- ✓ Ensure testing of winch brake holding forces with suitable approved equipment and application of marking at the brake adjustment spindle to indicate the correct brake setting corresponding to holding forces well below the lines' MBL. As winch brake lining is subject to wear and tear, ensure frequent repetition of the test and adjustment of the marking accordingly.
- ✓ Ensure that mooring lines on winch drums are correctly reeled and on split-type drums with one layer on the tension side only. Ensure that mooring lines of same material and construction are used and that those deployed into the same direction are of approximately the same length.
- ✓ Prior to each mooring operation, ensure careful inspection of the mooring lines to ensure that they are in satisfactory condition. Ensure that at all times sufficient spare mooring lines are available for replacement when needed.
- ✓ When planning cargo operations, carefully consider expected drafts and tides at all stages and inform the deck watch keepers. Ensure that clear instructions are provided to them when and how to check mooring lines to avoid both excessive tension and slacking.
- ✓ Ensure that mooring stations are clearly marked as dangerous areas and withhold any unauthorized person from entering and staying in areas where parting lines could snap back.

# Don't Cure Prevent

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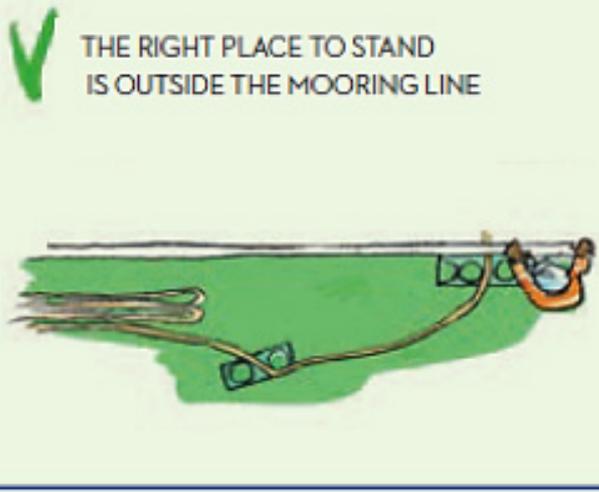


**Good spooling**  
Each turn should lie neatly next to the previous one

**Source: SEAHEALTH – A guide to prevent accidents while mooring**

In the Vessel Inspection Questionnaire (VIQ7), at Chapter 9-Mooring §9.2, it is clearly stated that each ship should be provided with a **Mooring System Management Plan (MEG 1.9)**, where all assessed risks will be effectively managed through the design and operation of the mooring system. Through the MSMP, it would be ensured that no harm comes to the ship or terminal staff or damage to the ship or terminal/ facility and that the mooring system meets applicable regulations, codes and recommended practice.

At §9.3, it is recommended for ship operators to develop a programme for line maintenance, inspection, retirements and end-to-end policy – a **Line Management Plan**. Each type of mooring line needs a different maintenance and inspection process based on manufacturer's guidance and operational experience. The ship operator is responsible for the development and implementation of the ship's LMP. The LMP will contain the ship's operator's requirement for the management of mooring line maintenance, inspection and retirement during the operational phase of the mooring line lifecycle.



**THE RIGHT PLACE TO STAND IS OUTSIDE THE MOORING LINE**

**Source: SEAHEALTH – A guide to prevent accidents while mooring**



**HELPFUL TIPS**

By combining Mooring System & Line Management best practices along with valuable insights from leading global rope manufacturer **KATRADIS Marine Ropes Ind. S.A.**, **Prevention at Sea** can undertake the compilation of both Plans on behalf of the Ship operator and in accordance with the specific design and operation of the ship's mooring system.



# PREVENTION AT SEA

DON'T CURE, PREVENT! FOR MORE INFORMATION,  
PLEASE DO NOT HESITATE TO CONTACT US.



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