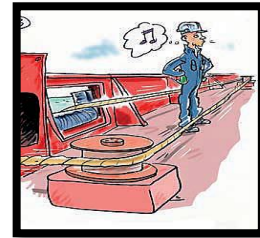


“Prevent, Don’t Cure”

Circular 01/06/15

Subject: “Serious injuries during mooring operations - Important Safety Issue!”

Case: Recently, it has been reported that in Australia, a seafarer was standing behind the line, while in process of belaying the towing line. He couldn't have a clear sight of what was happening around him, so as to have an escape step back route in case of an emergency. Suddenly, the line was caught in the propeller and his leg got trapped. The seafarer suffered serious injuries in his leg and finally was unlikely to resume his sea duties.



In connection to the above, and in order to assist our clients to prevent similar unpleasant cases or potential accidents/incidents related to onboard mooring operations, we would like to highlight the following items:

Before Mooring operation

- The workplace should be carefully prepared for the maneuvering procedure and the communication between the Bridge and the mooring stations, should be well tested and established.
- The supervision and operation of winches should be entrusted to an experienced crew member. All supervising Officers should have an unobstructed view of the mooring procedure at all times and avoid getting involved in the mooring operation as a working hand.
- The crew should be briefed in advanced on the mooring plan and division of labor. Crew members involved to the mooring operation, should be also equipped with appropriate protective clothing (e.g. helmets, safety shoes, gloves etc.)
- Clear unobstructed sound communications between the vessel and shore and free of confusion with other ships, are considered essential.

While Mooring operation

- Ensure that the instructions given by the Officer in Charge/Supervisor are well understood and followed properly.
- The bridge will advise which side the vessel is to berth alongside, the number of ropes that are to be deployed and which line will be the first line to be sent ashore (through boat or heaving line).
- When preparing for mooring operation (laying ropes on deck) ensure that sufficient length for the intended operation should be taken from the winch drums and be flaked on deck prior to arrival ready for running to the berth. It is suggested that care should be taken when lowering ropes, that these are lowered using control at all times and are not let go to fall uncontrollably.
- Passing the rope in use through a bollard is recommended for maintaining controllability (heaving or letting go).
- It is suggested not to tension hardly one line only, but to heave two ropes simultaneously if possible in order to distribute the tense/stress as much as possible.
- When drum ends are used to tension lines, it is recommended two personnel to be engaged in the operation, one tending the line on the drum end and one coiling the rope on deck. At least three-four turns around the drum end are recommended and should suffice for heaving. However on whelped drums more turns may be necessary.
- Avoid rope surging on the drum.
- Avoid standing near the fairleads.

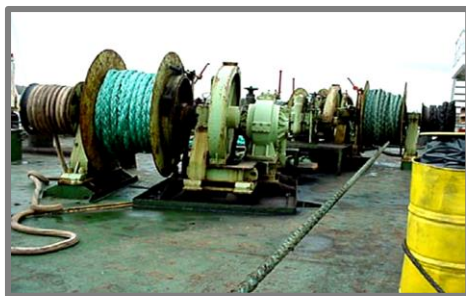
- The personnel should remember that split drum winches are designed so that the line under tension is on the first wrap on the drum providing maximum holding power. Therefore they should stand so that they are pulling the line from the storage side towards the tension side rather than pushing. This has the risk of the line springing back towards the seafarer pushing it.

While Unmooring operation

- Lines should be released and heaved onboard in accordance with the instructions received from the bridge.
- Once order is given to let go the remaining lines these should be promptly slacked and then heaved in once
- The bridge should be advised of the fact that the lines have been let go from the shore bollards.
- The bridge should be advised that the lines are clear of the water and it is safe to use the propelling machinery and thrusters (if available)

Which factors related to mooring operations can lead to an incident/ accident?

- The use of old and damaged wires and ropes
- Unclear mooring area with unused ropes and equipment
- Mooring ropes not fastened, but stored at winch drum
- The painting of mooring area is badly planned, with all surfaces and equipment to be painted with the same color and absence of adequate highlighting of the hazardous and tripping sights
- The warning marks are not painted at all
- Crew is not familiarized with related to rope bight dangers
- The ropes are not arranged on the split type drum correctly.
- Rope and metal line are joined directly without the use of a thimble, which may actually lead to rope parting.
- Crew members is recommended to maintain a safe distance from warping ends/ drums at all times in order to avoid getting trapped in case of a hazard.
- Ropes or warps should be avoided to be positioned around sharp corners. When using a winch, the angle to the hawsehole should be as wide as possible.
- In order to prevent any straining or injuring of seafarer's back, manual pulling on ropes should be also avoided.
- Crew members should be careful not to stand inside a bend or loop of any rope or warp, especially when these are under tension.
- Stay clear of moving parts
- Be aware of heaving lines being thrown aboard from tugs or ashore
- After use, ropes should be stored clear of the deck



[Poor and potentially unsafe mooring area]



[Mooring station with effective hazard markings]



Risk Assessment Solutions

Care and Maintenance of Equipment

- Mooring winches, capstans, windlasses, mooring lines, mooring fixtures and fittings should be properly maintained. Routine maintenance should be conducted through visual inspections of all equipment.
- Adequate greasing of nipples on moving machinery and of the rollers on fairleads and pedestal fairleads should be performed regularly. Open gearing and clutches should be also suitably greased.
- The brakes should be closely examined to ensure that all linkages are working smoothly, the brake band material thickness is adequate and the condition of the brake lining is satisfactory.
- The clutches should operate properly and pins for securing the clutches should be attached to the clutch control levers ready for use at all times.
- The winch control levers should be marked so as to indicate the direction of operation for both paying out and heaving in.
- Drum ends should be kept free from damage, rust and paint and the machinery bed plates should also be periodically inspected for deterioration or any damage.
- It is important to ensure that mooring fairleads are all turning freely and that their surfaces are free of rust and damage that could abrade the mooring lines. The integrity of all mooring equipment such as bitts, pad eyes and leads should be closely examined.

Whether it is a near miss or an actual accident, the above mentioned items should be a reminder of the importance and level of difficulty on performing mooring operations onboard. *“Prevention at Sea” through their “Risk Assessment Program”* recommends that such operations should always be well planned by following comprehensive procedures.

We remain at your disposal for more details,

Prevention at Sea