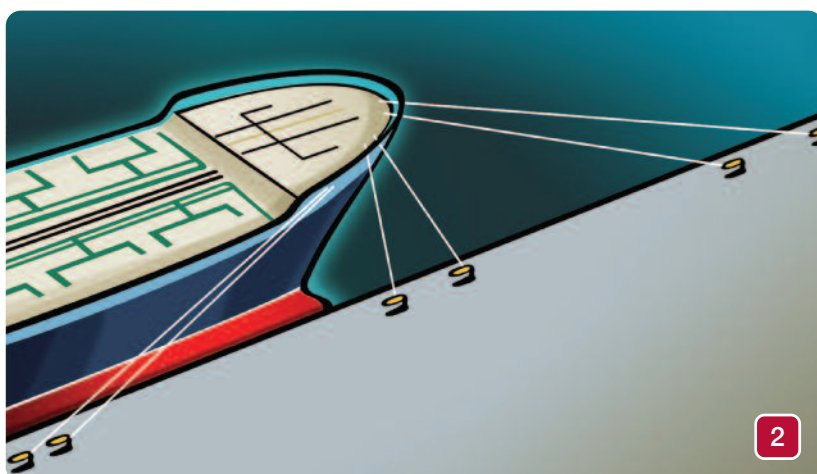


MOORING OPERATIONS



Ensure that mooring operations are properly planned taking into account the expected wind, weather, current and tidal conditions, the operation of the vessel and the expected rise and fall at the berth. Planning should take into account the number of personnel required at both forward and aft stations to ensure the operation can be conducted safely and effectively.



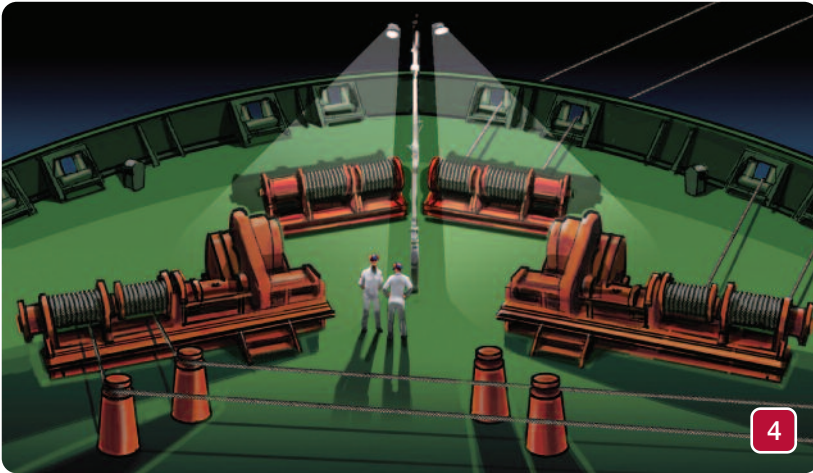
The most effective positioning of headlines and springs is as close as possible to the fore and aft line of the vessel, at as shallow an angle as possible. Breast lines should be perpendicular to the vessel's fore and aft line. While this may not be possible due to the layout of the intended berth, mooring lines should be positioned to give the best possible leads at all times.



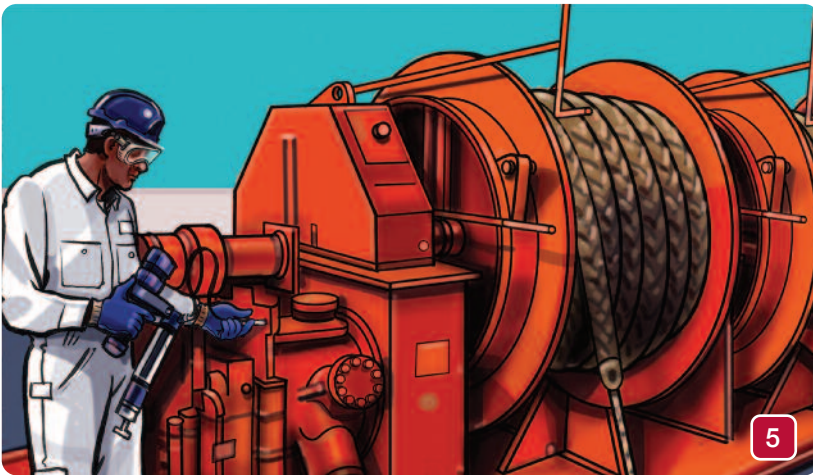
Personnel involved in mooring operations should be wearing suitable Personal Protective Equipment (PPE) and should be equipped with a suitable means of communication between mooring stations and the vessel's bridge team. Care should be taken to ensure personnel do not stand in the bight of a rope which could lead to them being trapped or dragged by the line. The officer in charge of the operation should ensure that all personnel are aware of potential snap-back zones and how these will change with the lead of the mooring line. A diagram of the mooring arrangements can be used to aid understanding.

(CONTINUED OVERLEAF)

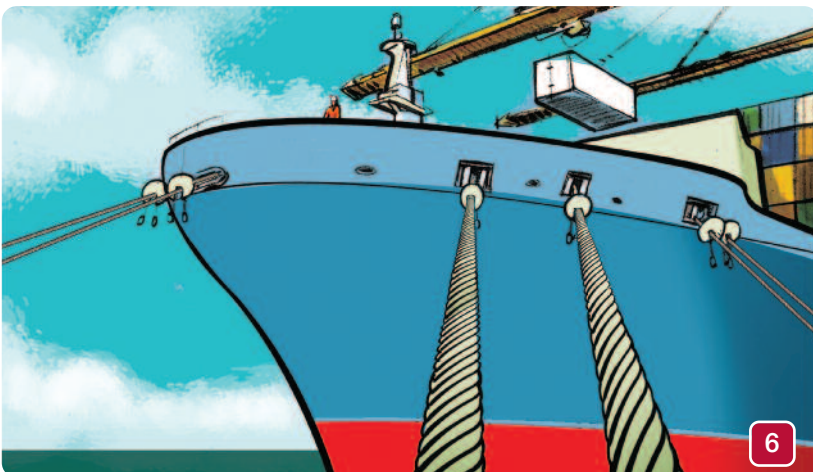
MOORING OPERATIONS (CONTINUED)



Mooring stations should be adequately lit and kept free from obstructions which could hinder the safe movement of personnel or obstruct lines of sight between members of the mooring party. Decks should be clean, free from oil or grease and coated with anti-slip paint. Is the mooring station design adequate to ensure the safety of personnel e.g. is the winch operator in a snap-back zone?



All mooring equipment and lines should be regularly inspected for signs of damage or wear. Any items which do not meet the required standards should be taken out of service. All mooring lines should ideally be of the same type, construction, size and rating, however if this is not possible then those used on the same lead e.g. headlines, must all be of the same type, construction, size and rating.



All moorings should be regularly tended throughout the vessel's port stay and adjusted as necessary to cope with changes in the height of tide and the loading and/or discharge of cargo. This will ensure that a balanced load is maintained preventing damage to, or the failure of, mooring lines and that the vessel remains stationary on the berth.

Disclaimer: The purpose of this publication is to provide information which is additional to that available to the maritime industry from regulatory, advisory, and consultative organisations.

Whilst care is taken to ensure the accuracy of any information made available (whether orally or in writing and whether in the nature of guidance, advice, or direction) no warranty of accuracy is given and users of the information contained herein are expected to satisfy themselves that it is relevant and suitable for the purposes to which it is applied or intended to be applied. No responsibility is accepted by North or by any person, firm, corporation or organisation who or which has been in any way concerned with the furnishing of data, the development, compilation or publication thereof, for the accuracy of any information or advice given herein or for any omission herefrom, or for any consequences whatsoever resulting directly or indirectly from, reliance upon or adoption of guidance contained herein.