	<p>HEALTH, SAFETY, ENVIRONMENT AND QUALITY MANAGEMENT SYSTEM</p> <p><b>70.0 SAFE MOORING</b></p> <p>ON THE JOB TRAINING</p>	<p>OJT : 070  Page : 1 of 4  Date : 01-Feb-24  Rev : 10.0  Appr : BMM</p>
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### **Training: Safe Mooring**

OJT is to be read in conjunction with the company's SMS chapter 6.14 Safe Moorings in HSE Procedures Manual.

#### **Human Factors**

There are two types of human failure, namely human error (unintentional) and non-compliance/ violation (intentional).

- **Human error** examples include:
  - **Action errors**, such as: - Operating the winch in the wrong direction. - Forgetting to engage the brake.
  - **Checking errors**, such as: - Failure to confirm that personnel are clear of mooring lines before heaving. - Failure to shut down equipment after completion.
  - **Communication errors**, such as: - Signaling 'heave' instead of 'slack out'. - Radio does not work.
  - **Selection errors**, such as: - Selecting the wrong fairlead or mooring line size.
  - **Planning errors**, such as: - Failing to plan the steps in order, - Not enough personnel. - Not following maintenance intervals. - Not identifying danger zones/risk areas.
- **Non-compliance** examples include:
  - **Violations**, such as: - Intentionally taking a short-cut - Walking over tensioned mooring lines - Modifying or adjusting equipment or settings without approval Above potential human failures should be included in the Risk Assessment and discussed in Toolbox talk.

#### **Risk Assessment and Toolbox talk**

Ensure Risk Assessment has been conducted on the mooring operation taking human factors as well into consideration, mooring party has been made aware of the hazards and associated control measures. The officer in charge at mooring station has been assigned responsibility to ensure that control measures are complied with.

Officer in charge at mooring station to conduct the toolbox talk with his mooring team and report to bridge upon completion of the toolbox talk which should contain at least following:


- Mooring configuration
- Hazards and associated control measures
- Snap back areas.
- Donning of appropriate PPE
- Familiarity with the mooring winches

- Handling of tugs
- Potential human failures
- Unexpected release of tension from a line caught in the fender/other jetty obstructions.

### Common risks and hazards

- **Equipment:** Old or damaged mooring lines, Damaged stopper, Poor or damaged equipment, Restricted view of mooring area, Trip hazards, Areas that are difficult to access
- **Processes:** Lack of communication and planning, No risk assessment, Not enough crew, Ineffective training on the hazards of the job, Inadequate information or unclear instruction, Poor supervision, Poor housekeeping, Poor planning for environmental issues such as ship movement, ice, rain, poor visibility, slippery deck etc.
- **Personal issues:** Stress, Fatigue, Not following procedures or taking shortcuts, PPE missing or not properly worn, Rushing, taking shortcuts to save time or efforts, Lack of awareness e.g. standing in a bight, Crossing a line under tension



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## Safety culture and behaviour

Safety culture is about people's attitude and behaviour. On a ship with a good safety culture, you will:

- Do more than the minimum.
- Identify unsafe situations.
- Alert each other
- Look for ways to improve safety and the way you work.
- Share information.
- Learn from your own and others near misses.

## Safe Mooring Practices

- Careful thought should be given to the layout of moorings, so that the leads are those most suited, without creating sharp or multiple angles.
- Entire mooring area is painted with non-skid paint to prevent slippery surface.
- The entire mooring deck should be treated as a high-risk area where snap-back can happen.
- Whole working area is adequately lit for operations undertaken during periods of darkness.
- Adequately illuminates winch controls, clutches and operator platforms etc.
- Surging of lines on winch warping drums is not recommended. The nature of the fibers, in combination with the high loads, make it safer to provide slack by walking the winch back rather than surging the line.
- When holding and tensioning the line on the warping drum, bitt, the line handler should stand at least one metre from the drum or bit. If standing too close when the line surges, the line handler could be drawn into the drum or bitt before being able to safely take another hold or let go.
- Any excessive tension on mooring lines during mooring operation is to be immediately reported to Master and slack the line to release the tension if required. Remember person on the spot is the best judge for avoiding any potential injury to himself and his team.
- Mooring winches are well marked with visual guidance such as arrows for rotation, heave and payout on controls.
- To prevent personal injury to those receiving heaving lines, the 'monkey's fist' should be made with rope only and must not contain added weighting material (shackles, bolts or nuts, or metal piece inside the monkey's fist. Vessels using dangerously weighted heaving lines in the UK may be subjected to prosecution.
- Maintain equal tension in the lines leading in same direction for avoiding overstraining a single line. Tend the lines regularly in port.

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**Above read and understood:**

CO: \_\_\_\_\_

2O: \_\_\_\_\_

3O: \_\_\_\_\_

X2NO/X3NO \_\_\_\_\_

Deck Cadet \_\_\_\_\_

Verified by: Master / \_\_\_\_\_

Date: \_\_\_\_\_

Feedback: