

# INTERNATIONAL MARINE TRANSPORTATION

## SAFETY ALERT BULLETIN

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### Mooring operations – Key findings

During a recent IMT forum, a 'workgroup session' on mooring operations was conducted. It focussed on a number of mooring related incidents including vessel break outs, injuries, man overboard etc. The purpose of this safety alert is to share the best practices captured during this work group session

Measures considered to reverse this trend of incidents were classified into INDICATORS, STRATEGIES & ENHANCE SAFETY CULTURE

**INDICATORS** – To assess mooring hazards by means of the following:

- Near Miss reporting – e.g. Person standing in impact zone / poor stowage of ropes
- On board inspections (Condition of ropes and equipment) - e.g. Broken rope strands / hydraulic leaks
- Hazard identification during tool box talks – e.g. Unusual mooring patterns & rope leads, language barrier
- Lessons learnt from incidents / experience sharing / best practices from fleet
- Assessment of the mooring operation – e.g. by designated crew member, superintendent, auditor etc.

**STRATEGIES** – To eliminate hazards / incident causal factors

Focus	Key Hazards / causal factors	Possible Strategy
Facilities and Equipment	<ul style="list-style-type: none"><li>○ Rendering limits set incorrectly</li><li>○ Poor mooring leads due to berth configuration</li><li>○ Hazards posed by specific properties of mooring rope/wire (High modulus, composite etc.)</li><li>○ Type and strength of mooring equipment not appropriate for operation</li></ul>	<ul style="list-style-type: none"><li>• Robust procedures (including below)</li><li>• Chafing prevention</li><li>• Weather / Tide / Current monitoring</li><li>• Risk Assessment (including below)</li><li>• Simultaneous operations (Mooring / Hose connection )</li><li>• Consider effect due to passing vessels</li><li>• Crew experience and manning</li><li>• Toolbox meeting / Task allocation</li><li>• Effective supervision by a Responsible person - Intervention</li><li>• Effective communication procedure</li><li>• Knowledge of berths mooring layout</li><li>• Shore gang support on the berth</li><li>• Training / Frequency of training</li><li>• Mooring equipment included in PMS (including mooring tails )</li></ul>
Management Systems	<ul style="list-style-type: none"><li>○ Poor communications (mooring parties, tugs, shore gangs, pilot, bridge team)</li><li>○ Lack of understanding of roles and responsibilities</li><li>○ Failure to tend moorings or poor mooring management alongside</li><li>○ Strong currents / tidal streams /passing traffic</li><li>○ Environmental conditions (wet / cold etc.), slippery deck &amp; poor illumination</li></ul>	
Human Element	<ul style="list-style-type: none"><li>○ Fatigue, inadequate PPE</li><li>○ Personnel incorrectly positioned, false sense of security due to snap back zones</li><li>○ Officer in charge become actively involved losing oversight</li><li>○ Incorrect use of stoppers</li></ul>	

**ENHANCE SAFETY CULTURE** – Cultivate safe mooring behaviour



Stop unsafe behavior

Be cautious, be vocal

Proceed with care for others

An effective **buddy culture** on board needs to be cultivated wherein each crew member actively cares for others

Mooring operation requires a high level of situational awareness and personnel engaged should exercise utmost caution. This can be achieved by means of a **robust training regime, adequate supervision, effective communication** and a **strong stop work culture**

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