
ANNEX G

DEFINITIONS AND REFERENCES

The following comprehensive set of definitions and references are used by Marico Marine. Not all definitions or references are used within a report. All references within this report relate to the following unless otherwise specified:

Abeam	direction at right angles to the length of a ship (also used: On the beam)
Accident	An unintended event or sequence of events
Aft / Stern	rear of the vessel
Agent	Person, normally based at the port, who is appointed by the vessel's charterer or owner to look after their interests for the duration of the vessel's visit. Normally the primary intermediary between vessel and shore services.
Aground	Resting on the bottom. Grounding - the action of a vessel going aground.
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
Alongside	A ship is alongside when side by side with a wharf, wall, jetty, or another ship.
Amidships	the centre of the vessel (half ships length)
Ballast	Any solid or liquid that is brought on board a vessel to increase the draft, change the trim, regulate the stability or to maintain stress loads within acceptable limits. It is normally seawater.
Beam	width of a vessel
Bollard	A post (usually steel or reinforced concrete) firmly embedded in or secured on a wharf, jetty, etc, for mooring vessels by means of wires or ropes extending from the vessel and secured to the post.
Bollard Pull	The measure used to determine the towage power of a tug, normally expressed in tonnes.
Bow	front / forward end of the vessel
Break Its Back	When a vessel is subjected to uneven stresses over the length of the ship causing structural failure of the longitudinal body. Is either caused through incorrect loading/discharge of the vessel, or through an external force such as taking the bottom which reduces buoyancy and thereby increasing stresses.
Breakwater (B/W)	A solid structure, such as a wall to protect the harbour from the force of the waves.
Bridge	An area or room where the ship is navigated from. Normally a dedicated deck - The Navigating or Bridge Deck.
Bridge Resource Management	A management system that aims to increase the effectiveness of the bridge team, which includes the pilot, and is based round the premise that human errors happen. It uses the closed communication loop of challenge and response.
Bulk Carrier	A ship specifically designed and constructed to carry homogenous dry cargoes in bulk.
Byelaws	Byelaws empower harbour authorities to regulate activities for specific purposes. This regulation power goes beyond simple management to include a power to create and prosecute in the Courts offences for which fines may be levied. Byelaws are a means of reflecting the local needs and circumstances of individual harbour authorities and are intended to allow them to conduct their business efficiently and safely. Harbour byelaws vary widely to suit local powers and needs. Byelaws are generally available to regulate rather than prohibit. Therefore activities cannot be banned from the entire harbour unless the appropriate byelaw-making power so specifies.
Cable	A nautical unit of measurement, being one tenth of a sea mile. See mile.
Cb	Block Coefficient is the ratio of the actual volume of water displaced (V) divided by volume of water displaced if the vessel was a box (ie Length x beam x draught). and the LWL x BWL x T. Full forms such as oil tankers will have a high Cb where fine shapes such as containerships will have a low Cb.
chart datum	zero height referred to on a marine chart
class	category in classification register
conduct (con)	in control of the vessel (see bridge)
Consequence	The outcome, or outcomes, resulting from an event.
Controlling depth	The least depth within the limits of a channel: it restricts the safe use of the channel to draughts of less than that depth.
Course	The intended direction of the ship's head.

Deadfreight	a form of compensation payable by the charterer or shipper to the shipowner when the charterer is unable to load the cargo quantity agreed in the charterparty; the amount payable is the loss of freight equivalent to the cargo unavailable
Depth	The vertical distance from the sea surface to the seabed, at any state of the tide. Hydrographically, the depth of water below chart datum. cf sounding.
Directions (General or Special)	The harbour master duly appointed by a harbour authority has powers of direction to regulate the time and manner of ships' entry to, departure from and movement within the harbour waters, and related purposes. These powers are given for the purpose of giving specific directions to specific vessels for specific movements, unless the powers have been extended for other purposes. Harbour master's directions may be referred to as 'special directions' to distinguish them from 'general directions' given by the authority itself. Special directions are not for setting general rules but relate to specific vessels on particular occasions. The master - or pilot - of a vessel is not obliged to obey directions if he believes that compliance would endanger the vessel.
Disp / Displacement	Displacement. Equals the weight of the ship and is the amount of water that a vessel displaces measured in tonnes.
Draught	The distance (Depth) from the sealevel to the keel of the vessel
Dredge	To deepen or attempt to deepen by removing material from the bottom.
dwt	Deadweight tonnes - The total weight of the cargo carried plus fuel etc., i.e., the maximum load that can be carried without submerging the load line.
Dwt, Deadweight	A measure of the carrying capacity of the vessel including cargo, fuel and other consumables
Ebb tide	A loose term applied both to the falling tide and to the outgoing tidal stream
Echo Sounder	Equipment that measures the distance between the unit and seabed. The transducer is normally on the ships bottom and measures the underkeel clearance at that point.
ETA	Estimated Time of Arrival - When a ship is expected to arrive at a port
ETD	Estimate Time of Departure - When a ship is expected to sail from a port
Fairway	The main navigable channel, often buoyed, in a river, or running through or into a harbour.
Falling tide	The period between high water and the succeeding low water.
Fender	A protective device placed between a vessel and wharf to prevent damage to the hull and wharf. Can also be used between two vessels.
Fetch	The area of the sea surface over which seas are generated by a wind having a constant direction and speed. Also, the length of the generating area, measured in the direction of the wind, in which the seas are generated.
Flood tide	A loose term applied both to the rising tide and to the incoming tidal stream. cf ebb tide.
GM	metacentric height (measure of a vessel's static stability)
GMT	Greenwich Mean Time (which in practical terms is the same as UTC)
GPS	1global positioning system
gross tonnage (GRT) (GT)	a measure of the internal capacity of a ship; enclosed spaces are measured in cubic metres and the tonnage derived by formula
Harbour	A stretch of water where vessels can anchor, or secure to buoys or alongside wharves etc, and obtain protection from sea and swell. The protection may be afforded by natural features or by artificial works. cf. artificial harbour, island harbour
Harbourmaster	A harbourmaster is an official responsible for enforcing the regulations of a particular harbour or port, in order to ensure the safety of navigation, the security of the harbour and the orderly operation of the port facilities.
Harm	Death, physical injury or damage to the health of people, or damage to property or the environment.
Hazard	A physical situation or state of a system, with the potential to cause harm.
Heading	Synonymous with ship's head.
Heel	angle of tilt caused by external forces
Height of the tide	The vertical distance at any instant between sea level and chart datum.
High water	The highest level reached by the tide in one complete cycle.
HM	Harbourmaster

Hogging/Sagging Deformation	When a vessel is loaded she bends due to uneven loading along the length of the vessel. the aim is to evenly load a vessel but if extra weight is in the middle of the vessel the midships section will 'sag' against the fore and aft sections and midships will be deeper. Conversely if the ends are heavier she will 'hog' and the ends will be deeper than midships.
hp	horsepower
hPa	hectoPascal(s)
Hunting	the action caused as a stressed mooring tries to return to its normal state thereby forcing the vessel to move. The vessel moves under the inertia created and this is resisted by the opposite mooring lines thereby starting the cycle again. To avoid this requires all moorings to be tensioned evenly and backsprings are often the biggest cause of hunting.
IALA	International Lighthouse Association
IMO	International Maritime Organization
International Oil Pollution Compensation Fund	This provides compensation for oil pollution damage resulting from spills of persistent oil from tankers.
IOPC	International Oil Pollution Compensation
ISM	International Safety Management Code
Knot	The nautical unit of speed, i.e. 1 nautical mile (of 1852m) per hour.
kt(s)	knot(s)
kW	kilowatt
LBP	Length between perpendiculars and is normally the waterline length of the vessel when loaded.
Leading Light	Lights at different elevations so situated as to define a leading line when brought into transit.
Leading line	A suitable line for a vessel to follow through a given area of water as defined by leading marks located on a farther part of the line.
Leading mark	One of a set of two or more navigation marks that define a leading line.
Leeway/Set	Leeway is
Lift Off the Berth	A ship handlers term when a vessel moves off a berth. It can from wind, tugs, engines, thrusters etc . The vessel is said to 'lift off the berth' once she is let go and moves into the channel.
LOA	Maximum length of the vessel (which is greater than the LBP)
LOF	Lloyds Open Form
Long Waves	Long Waves – Periods from 30 to 300 seconds. Are generated in storms and initially travel with swells, though they can separate. Usually the height of long waves is less than 0.1m, so they do not induce violent vertical vessel motions. Long waves are more significant for moored vessels as they induce horizontal motions. Situations when a vessel is moving in a berth on what appears to be a still day are usually caused by long waves.
Low water (LW)	The lowest level reached by the tide in one complete cycle.
m	metre(s)
m ³	cubic metres
Made Fast	When a vessel is tied up to a wharf she is said to be 'made fast'. Also when a tug is connected to a vessel the tug is said to be 'made fast'.
MARPOL	International Convention for the Prevention of Pollution from Ships.
Master	the Captain of the vessel and is in overall command and has the responsibility of the vessel.
Mean sea level (MSL)	The average level of the sea surface over a long period, preferably 18.6 years, or the average level which would exist in the absence of tides.
Midships	See Amidships
mm	millimetre(s)
Moorings	the gear used to make a vessel fast to the wharf. Normally ropes or wires.
Neaps/Springs Tides	tidal ranges vary with the position of the moon and sun. When the range is at its maximum it is known as spring tides and when the range is at a minimum it is known as neap tides.
nm	nautical mile(s)
Norwegian Shackles	A specialised shackle used in shore mooring systems. It utilises a locking pin system that is flush with the external part of the shackle allowing it to pass through mooring leads and reduces the problems of snagging.

Oil Tanker	A ship specifically designed and constructed to carry crude oil and / or petroleum products in bulk.
Operating Environment	The total set of all external natural and induced conditions to which a system is exposed at any given moment.
OPRC	International Convention on Oil Pollution Preparedness, Response and Cooperation Convention
P & I	Professional and Indemnity.
P & I Clubs	P & I insurance providers for international shipping. Generally this provides the owner with 'third party' cover for any damage resulting from a ship's actions.
PANAMAX	The maximum size of ship that can use the locks of the Panama Canal
Passage	A sea journey between defined points; one or many passages may constitute a voyage.
Pennant	Normally a wire (or rope) with an eye at either end. Part of the shore mooring system.
Pilot	Person qualified to take charge of ships entering, leaving and moving within certain navigable waters.
Pilotage	The conducting of a vessel within restricted waters. Also, the fee for the services of a pilot.
Pitch	Angular motion of a ship in the fore-and-aft plane. cf roll, scend
Port	left-hand side when facing forward
PPE	Personal Protective Equipment
Push On	When a tug is on the hull of a vessel and using its thrust to 'push on'. The alternative is to pull where the tug is made fast and the force is applied to the vessel through the tug line.
range of tide	difference in height between successive high and low waters
Ranging	fore and aft movement of a ship alongside its berth
Risk	Combination of the likelihood of harm and the severity of that harm.
Risk Management	The systematic application of management policies, procedures and practices to the tasks of Hazard Identification, Hazard Analysis, Risk Estimation, Risk Evaluation, Risk Reduction and Risk Acceptance.
Risk Reduction	The systematic process of reducing risk.
Roll	The angular motion of a ship in the athwartship plane. Cf pitch.
rpm	revolutions per minute
Safe	Risk has been demonstrated to have been reduced to a level that is broadly acceptable or tolerable and ALARP, and relevant prescriptive Safety Requirements have been met, for a system in a given application in a given operating environment.
Safety Management	The application of organisational and management principles in order to achieve safety with high confidence.
Safety Management System	The organisational structure, processes, procedures and methodologies that enable the direction and control of the activities necessary to meet Safety Requirements and safety policy objectives.
SBE	Standby Engines. When the engines are made ready prior to manoeuvring the vessel.
Sea State	A generic measurement for the marine environmental conditions at a particular location and time.
Sea Waves	Sea waves – Periods below 7 seconds. Generated by local wind conditions and whilst they can have large heights, they generally do not induce significant motions on large vessels .
Senhouse Slips	A device with a hinged tounge that goes through an eye of a cable, or chain link, being closed by a ring that can be knocked off. Senhouse slips are used in the shore mooring system on the vessel to allow quick release of a shore mooring.
Setdown	Setdown is caused when the vessel is in a long wave trough, so underkeel clearance is reduced. This is an effect of Long Waves.
Shackle (of cable)	The length of a continuous portion of chain cable between two joining shackles. In British ships the standard length of a shackle of cable is 15 fathoms (27.432 m).
Ship's head or heading	The direction in which a ship is pointing at any moment.
Shoal	A shoal is a somewhat linear landform within or extending into a body of water, typically resulting in localized shallowing (shoaling) of the water.
Shock Loadings	Shock loadings is the near instantaneous stress loading on a rope or wire which can substantially increase the stresses on an object

Significant Wave Height	Significant wave height, Hs, is approximately equal to the average of the highest one-third of the waves.
SMS	Safety Management System
Sounding	the depth of water from sealevel to seabed
Springs	Springs (back springs) are the moorings that lead from the ends of the vessel to the shore towards amidships.
Squat	Squat: return flow are speeded up under the ship. This causes a drop in pressure, resulting in the ship dropping vertically in the water. As well as dropping vertically, the ship generally trims forward or aft. The overall decrease in the static under keel clearance, forward or aft, is called Ship Squat
stability	property of a ship by which it maintains a position of equilibrium, or returns to that position when a force that has displaced it ceases to act
Starboard	right-hand side when facing forward
Steerage way	The minimum speed required to keep the vessel under control by means of the rudder.
Surge	Surge is a long period energy source that is often generated by events at great distances inducing horizontal motions in the vessel. See Long Waves.
surging	movement of a ship at its berth caused by surge in a harbour. Surging includes ranging along the berth, vertical lift at the berth and movement away from the berth
Swell Waves	Swell – Periods from 7 to 30 seconds. Generated by storms outside the local area (can be over 1000km away). Swells cause the most significant vessel motions. The natural period of roll of large vessels is approximately 17 seconds. If the swell period matches the vessels natural period, significant motions will be induced. If wave energy is present at periods close to the resonant period of the vessel, then the vessel motion will be enhanced.
t	tonne(s)
Tidal Window	The period of time that the vessel has enough water under the keel to safely transit a channel/fairway. Normally the time ranges around high water and is determined by the draught of the vessel and the maximum height of tide.
Tide gauge	An instrument which registers the height of the tide against a scale.
track	the path intended or actually travelled by a ship
Training wall	A mound often of rubble, frequently submerged, built alongside the channel of any estuary or river to direct the tidal stream or current, or both, through the channel so that they may assist in keeping it clear of silt.
Transit	Two objects in a line are said to be 'in transit'. cf range
TSS	Traffic Separation Scheme
UKC	under keel clearance
Underkeel Clearance	The distance from the keel to the seabed
UTC	Coordinated Universal Time
VHF	Very High Frequency - Used as an abbreviation for VHF Radio. VHF is the primary communication link between parties. i.e. pilot and tugs, pilot and shore.
Yaw	Unavoidable oscillation of the ship's head either side of the course being steered or when at anchor due to wind and waves.