

# **MOORING REQUIREMENTS AND GUIDELINES FOR LARGE VESSELS MOORING AT IMMINGHAM TERMINALS**

**South Killingholme Jetty (SKJ) Operator APT**

**Immingham Gas Terminal (IGT) Operator APT**

**Humber International Terminal (HIInT) Operator ABP Mooring Contractor ABP**

**Immingham Bulk Terminal (IBT) Operator Corus Mooring Contractor**

**Immingham Outer Harbour (Car Carriers) (IOH) Operator DFDS Mooring Contractor DFDS**

**Immingham Oil Terminal (IOT) Operator APT**

## **Principles**

The Terminals plan moorings on the principle of tying a vessel up within its own length i.e. springlines to maintain the vessel's position longitudinally and breastlines to keep the vessel alongside. In practice due to the constraints of both Terminal and ship mooring arrangements to ensure that systems are not overstrained, a mixture of mooring duties are used. (Head and stern lines can be considered as a lead running at approximately 45° to the ship's longitudinal axis from the fore or aft end of a vessel to a shore side restraint.

Terminal mooring requirements are based on both experience and full mooring studies undertaken to fully understand the forces encounter by vessels alongside the berths (Wind, tide, passing vessels, jetty forces.) Terminal mooring requirements are based on dealing with the known forces normally experienced by vessels alongside. Abnormal weather conditions are not addressed and extra mooring may need to be considered if such conditions are expected. (Normal winds are based on a 1: year wind return with winds up to Force 7 (15.5m/s or 30 kts)

Moorings are arranged to be symmetrical to efficiently spread the mooring forces encountered.

## **General**

Be aware of the Terminal mooring plans. Prior to berthing, the vessel's Master and terminal representatives will agree a mooring plan. The agreed plan must not be deviated from without agreement of the Terminal. By accepting the mooring plan without comment, the vessel has accepted the mooring plan and is responsible for the failure to comply with the Terminal Mooring requirements.

Some Terminals require larger vessels to take shore moorings. These mooring are in addition to the ships moorings and are taken onboard upon arrival, made fast to bits and tended by the ships crew during its stay. The shore moorings will be the first to be removed prior to departure.

Ship's Masters are responsible for ensuring the following: -

1. The ship is held firmly against the fenders at all times by means of adequate ropes or wires. It is unnecessary and dangerous to slack away lines, even if they appear to be taut, if the ship is not hard against the fenders.
2. Whilst undertaking mooring operation on behalf of a vessel, the mooring staff effectively become 'servants of the vessel', so the vessel is partially responsible for their safety.
3. The ends of heaving lines must not contain metal or other weights. The 'Monkeys First' must be made up in accordance with the "Code of Safe Working Practices for Merchant Seaman" - To prevent personal injury, the 'fist' should be made only with rope and should not contain added weighting material.

4. A strict watch is kept at all times on the vessel's mooring system to prevent slack or very taut lines and undue movement of the vessel. The adjustment of moorings should normally be carried out at slack water i.e. High Water or ½ Hr after Low Water. Adjustment of moorings must take into account the Mean Spring tidal range of 6.4m and the Mean Neap tidal range of 3.2m. Where Terminals require, moorings should only be tended after due notice to the Terminal representative. After each adjustment to the moorings, it is important that the winch brakes are properly reset and the handbrake fully applied.
5. All mooring equipment is in good operational condition, i.e. winches, bitts and fairleads. Provision of full power or steam on deck to all mooring winches throughout period vessels are alongside.
6. Mooring ropes must be in good condition and if not directly led from a designated winch must be correctly turned up on mooring bitts, figure of eight style and not left on drum ends of winches. Mooring ropes in poor condition will be refused. APT on the SKJ, IGT and IOT accept single horn bollard moorings, if the bollard is suitable.
7. The required number of moorings refer to the number of ends of moorings. A mooring 'on the bight' only counts as one end. In practice, rope bights will not be accepted as suitable moorings at the Terminals.
8. Mooring wires must be in good condition, fitted to winches and fitted with rope pendants, which must be attached using an approved mechanical shackle. Direct coupling of the rope tail to the wire will not be accepted. Loose wires and mooring wires in poor condition will be refused. Rope pendants must have a MBL, which is 25% greater than that of the wire to which it is attached.
9. Tension winches must not be used. Mooring winches must be left out of gear with brakes correctly applied.
10. No mixed moorings of ropes and wires are permitted in the same duty i.e. the mixture of wires and ropes together as springs or breastlines.
11. If an anchor is used for berthing, it must be hove up upon completion of mooring.
12. Mooring lines on bollards or mooring hooks where the rope has the ability to release itself under extreme angles of elevation are not allowed. In addition any angle exceeding the critical angle of 30° from a horizontal plane drawn between the mooring bollard and the ships fairlead is considered to compromise the safe working capacity of the restraint system.
13. Winch brake holding capacities are as required, normally at a minimum of 60% of the mooring lines breaking load. It should be born in mind that the following items have a direct effect on the brake holding capacity of a winch.
  - i. Amount of torque applied to brake.
  - ii. Number of layers of wires/ropes on the drum; split drums are generally rated for a single layer of wire/rope.
  - iii. Direction of wire turns on the drum; pull of wire/rope and pull of band brakes should operate in same direction.
  - iv. Condition of winch.Annually dated inspections with SWL / rope MBL and wire direction pointers marked on the winches indicate that good mooring practises may exist onboard.
14. The terminal will cease cargo operations and tugs may be summoned, if the vessel's movement endangers the cargo operations, or in the absence of an alert and efficient deck watch. All DELAYS/CHARGES, including tug costs, caused by ship's failure to observe the above precautions will be for the ship's account.