

PORT TALBOT BULK TERMINAL MOORING OPERATIONS MANUAL



Responsibilities

Tata Steel UK (TSUK) is the operator of the Port Talbot Harbour Bulk Terminal.

Associated British Ports (ABP) is the Statutory & Competent Harbour Authority for Port Talbot Harbour.

Port Talbot Harbour Boat Services (PTHBS) is a private company that provide mooring services to third parties within the area that they are licensed by the Statutory Harbour Authority. (ABP)

Vessels calling at the terminal are owned and chartered by a number of different parties.

As a private company, PTHBS are responsible for the following;

- Recruitment of their own staff and ensuring sufficient numbers are available to meet the requirement of ABP and third Party customers.
- Training of their staff.
- Medical fitness of their own staff
- PPE and procedures for personal health and safety of their own employees
- Development and review of safe working practices in consultation with ABP as Statutory Authority and the third parties to whom they provide services.

TSUK as operator of the Bulk Terminal have responsibility for the following;

- Developing and maintenance of procedures for the protection and Health & Safety for all persons entering their areas of operation.
- A responsibility to maintain the berth mooring equipment and the berth lighting equipment to a safe and serviceable standard and a responsibility to ensure that the working areas are kept as clear as practicable for the purposes of mooring and unmooring operations.
- A responsibility to vessel owners and charterers for certain elements of providing a "safe" berth and safe access.

Vessels (Ships Masters) have responsibility for the following;

- The ship is held firmly against the fenders at all times by means of adequate mooring lines. 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.
- 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. There is no appreciable current inside Port Talbot Harbour however. Adjustment of moorings must take into account the Mean Spring tidal range of 8.6m and the Mean Neap tidal range of 4.0m. Where terminal operations 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.
- All mooring equipment is in good operational condition, i.e. winches, bitts and fairleads. Provision of full power on deck to all mooring winches throughout period vessels are alongside.
- Mooring lines 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.
- The required number of moorings refers 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.
- Tension winches must not be used. Mooring winches must be left out of gear with brakes correctly applied.
- If an anchor is used for berthing, it must be hove up upon completion of mooring.
- Mooring lines on bollards or mooring hooks where the rope has the ability to release it 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.
- 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.
 - Amount of torque applied to brake.
 - Number of layers of wires/ropes on the drum; split drums are generally rated for a single layer of wire/rope.
 - Direction of wire turns on the drum; pull of wire/rope and pull of band brakes should operate in same direction.
 - Condition of winch.
 - Annually dated inspections with SWL / rope MBL and wire direction pointers marked on the winches indicate that good mooring practices may exist onboard.
- 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.

ABP have a statutory responsibility;

To ensure that all marine operations within its area of jurisdiction are risk assessed and that procedures are in place so as to ensure that all identified risks are either eliminated or maintained as low as reasonably practical (ALARP) This responsibility extends to marine procedures that are undertaken by and / or for third parties.

It therefore follows that procedures for mooring and berthing on the Ore Terminal should be risk assessed, developed, agreed and maintained via consultation between TSUK and PTHBS with the appropriate input and overview of ABP. Those agreed procedures should duly consider company policies and control of contractor procedures for both TSUK and ABP.

Whilst undertaking mooring operation on behalf of a vessel, the mooring staffs effectively becomes 'servants of the vessel', so the vessel is also partially responsible for their safety. All concerned parties therefore have responsibilities for the safety of staff / contractors undertaking mooring operations and have a duty to take appropriate action if they witness unsafe practices being undertaken by any party associated with the mooring / unmooring operations.

- All mooring contractors and ABP Marine Operations staff must have completed a Tata induction and follow Tata terminal control procedures.
- All mooring contractors must have met the requirements established by ABP for the issue of a licence to perform mooring and berthing duties within Port Talbot Harbour and continue to maintain any requirements between annual checks.
- All mooring staff, Tata terminal Staff and ABP Marine operations staff should familiarise themselves with all safe systems of work, agreed procedures and the position of all lifebuoys and safety ladders.

Access / Egress to Jetty

It is best endeavour that the working party are approved access using the Tata Authorisation to work permit, in the case whereby risk is evident to the vessel or Jetty infrastructure because of unforeseen circumstances, the Boatmen are considered an essential emergency service and can attend the Jetty to aid the situation without this signature (Best endeavours' must be made to make contact prior to attendance).

Exceptional circumstances

Mooring teams are to dynamically assess the working area and advise the lock controller of any specific potential dangers identified that may require a revised method of working. Clearly identified damage to mooring equipment should be notified immediately

It needs to be considered that at times certain equipment may become unserviceable and or not accessible on an emergent basis or that a berthing / un-berthing operation may not be practicable under established procedures. Under such circumstances, all concerned parties should be involved in an assessment of the situation that takes into consideration the prevailing circumstances and conditions and the potential consequences of not undertaking a mooring or unmooring operation so as to determine if a departure from the documented procedures is considered appropriate and if so, what (if any) extra measures should be put in place so as to complete the operation within accepted safety parameters.

Equipment for Mooring Contractors

PPE must be worn

High visibility clothing

Safety shoes/boots

Safety Helmet

Safety Goggles

Lifejacket (Normally 150Kn buoyancy) fitted with water activated lights.

Gloves

2 VHF radios working capable of receiving and transmitting on VHF Ch. 12.

General Berth Information

The Port Talbot Ore Terminal Jetty is situated in Port Talbot Deep Water Harbour.

It is capable of accommodating vessels of the following maximum parameters.

- LOA 300m
- Beam 50M
- Draft (as per contract)
- Displacement 224600 metric tonnes (at given loaded draft)

The terminal is constructed of a concrete berth that is supported on tubular steel piles.

There is a dredged pocket that is maintained deeper than the approaches and harbour

Tata Assets

During Sailing and berthing practices, the ship unloaders will be formally in a state whereby no movements of the long travel will take place whilst mooring operations are undergoing on the Narrow side of the Jetty. The following depicts the Tata procedure during berthing and sailing of a vessel at Port Talbot South Jetty.

- Unloaders will be parked on the Jetty in-between bollards if possible, ideally a set position for every berthing / sailing. (When practical)
- No unloaders will be TRAVELLED during mooring of vessels in a state of berthing or sailing
- On berthing, when the pilot indicates the vessel is secured, booms can be lowered (Not travelled)
- When boatmen have completed mooring activities (As predefined above), unloaders can be travelled to their working position (whilst draft survey taking place)
- No mobile machines will be working the narrow side of the Jetty during mooring operations, both during sailing and berthing practices.
- Tata coordinator will keep in contact with the ABP berthing representative for communication when the vessel is made secured, on confirmation booms will be lowered. (Booms can be lowered during boatmen on Narrow side)
- Ship Unloaders will not be permitted to long travel until boatmen have completed mooring activities and confirmation received from the working party to the Tata berthing coordinator.

Above will not delay commencing activities and mitigate risk

The above will form an official procedure, reasons will be needed for deviation.

Mooring Requirements and Guidelines for Large Vessels at Port Talbot Ore Terminal

Principles

Mooring of vessels is undertaken on the principle of tying a vessel up so as to maintain the vessel's position longitudinally utilising springs lines, head and stern lines and utilisation of breast lines to help keep the vessel tight alongside.

Normal mooring requirements are based on dealing with the forces normally experienced by vessels alongside... (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. Abnormal weather conditions are not addressed in Normal mooring plans for expected conditions of **force 8** and above extra shore moorings will need to be rigged upon arrival as per the poor weather mooring plans. For conditions that will require discharge operations to be suspended, extra storm breasts will need to be rigged for the duration of the suspension of discharge operations as per the poor weather mooring plans.

General

Be aware of the Terminal mooring plans. Prior to berthing, the vessel's Master and terminal / ABP representatives will agree a mooring plan. The agreed plan must not be deviated from without agreement of the Terminal and ABP. 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.

Mooring Line Assumptions

It is assumed that vessels visiting the Port Talbot Harbour Ore Terminal will follow the recommendations for mooring equipment and deployment as laid out in the OCIMF publications "Mooring Equipment Guidelines" 1992 and "Effective Moorings" 1989.

- It is assumed that vessels visiting Port Talbot Ore Terminal will employ ropes for all mooring positions.

Mooring lines on bollards or mooring hooks where the rope has the ability to release it 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.

Figure 1 indicates the number of mooring lines required to achieve the desired mooring arrangements under the various plans.

Vessel Design / Force / Required Lines

Figure 1

Vessel LOA	No of Breast Lines	Min Breaking Strain per line	No of Spring Lines	Min Breaking Strain per line	No of head/stern lines	Min breaking Strain per line	Total No Lines
243 to 290 LOA	4	59t	4	62t	8	59t	16
256 to 275 LOA	4	49t	4	34t	8	49t	16
Up to 256 LOA	4	33t	4	23t	8	33t	16

The above table is based on winds up to Force 7 (51.5m/s or 30 knots). In the event of stronger winds forecast during the vessels stay additional shore lines will be rigged upon arrival.

Mooring Position

Every vessel stemmed to berth at Port Talbot Ore Terminal does so in accordance with an initial position that is designated by a terminal representative based on the operational requirement for optimum discharge operations. This initial berthing position will be confirmed by the ABP Marine operations department after consideration of marine parameters such as tidal range, expected weather conditions and arrival draft. This initial position will be agreed by the vessels Master and advised to mooring operatives prior to the vessel entering the harbour.

Depending on the discharge operational plan and the size of the vessel, there may be a requirement to halt discharge operations, move the vessels ahead or astern an agreed distance. (Tug assistance may be required in certain weather conditions). For such occasions the new position will be agreed between the Tata Terminal representative and ABP Marine operations department. PTHBS will be employed. No move is to take place until discharge operations have ceased and the Tata terminal representative, ABP Marine operations department, PTHBS and vessels Master have agreed the procedure and are in all respects ready to commence.

Pre-user Checks

A visual pre-use check of the designated mooring equipment (e.g. bollards / mooring rings) to be utilised for any given mooring operation (lock or berth) must be undertaken and the findings communicated to the Lock Controller. The third party Ropeman must advise the Lock Controller via VHF that the mooring equipment is in 'apparent' good order.

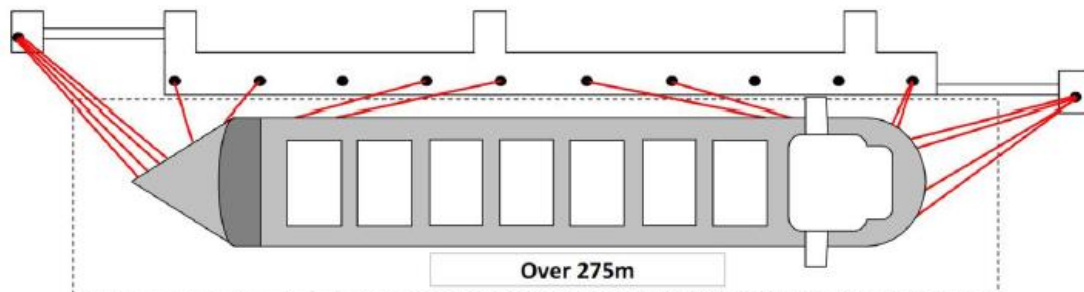
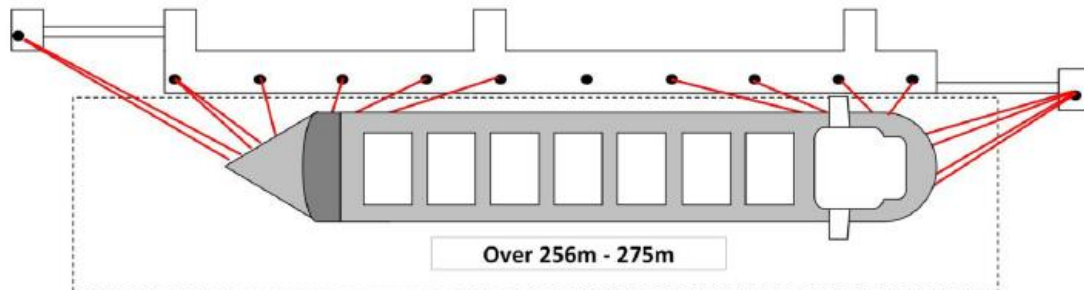
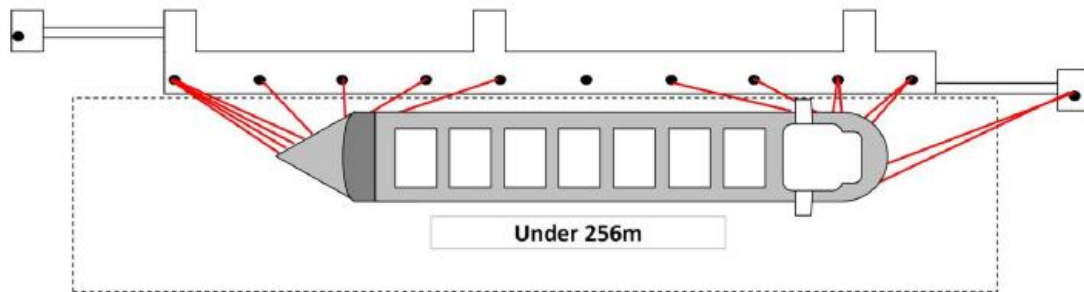
Bollards that are already confirmed as non-operational will be recorded on a register and will be physically marked as out of use. These will not be required to be reported by Ropeman however, if a defective bollard or area of quay is identified this must be reported to the lock controller via VHF.

Lock Controllers / LPS to record all findings via Log Book and Notice to Masters Acknowledgement Receipt. Areas of quay or mooring equipment highlighted during the visual inspection as not in 'apparent' good order are not to be used and must be reported following internal procedures.

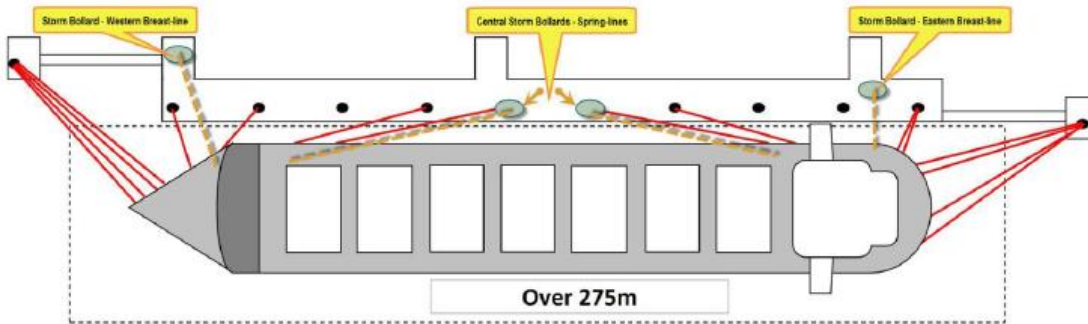
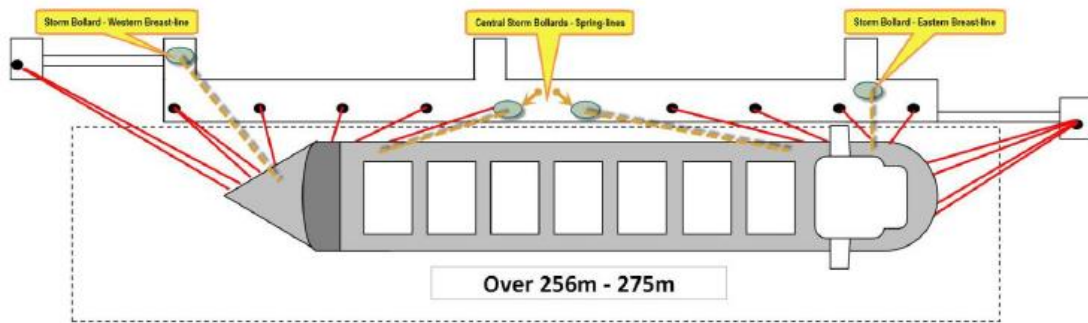
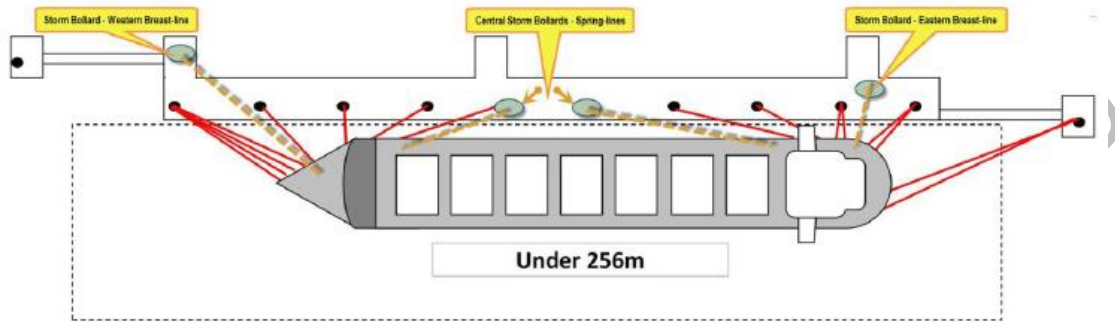
Please refer to the Group ABP-HS-PR-032 Safe Management of Mooring Equipment.

Indicative Mooring Plans

Normal Conditions up to force 7 (up to 30kts expected during vessel stay)



Strong Wind Conditions force 8 or above (30kts+ expected during vessel stay)



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