An aerial photograph of a large red cargo ship in the Humber Estuary. The ship is the central focus, with several smaller tugboats and other vessels around it. The water is dark, and the sky is a deep blue. The ship's deck is visible, showing various structures and equipment.

HUMBER PASSAGE PLAN

Prepared by
Associated British Ports
Humber Estuary Services

www.humber.com

2014

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PREAMBLE

1. This Humber Passage Plan is prepared to control the transit of Passage Plan Vessels within the River Humber. Information contained within this plan should be used to produce the required vessel and pilotage passage plans. (As outlined in IMO Guidelines for voyage planning)

ABP HUMBER ESTUARY SERVICES
PHILLIPS 66 LTD/CRUDE OIL TERMINALS (HUMBER) LTD
ASSOCIATED PETROLEUM TERMINALS (IMMINGHAM) LTD
IMMINGHAM BULK TERMINAL
HUMBER INTERNATIONAL TERMINAL
BP SALTEND
DOCK MASTER, HUMBER, DEPUTY or ASSISTANTS
SVITZER (HUMBER) LTD
SMS TOWAGE

The Plan only applies to vessels navigating to or from the specified berth and should not be construed as being a GENERAL DIRECTION within the meaning of Section 6(1) of the British Transport Docks Act, 1972.

2. In this book, unless the context otherwise requires, the following words, abbreviations or expressions have the meaning hereby respectively assigned to them:-

ABP	Associated British Ports
ADM	Assistant Dock Master
APT	Associated Petroleum Terminal (Immingham) Ltd
DWT	Summer Dead Weight Tonnage (metric tonnes)
ETA	Estimated Time of Arrival
HInT	Humber International Terminal
HLF	Humber Light Float
HW	High Water (at Albert Dock, Hull)
IBT	Immingham Bulk Terminal
IGT	Immingham Gas Terminal
IOT	Immingham Oil Terminal
LW	Low Water
POM	Pilotage Operation Manager
PPV	Passage Plan Vessel(s) – as defined in Sect 3 of preamble
PST	Port-Side-To
SDC	Sunk Dredged Channel
SKJ	South Killingholme Jetty
SST	Starboard-Side-To
TMB	Tetney Mono-Buoy
VHF	Very High Frequency Radio Communication
VLS	Very Large Ship as define in this Humber Passage Plan meaning a PPV
VTS	Vessel Traffic Service Humber

"VTS Humber" means Vessel Traffic Services, Humber. Call sign VEE TEE ESS, HUMBER.

"Agreed Safe Berthing Time" refers to the time of a PPV to arrive at the berth (or mono buoy) and starting to run lines as indicated by the guidelines in this Humber Passage Plan.

"Agreed Safe Sailing Time" refers to the time for the PPV to commence letting go prior to leaving the berth (or mono buoy) as indicated by the guidelines in this Humber Passage Plan.

3. DEFINITION OF A HUMBER PASSAGE PLAN VESSEL

Subject to paragraph 4 a Humber Passage Plan vessel for the purposes of this Plan is any vessel of 40,000 DWT or over, whether laden, part laden, or light, or a vessel with a draught of 11 metres or over, or any Gas Carrier of 20,000 cubic metres or over capacity irrespective of draught.

4. Vessels encompassed by the above parameters are subject to the Humber Passage Plan except as provided for in paragraph 5 of the preamble.

5. The procedures set out in the Humber Passage Plan shall be followed by the Masters of all vessels subject to or affected by the Plan. Any proposed variation, from whatever source, MUST be agreed between the ship's master, the Assistant Harbour Master, the Dock Master, the allocated Pilots, the Harbour Master Humber, Pilotage Operations Manager or Deputy Pilotage Operations Manager, and the berthing master at the terminal or his deputy or, in the case of the TMB, the Tetney Marine Terminal Harbour Master or his deputy.

6. All tonnages referred to in the Humber Passage Plan are metric tonnes.

7. The Tetney Marine Terminal Harbour Master has jurisdiction as a Harbour Authority within a distance of 1500 feet in every direction from the centre of the mono-mooring (TMB), the anchorage of which is in a position Latitude 53° 32'.20 North, Longitude 000° 06'.51 East, subject to the conditions laid down in the Crude Oil Terminals (Humber) Act 1965 and the Tetney Marine Terminal Revision Order 1969.

8. It is imperative that no deviations from the Plan be made without full and continuous communication with VTS Humber.

GENERAL TOWAGE

For the purposes of the Humber Passage Plan tugs are classed as follow:

- Class A 50t or over bollard pull
- Class B 40t or over bollard pull and less than 50t
- Class C 30t or over bollard pull and less than 40t

It is the responsibility of the Tug Provider to ensure that adequate tugs are available, as required by the vessel's owner or agents in order to comply with the Humber Passage Plan requirements. Nothing in this Humber Passage Plan is to be construed as being an agreement with other commercial interests that priority should be given to any PPV to the detriment of any other vessels.

The list of tugs available on the Humber Estuary are as per General Notice to Pilots No 2 of each year.

Tug companies:

- Svitzer Humber Ltd (0845 6081344)
- SMS Towage (01482 350999 - 01469 540350)

For inbound PPVs the tug broker is to ascertain the planned time the inward vessel should arrive at the position for meeting the tugs, this being the N^o3 Chequer Light Buoy, the Sunk Spit Light Buoy or the N^o17 North Holme Light Float and to ensure the appropriate number of tugs are available on station.

For the purposes of this plan the term Wire Tug(s) means those tugs made fast fore and/or aft when the PPV reaches the meeting position, this being the N^o3 Chequer Light Buoy, the Sunk Spit Light Buoy or the N^o17 North Holme Light Float, as also indicated in the minimum tugs requirement tables. Pusher tugs or berthing tugs, whenever required, can expect to be made fast and/or utilised after the wire tugs have been made fast.

When ordering tugs outbound from a dock, which are to be engaged on a PPV movement, the tug provider should provide to the Dock Master Humber or his assistants, details of the tug(s). The Dock Master Humber or his assistants in turn should liaise with the tug providers and use their best endeavours to expedite the movement of those tugs from the docks to the river to attend to the PPVs when they are required. Information required by the Dock Master Humber or his assistants in connection with the passage of PPVs can be obtained from VTS Humber on request.

GENERAL COMMUNICATIONS AND REPORTING PROCEDURE

VESSEL TRAFFIC SERVICE HUMBER (VTS)

VTS Humber is based in the Control Tower at Spurn Point and in accordance with Standing Notice to Mariners No.2, will organise all marine functions including Pilotage requirements and VTS Data Centre are located at Port House, Hull and process all inward and outward pilot orders.

Vessels INWARD BOUND should send their ETA to the Harbour Master in accordance with Standing Notice to Mariners No.3, through VTS Humber Data Centre, at least 24 hours in advance, or within 1 hour of departure from last port of call where such port of call is not situated within the Humber.

Masters or Agents of vessels INWARD BOUND for any port or berth within the Humber, requiring the services of an Authorised Pilot in accordance with Standing Notice to Mariners No.4, must give at least 12 hours advance notice to VTS Humber Data Centre with an ETA at the seaward limit of the Humber Pilotage Area.

The vessels ETA must be confirmed by calling VTS Humber on VHF Channel 14 not later than 2 hours 30 minutes prior to the arrival at the seaward limit of the area. The 2 hours 30 minutes confirmation notice is required in all cases.

Vessels entering inwards past the Humber Light Float must establish VHF communications with VTS Humber on Channel 14.

VTS Humber is divided into operational areas, in accordance with Standing Notice to Mariners No.2 as follows:

From sea to the meridian of longitude passing through the N° 4A “Cleanness” Light Float.

Vessels wishing to report to VTS Humber or obtain Pilotage information should call VTS Humber on VHF Channel 14.

VHF Channel 13 is the inter-ship channel in this area and is used for communications between pilot vessels and vessels boarding and landing pilots.

West of the meridian of longitude passing through the N° 4A “Cleanness” Light Float for the remainder of the River Humber up to the Humber Bridge.

Vessels wishing to report to VTS Humber or obtain Pilotage information should call VTS Humber on VHF Channel 12.

VHF Channel 10 is the inter-ship channel in this area for communications between vessels.

Information of a commercial nature not connected with the transit of a vessel should be obtained from the vessel prior to commencement of the inward or outward passage.

Such information should be obtained by telephone, fax or e-mail if the vessel is so equipped. VTS Humber is not licensed for the receipt or transmission of information of a commercial nature. All VHF communications carried out on Channels 16, 10, 12, 13, 14 and 15 are recorded.

On initial contact, VTS Humber will advise a Humber Passage Plan vessel to proceed to anchor (if not berthing on arrival) or to stem the tide safely to the north of the Humber Light Float, maintaining that position until the pilots have boarded.

VTS will give advice on the pilots boarding time and position to allow the PPV to weigh anchor in sufficient time to be, when required, at the pilot boarding position and then to pass the HLF in time to safely complete the passage to the berth.

VTS Humber shall also give advice and instructions regarding the rigging of acceptable means of pilot access and the provision of a lee for the pilot launch.

A Humber Passage Plan vessel will normally embark or disembark Pilots in the vicinity of position Latitude 53° 39'.8 N Longitude 000° 22'.0 E approximately one and a half miles North East of the HLF or as instructed by VTS Humber.

VTS Humber will normally advise the vessel to be underway, stemming the tide one mile North East of the Humber Light Float or in any other more suitable position as required for pilots boarding, allowing approximately 30 minutes for the master/pilot exchange of information prior to commencing the inward passage.

When, because of adverse weather and sea conditions, it is considered by the Harbour Master or any of his Assistant Harbour Masters to be unsafe for a pilot to disembark/board at the outer extremities of the Humber Compulsory Pilotage Area, the pilot may disembark/board inside the Humber Compulsory Pilotage Area as defined in the Pilotage Directions.

Passage monitoring to be carried out by VTS Humber and details to be submitted to the Harbour Master, Humber when requested.

When a PPV passes the Sunk Spit Light Buoy, VTS Humber is to make a river broadcast to all ships that the vessel has passed the Sunk Spit Light Buoy and/or left the SDC, giving the port of destination and advising all ships to give as wide a berth as possible.

Whenever a PPV is required to swing off the berth or where ever else it is required, VTS Humber will ensure that all other traffic, especially other inbound or outbound PPV traffic is aware that the main navigable channel may be blocked to through traffic whilst the vessel is swinging.

A PPV entering or leaving any port in the Humber will report to VTS Humber when engaging in the following operations or passing the following reporting points:-

INBOUND REPORTING

Passing Humber Light Float

Passing Spurn Light Float

Passing N°3 Chequer Light Buoy (when bound for the Tetney Monobuoy)

Passing Spurn Point

Vessels intending to navigate the Sunk Dredged Channel (SDC) should first obtain permission from VTS Humber and, before passing Spurn Light Float, should ascertain from VTS that the channel is clear.

Passing P5 Light Buoy

Passing Sunk Spit Light Buoy

Passing N°19 Paull Sand Light Buoy

Prior to the commencement of a swing.

When alongside and commencing mooring.

On completion of mooring operations.

On receiving the report of the vessel passing the reporting points, VTS Humber will provide the PPV with the following information:-

- (i) Height of tide on the relevant tide gauges (Spurn, Immingham, King George Dock etc.)
- (ii) Any variance of the actual height of the tides obtained from the tide gauges against the predicted heights of the tides from tide prediction curves.
- (iii) Disposition of known traffic.
- (iv) Availability and position of tugs (wire and pushers)
- (v) Any other relevant information including information on gangway status.
- (vi) Whenever a PPV is required to berth PST or SST.

OUTBOUND REPORTING

When at stations and preparing to depart

When singled up and ready to depart (obtain clearance to sail from VTS Humber)

When clear of the berth and ready to proceed outbound

Passing N°19 Pauli Sand Light Buoy

Passing N°13 (Clay Huts) Light Float (from SKJ and IGT)

Passing N°9A Light Float

Vessels intending to navigate the SDC outbound should first obtain permission from VTS Humber at or before passing the 9A Light Float.

Passing Sunk Spit Light Buoy (If entering SDC)

Passing N° 4A Clee Ness Light Float or P5 Light Buoy (If entering SDC)

Passing Spurn Point (Leaving SDC)

Passing Spurn Light Float

Passing North New Sand Light Buoy

GENERAL PILOTAGE PROCEDURES

A PPV navigating in any part of the Compulsory Pilotage Area shall require the service of two pilots authorised by ABP, or one pilot authorised by ABP, and one person holding a valid pilotage exemption certificate issued by ABP, with the exception of a vessel departing from the Tetney Mono-Buoy which may depart with only one pilot authorised by ABP or one person holding a valid pilotage exemption certificate authorised by ABP.

PPVs over 10m draft arriving or departing the River Humber, should determine that their planned passage draught ensures an under keel clearance of 1 metre or more, based on predicted tidal information and the latest surveys. When navigating to the east of Spurn Point, vessels will require a minimum planned Under Keel Clearance of 2 metres.

PPVs intending to navigate any part of the River Humber will not be allowed to transit any of the channels with less than 1 metre under keel clearance, based on predicted rise of tide passing the Tide Gauge closest to the relevant critical points provided by the latest surveys.

PPVs intending to navigate the River Humber, whose draught is less than 10 metres, can do so with an under keel clearance of 10% of their draught

PPVs transiting any channel with minimum under keel clearance should navigate in the relevant part of the channel at a speed that will reduce their squat to a minimum level at the critical points provided by the latest surveys.

The maximum draught for the tide must relate to the time at which the vessel will pass the controlling depth for the passage.

When a PPV reports at P5 Light Buoy/4A Cleanness Lt Float, VTS Humber will advise the vessel of the availability of tugs and confirm when tugs report being in position. VTS Humber will also advise the PPV of the status and position of the pusher tugs.

In planning the passage for LW berthing it is important that pilots use a realistic speed made good, given that the majority of the passage will be conducted against the ebb tide. It is recommended that a speed of 8 knots is used for the plan.

A PPV is required to comply with Humber Standing Notice to Mariners No. 19 - Restrictions on all Vessels Carrying Dangerous Substances Navigating the Humber in Poor Visibility

ALONGSIDE AND UNBERTHING (except for the TMB)

Under no circumstance should any mooring including shore mooring be let go before Pilots are on board and tugs in attendance and pushing up and only then in accordance with Pilot's advice.

Singling up should only commence when all tugs are in attendance and pushing up. The tugs should continue to push up until all mooring lines are clear of the berth.

The master of the vessel is responsible for the safe and secure mooring of his vessel and remains responsible for his vessel being kept alongside during her stay at the berth. (The Humber Navigation Byelaws 1990, Section 25)

GENERAL ABORT PROCEDURES

With the exception of PPVs bound for the Tetney Mono Buoy, PPVs aborting the passage should if possible return to the Humber Light Float. If this is not possible they should anchor in the vicinity of Holme Ridge with tugs in attendance. In the event that the draught of the vessel or the time/tide factor is such that a vessel cannot return to the Humber Light Float or anchor at the Holme Ridge it should anchor within the 15 metre contour in the vicinity of the IOT with tugs in attendance.

Harbour Master's or Assistant Harbour Master's permission is required for anchoring a PPV in any part of the River Humber within the Humber Port Limits.

The circumstances and location of the vessel at the time the decision is taken to abort the operation will determine the appropriate action to be taken by the Master/Pilot

CHAPTER ONE

TETNEY MONO-BUOY

SECTION 1 TMB

ESTABLISHING COMMUNICATIONS AND REPORTING PROCEDURE

1.1 All communication regarding Pilotage should be carried out through VTS Humber as indicated in the General Communication and Reporting Procedure section.

1.2 On passing the Spurn Light Float, direct communication should be established between the inbound vessel, work boat SPURN HAVEN II or such other craft as may be attending the incoming vessel and the designated tugs allocated to the vessel on the appropriate VHF working channels.

SECTION 2 TMB

VESSEL TRAFFIC SERVICES HUMBER

2.1 On being informed by the Tetney Marine Terminal Harbour Master at a time not later than 3 hours before HW Albert for HW berthing or 3 hours before LW Spurn for LW berthing, of the berthing situation at the Terminal VTS Humber will advise the pilot that:-

- (a) The Mono-Buoy is available.
- (b) The Mono-Buoy is occupied but should be available on arrival.
- (c) The Mono-Buoy will not be available on arrival.

If the advice received from the Tetney Marine Terminal Harbour Master is that the Mono-Buoy is available or will be available on arrival, the inward passage may commence.

Any subsequent change in the berthing situation received from the Tetney Marine Terminal Harbour Master will be passed on receipt to the pilot of the vessel on passage.

2.2 VTS Humber will advise the Master/Pilot of the status of tugs and confirm when tugs report being in position at the N^o 3 Chequer Light Buoy.

2.3 The work boat SPURN HAVEN II or such other craft as may be attending the incoming vessel will advise VTS Humber when departing to meet the incoming vessel.

2.4 Vessels bound for the Tetney Mono-Buoy commence their approach at the N^o 3 Chequer Light Buoy which involves the vessel crossing the main navigable channel. When a vessel bound for the Mono Buoy reports passing inward at the Spurn Light Float, an appropriate river broadcast will be made by VTS Humber. This broadcast will advise mariners of the vessel's position and intentions and that the work boat SPURN HAVEN II or such other craft as may be attending, will be passing personnel and/or mooring equipment to the PPV.

2.6 The berthing master aboard the work boat SPURN HAVEN II or such other craft as may be attending, will be advised when the inward passage has commenced and again when the vessel passes the Spurn Light Float. If at any stage of the vessel's passage a decision is taken by the Master / Pilot to abort the operation, the berthing master aboard the work boat must be informed giving any other relevant information received from the incoming vessel.

2.7 Vessels leaving the Mono Buoy will advise VTS Humber at the time of leaving the Mono-Buoy of their intentions so as to enable an appropriate river broadcast to be made.

SECTION 3 TMB

PILOTAGE

3.1 Any PPV intending to transit to the TMB should determine that their planned passage draught ensures an under keel clearance of at least 2 metres, based on predicted tidal information and the latest controlling depth and hydrographical survey.

3.2 BOARDING

Pilots should be on board the vessel not later than 2 hours 30 minutes before HW Albert.

Occasionally, a vessel may be required to berth at low water Spurn. In such case prior approval must be obtained from ABP Pilotage Operations Manager or his deputy and promulgated to all interested parties.

For LW Spurn Berthing Pilots should be on board the vessel not later than 2 hours 30 minutes before LW Spurn.

Under normal circumstances for HW Albert berthing a PPV should pass the HLF not later than 1 hour 45 minutes before HW Albert.

For LW Spurn berthing a PPV should pass the HLF not later than 1 hour 45 minutes before LW Spurn.

On passing the HLF Pilots should seek confirmation on the name, status and position of the tugs and that these tugs will be available by the time the PPV is abeam of N^o 3 Chequer Light Buoy.

PPV should pass the N^o 3 Chequer Light Buoy no later than 50 minutes before HW Albert for high water berthing or 50 minutes before LW Spurn for low water berthing.

3.4 ON PASSAGE

When the vessel is underway the reporting procedure outlined in the VTS General Communication and Reporting Procedures section must be strictly complied with.

3.5 BERTHING

Vessels should berth at HW Albert or LW Spurn, when the tidal stream is weakest.

3.6 SAILING

Subject to draught and tide a vessel can leave the Mono Buoy at any state of tide.

The berthing master will order a pilot for sailing through VTS Humber giving at least 2 hours and 30 minutes notice.

3.7 ADVERSE WEATHER AND EMERGENCY DEPARTURE

A vessel berthed at the Tetney Mono Buoy during normal weather conditions will not usually retain a pilot on board.

In general, if the weather forecast is for winds to exceed 25 knots making it difficult for a vessel berthed at the TMB to make a good lee for pilot boarding, then a VLS pilot should be requested to stand by on board, bearing in mind that a minimum of 2 hours and 30 minutes notice for a pilot to board a vessel is required.

If weather conditions appear to be deteriorating to a level where the design criteria of the Mono Buoy will be exceeded, the tanker will be required to leave the berth. The decision to leave will be taken by the berthing master.

SECTION 4 TMB

PHILLIPS 66 LTD/CRUDE OIL TERMINALS (HUMBER) LIMITED

4.1 At a time not later than 3 hours before HW Albert for HW berthing or 3 hours before LW Spurn for LW berthing the Tetney Marine Terminal Harbour Master will inform VTS Humber of the anticipated status of the Mono Buoy for the arrival of the incoming vessel.

4.2 All information received by VTS Humber will be relayed on receipt to the Master/Pilot of the incoming vessel so as to enable a decision to be taken whether to commence the inward passage or not.

4.3 If the Mono Buoy is occupied by a vessel scheduled to sail prior to the arrival of the incoming vessel, the Tetney Marine Terminal Harbour Master, will immediately update VTS Humber if there is any change to the Mono Buoy status from that previously reported.

4.4 If at any stage of the inward vessel's passage it is established by the berthing master that the Mono Buoy will not be available on arrival, then he will advise VTS Humber immediately and not later than 1 hour before HW Albert for high water berthing or 1 hour before LW Spurn for low water berthing so as to enable the vessel to be informed.

4.5 Tetney Marine Terminal Harbour Master should ensure that at a time of 1 hour before sailing time, the vessel will have completed all ballasting/cargo operations and will be in all respects ready to sail.

SECTION 5 TMB

TUG PROVIDERS

5.1 At any time not later than 3 hours before HW Albert for HW berthing or 3 hours before LW Spurn for LW berthing, the allocated Tug Broker should advise VTS Humber of the availability of tugs and confirm that the agreed number of tugs will be in attendance.

MINIMUM TUGS REQUIRED

Vessel for Tetney Mono Buoy	Number of tugs on arrival at No.3 Chequer Light Buoy	Category	Number of tugs Berthing	Category	Minimum Total Bollard Pull Tonnes	Number of tugs Unberthing	Category	Minimum Total Bollard Pull Tonnes
Shuttle Tankers	1	B	1	B	40	1	B	40
Conventional Tankers	2	BB	2	B B	80	1	B	40

5.2 The Tug(s) will make fast prior to the final approach to the Mono-Buoy, one on the stern, the second one if required will be make fast on the starboard bow of the inbound vessel.

5.3 If the agreed number of tugs cannot be assigned to the Humber Passage Plan tanker, the vessel should not proceed.

5.4 The tug broker should ascertain the inward PPV ETA at the N^o 3 Chequer Light Buoy and ensure that the appropriate number of tugs are available on station and declare the leading tug.

5.5 Tugs allocated to the incoming vessel should report to VTS Humber when leaving the dock or berth or leaving the anchorage, or 2 hours 30 minutes before entering the Humber Pilotage area and again when in position to meet the PPV in the vicinity of the N^o 3 Chequer Light Buoy.

Tugs should be in position not later than 1 hour before berthing time (HW Albert or LW Spurn) to meet the inward bound vessel.

5.6 The stern tug will remain fast throughout the Vessel stay at the Mono-Buoy and will be under the control of the berthing master until the vessel is ready to sail.

SECTION 6 TMB

ABORT PROCEDURES

The appropriate action to be taken in the event of the passage being aborted will be decided by the Master/Pilot. The Master at all times retains full responsibility for the safe navigation of the vessel and the safety of the crew.

6.1 Notwithstanding that a decision to abort may be taken by the Master/Pilot at any stage of the vessel's passage for reasons other than those listed below, the abort procedure should be put into operation if:-

- (i) Insufficient depth of water is available;
- (ii) It has been established during the vessel's passage that adequate tugs will not be available on arrival;
- (iii) It has been established that the Mono Buoy will not be available on arrival.

SECTION 7 TMB

HARBOUR MASTER TETNEY MARINE TERMINALS

7.1 Information required by the Tetney Marine Terminal Harbour Master in connection with the passage of the incoming vessel can be obtained from VTS Humber on request.

7.2 The berthing master, with knowledge of present and predicted weather conditions will decide whether berthing operations can proceed using the following criteria:

- (i) Connection of mooring to Mono-Buoy.
- (ii) Transfer of personnel
- (iii) Hose handling
- (iv) The tanker mooring sequence
- (v) Maintaining the correct attitude between the tanker and the mooring buoy

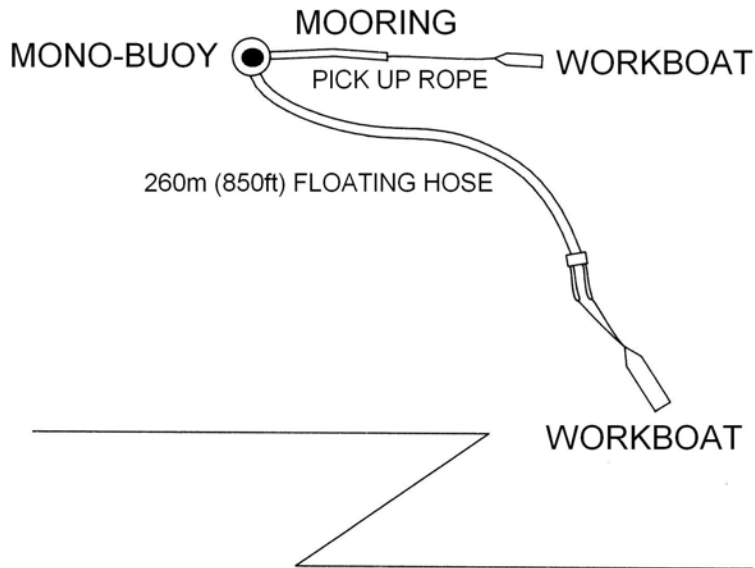
7.3 The Berthing Master on duty will act as Phillips 66 Ltd's representatives during the vessel's time at the Mono-Buoy. All company business and radio communications will be under his/her direct control.

The Berthing Master will advise on mooring/unmooring the vessel.

SECTION 8 TMB

STAGES OF THE MONO BUOY MOORING OPERATION

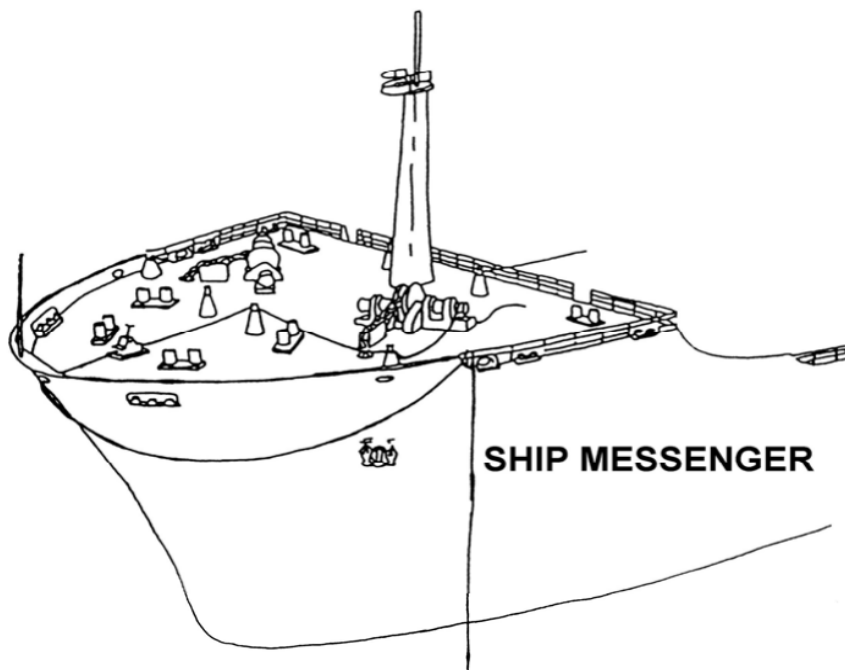
1. At 915m (3000ft) from Mono-Buoy



915m (3000ft) MARKER BUOY

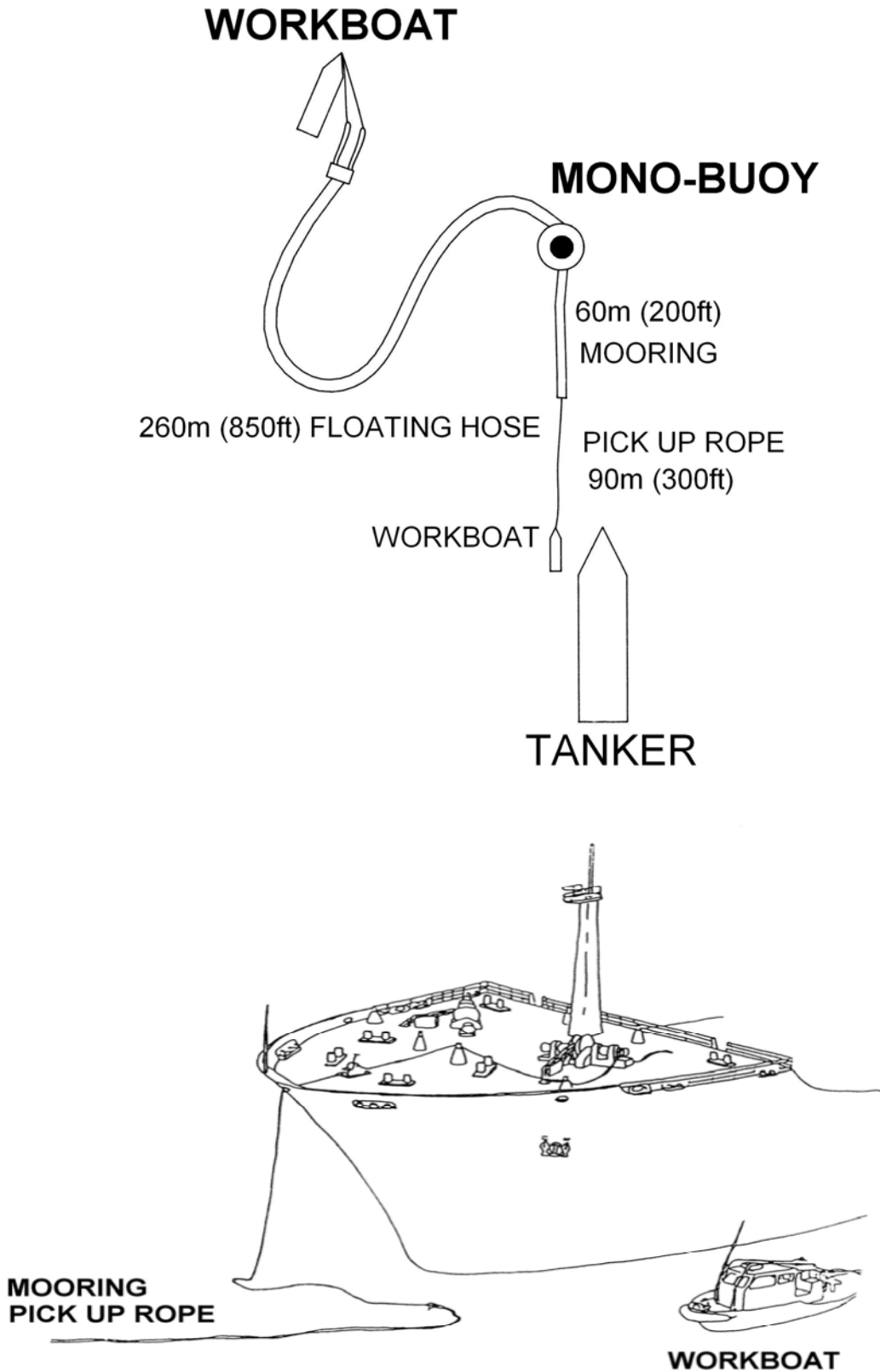


TANKER



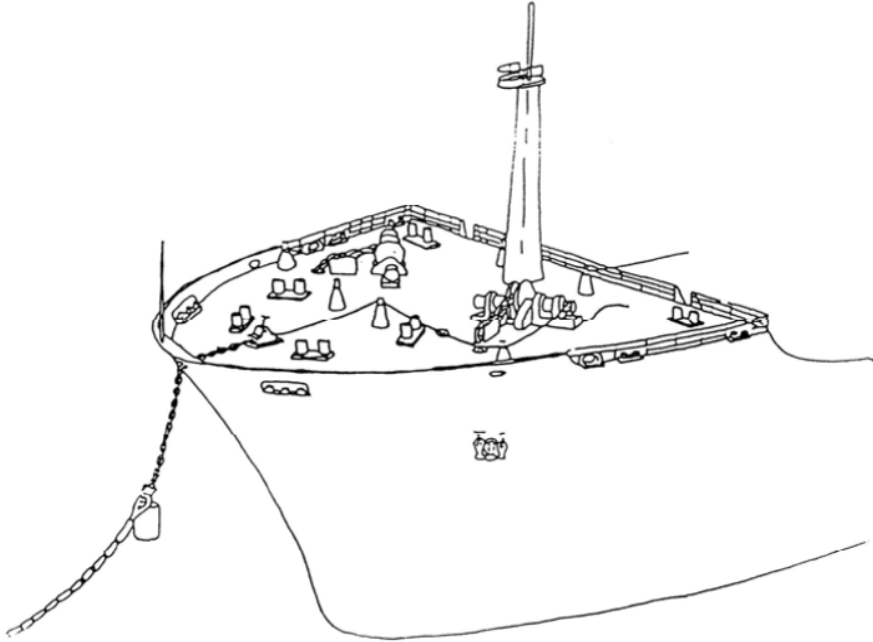
STAGES OF THE MONO BUOY MOORING OPERATION

2. At 150m (500ft) from Mono-Buoy



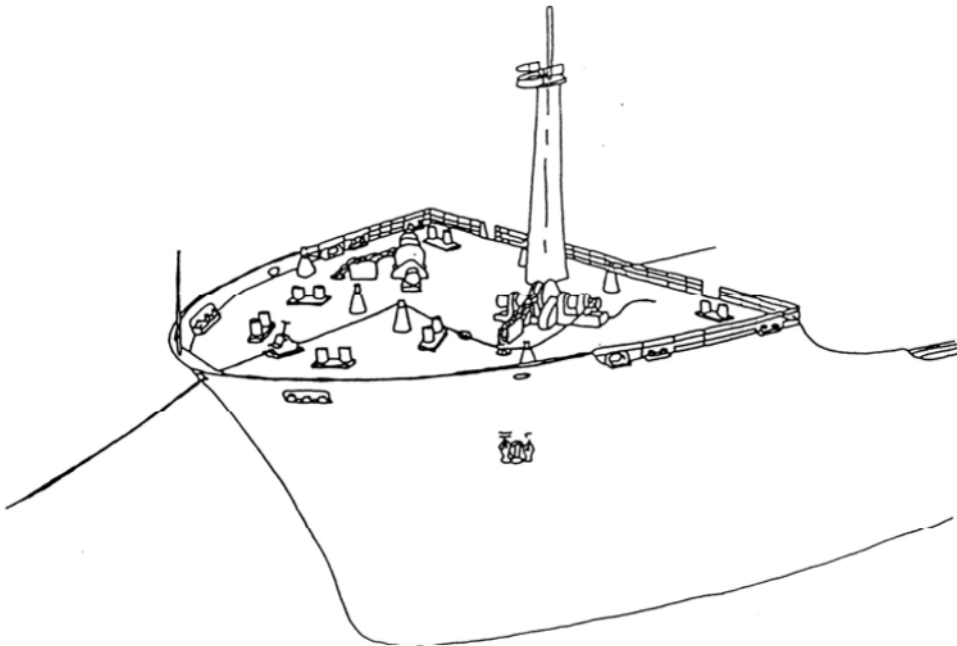
STAGES OF THE MONO BUOY MOORING OPERATION

3. At 120m (400ft) from Mono-Buoy



MOORING

4. At 60m (200ft) from Mono-Buoy



CHAPTER 2
IMMINGHAM OIL TERMINAL,
SECTION 1 IOT

ESTABLISHING COMMUNICATIONS AND REPORTING PROCEDURE

1.1 All communication regarding Pilotage should be carried out through VTS Humber as indicated in the General Communication and Reporting Procedure section.

1.2 On passing the Sunk Spit Light Buoy the PPV should establish direct communications with the APT and attendant tugs for all communications with regard to moorings and deployment of tugs using the appropriate VHF working channels.

SECTION 2 IOT

VESSEL TRAFFIC SERVICES HUMBER

2.1 On being informed by the Berthing Master at the APT at a time not later than 3 hours 45 minutes hours before HW Albert for HW berthing or 4 hours 15 minutes before LW Immingham for LW berthing, of the berthing situation at the Terminal, VTS Humber will advise the pilot that:-

- (a) The berth is available.
- (b) The berth is occupied but should be available on arrival.
- (c) The berth will not be available on arrival.

If the advice received from APT is that the berth is available or will be available on arrival, the inward passage may commence.

Any subsequent change in the berthing situation reported by the APT will be passed on receipt to the pilot of the vessel on passage.

2.2 The APT Berthing Master and the ADM Immingham will be advised when the inward passage has commenced and again when the vessel passes the Sunk Spit Light Buoy.

If, at any stage of the vessel's passage a decision is taken by the Master/Pilot to abort the passage, the APT Berthing Master and ADM Immingham must be informed giving any other relevant information received from the incoming vessel.

SECTION 3 IOT

PILOTAGE IOT

3.1 BOARDING FOR BERTHING IOT AT HW ALBERT PST

Pilots should be on board the vessel not later than 3 hours 30 minutes before HW Albert.

For berthing at IOT (PST) the vessel should pass the HLF not later than 3 hours before HW Albert. The vessel should pass Sunk Spit Light Buoy not later than 50 minutes before HW Albert.

3.2 BOARDING FOR BERTHING IOT AT HW ALBERT SST

Pilots should be on board not later than 4 hours before HW Albert

Vessels up to 60,000 DWT and up to 12.0m draught when requested by the berth operator and after consultation with all interested parties may berth SST.

The vessel should pass the HLF inwards not later than 3 hours 15 minutes for berthing IOT SST, passing Sunk Spit Light Buoy not later than 1 hour 15 minutes before HW Albert

The berth operator must ensure that the requirement to berth SST is communicated to the ship's master, ABP Pilotage Operations Manager, VTS Humber, tug broker and berthing staff, giving as much advance notice as possible and submitting a mooring plan to all parties. The ADM Immingham must also be informed.

For HW Albert berthing the PPV should be alongside the berth, making fast by HW Albert.

3.3 BOARDING FOR BERTHING IOT AT LW IMMINGHAM PST/SST

Pilots should be on board the vessel not later than 4 hours before LW Immingham.

PPVs should pass the Humber Light Float inbound not later than 3 hrs 30 minutes before LW Immingham and should pass the Sunk Spit Light Buoy not later than 1 hour 30 minutes before LW Immingham. A PPV berthing PST at LW should arrive off the berth at LW Immingham and berth on the last of the ebb tide.

If berthing SST the PPV should arrive off the berth to commence swing at slack water or first of flood between LW Immingham and 1 hour after LW Immingham.

The berth operator must ensure that the requirement to berth SST is communicated to the ship's master, ABP Pilotage Operations Manager, VTS Humber, tug broker and berthing staff, giving as much advance notice as possible and submitting a mooring plan to all parties. The ADM Immingham must also be informed.

3.4 ON PASSAGE

When the vessel is underway the reporting procedure outlined in the General Communication and Reporting Procedure section must be strictly complied with.

PPV inbound for IOT shall not pass N^o 10 Upper Burcom Light Float until their berth is available.

A PPV must have at least two wire tugs made fast (with pusher tugs available) by the time the vessel is abeam of the Humber Power Intake.

3.5 BERTHING

The vessel should arrive off the berth parallel to the berth and stopped relative to it. Until this stage has been reached no attempt should be made to land the vessel onto the jetty.

Berthing should be carried out as a separate manoeuvre.

A ship specific mooring plan will be made for each vessel, from the vessel's plans, before the passage commences and placed on board with the pilots, if not already supplied.

Whilst berthing, wire tugs can only be let go when the master, pilots and berthing master have agreed that the vessel has sufficient mooring lines secured. Pusher tugs should not be dismissed until the vessel is all fast on the berth in compliance with the mooring plan.

For HW Albert SST berthing the PPV should be alongside the berth, making fast by HW Albert, if any delay is foreseen which would prevent this, full consideration must be given to berthing PST.

For LW Immingham PST berthing the PPV should be alongside the berth, making fast by LW Immingham. When berthing SST the PPV should arrive off the berth to commence swing at slack water or first of flood and should be alongside the berth, making fast between LW Immingham and 1 hour after LW Immingham.

3.6 SAILING FROM IOT at HW ALBERT PST/SST

Pilots should board all outward bound vessels not later than 2 hours before HW Albert, the vessel should be singling up with tugs in attendance not later than 1 hour before HW Albert, the vessel should be clear of the berth no later than HW Albert.

3.7 SAILING FROM IOT AT LW IMMINGHAM PST/SST

Pilots should board not later than 1 hour 30 minutes before LW Immingham. If there is an inbound vessel for the same berth, Pilots should be on board not later than 1 hour 45 minutes before LW Immingham. A PPV should depart the berth no later than 1 hour after LW Immingham.

SECTION 4 IOT

ASSOCIATED PETROLEUM TERMINALS (IMMINGHAM) LIMITED

4.1 At a time not later than 3 hours 30 minutes before HW Albert (4 hours before LW Immingham for LW berthing) the APT Berthing Master will inform VTS Humber of the anticipated status of the berth for the arrival of the incoming PPV.

4.2 All information received by VTS Humber will be relayed on receipt to the inbound PPV so as to enable a decision to be taken whether to commence the inward passage or not.

4.3 If the berth is occupied by a vessel scheduled to sail prior to the arrival of the incoming PPV, the APT Berthing Master will immediately update VTS Humber if there is any change to the berth status from that previously reported.

4.4 If at any stage of the inward vessel's passage it is established by APT that the berth will not be available on arrival, the APT Berthing Master will advise VTS Humber immediately and not later than 1 hour before HW Albert for HW berthing or 1 hour 30 minutes before LW Immingham for LW berthing and preferably before the incoming PPV passes the Sunk Spit Light Buoy so as to enable the Master/Pilot of the inbound PPV to be informed.

4.5 APT Berthing Master should ensure that at a time of 1 hour before the scheduled pilots boarding time for sailing, the vessel will have completed all ballasting/cargo operations and will in all respects be ready to sail.

4.6 Responsibility for verifying that vessels are adequately equipped with moorings and mooring/tension winches rests with APT and Ship's Agents. The moorings for the APT berths will be as indicated on the Mooring Plan and will be supervised by the APT Berthing Master'

4.7 APT are responsible for ensuring that a ship specific mooring plan will be made for each vessel before the passage commences and placed on board with the pilots, if not already supplied.

A PPV berthing SST a back-up PST mooring plan should be produced in the event that the vessel is unable to berth SST for whatever reason.

Pilots should be advised in advance if a PST berthing is not available.

SECTION 5 IOT TUG

PROVIDERS

5.1 At a time not later than 3 hours 30 minutes before HW Albert for HW arrivals (4 hours 30 minutes before LW Immingham for LW arrivals) the Allocated Tug Broker should advise VTS Humber of the availability of tugs and confirm that the agreed number of tugs will be in attendance when the incoming PPV pass the Sunk Spit Light Buoy.

MINIMUM TUGS REQUIRED

Vessel DWT TANKERS for IOT Tonnes	Number of tugs at Sunk Spit Buoy	Category	Number of tugs Berthing	Category	Minimum Total Bollard Pull Tonnes	Number of tugs Unberthing	Category	Minimum Total Bollard Pull Tonnes
200,000+	to be discussed prior commencing passage in/out							
150,000+	3 or 2	ACC AA	5 or 4	AAACC AAAA	200 240	4	AABB	200
80,000 to 149,999	2	AA	4	AABC	170	3	AAC	150
50,000 to 79,999								
Ballast	2	CC	4	CCCC	120	3	CCC	90
Loaded	2	CC	4	CCCC	120	3	ACC	130
To 49,999								
Ballast	2	CC	3	CCC	90	3 or	CCC	90
Ballast	2	CC	3	CCC	90	2	AB	90
Loaded	2	CC	3	CCC	90	3 or	ACC	110
Loaded	2	CC	3	CCC	90	3	BBC	110

5.2 After passing the Sunk Spit Light Buoy the PPV must have at least two tugs made fast by the time the vessel is abeam of the Humber Power Intake.

5.3 If the agreed number of tugs cannot be assigned to the Humber Passage Plan tanker, the vessel should not proceed.

5.4 The tug broker should ascertain the inward PPV ETA at the Sunk Spit Light Buoy; ensure that the appropriate numbers of tugs will be available on station and declare the leading tug.

5.5 Tugs allocated to the incoming vessel should report to VTS Humber when leaving the dock or berth or leaving the anchorage or 2 hours 30 minutes before entering the Humber pilotage area and again when in position to meet the PPV in the vicinity of the Sunk Spit Light Buoy.

5.6 For any inward PPV movement, it is the responsibility of the Tugs Masters to obtain confirmation of the time the PPV is expected to pass the Sunk Spit Light Buoy, direct from the PPV or via VTS so that no delay is experienced in making fast the wire tugs before the PPV reaches the Humber Power Intake.

As a guideline;

For HW Albert PST berthing the wire tugs should be in position at the Sunk Spit Light Buoy for berthing at IOT no later than 1 hour before HW Albert.

For HW Albert SST berthing the wire tugs should in position at the Sunk Spit Light Buoy for berthing at IOT no later than 1 hour 15 minutes before HW Albert.

For LW Immingham berthing the wire tugs should be in position at Sunk Spit Light Buoy not later than 1 hour 30 minutes before LW Immingham.

SAILING TUGS

5.7 Tugs allocated to a vessel sailing shall be ordered to attend at the vessel at the same time as the Pilots and shall report to VTS Humber when they are in attendance at the sailing vessel.

5.8 The number of tugs allocated to a PPV on sailing shall be decided after consultation between the Master, the Agent and the Tug Provider. The minimum number of tugs to be allocated shall not be less than two and will be governed by the Minimum Tugs Required table in this passage plan. When a vessel is to un-berth in the loaded condition full consideration must be given by all parties to the use of the same number of tugs as would apply for berthing that size of vessel.

5.9 On clearing the berth after sailing one tug will remain with the vessel until she is past and clear of the IOT.

SECTION 6 IOT

ABORT PROCEDURES

The appropriate action to be taken in the event of the passage being aborted will be decided by the Master/Pilot. The Master at all times retains full responsibility for the safe navigation of the vessel and the safety of the crew.

6.1 Notwithstanding that a decision to abort may be taken by the Master/Pilot at any stage of the vessel's passage for reasons other than those listed below, the abort procedure should be put into operation if:-

- (i) Insufficient depth of water is available;
- (ii) The wire tugs are not available by the time the PPV has reached the Sunk Spit Light Buoy.
- (iii) It has been established during the vessel's passage that adequate tugs will not be available on arrival. A PPV must have at least two tugs made fast and pusher tugs available by the time the vessel is abeam of the Humber Power Intake.
- (iv) It has been established that the berth will not be available on arrival.
- (v) The vessel should not proceed upriver of the N^o10 Upper Burcom Light Float if the berth is not available.

6.2 For HW Albert berthing the passage should be aborted if:-

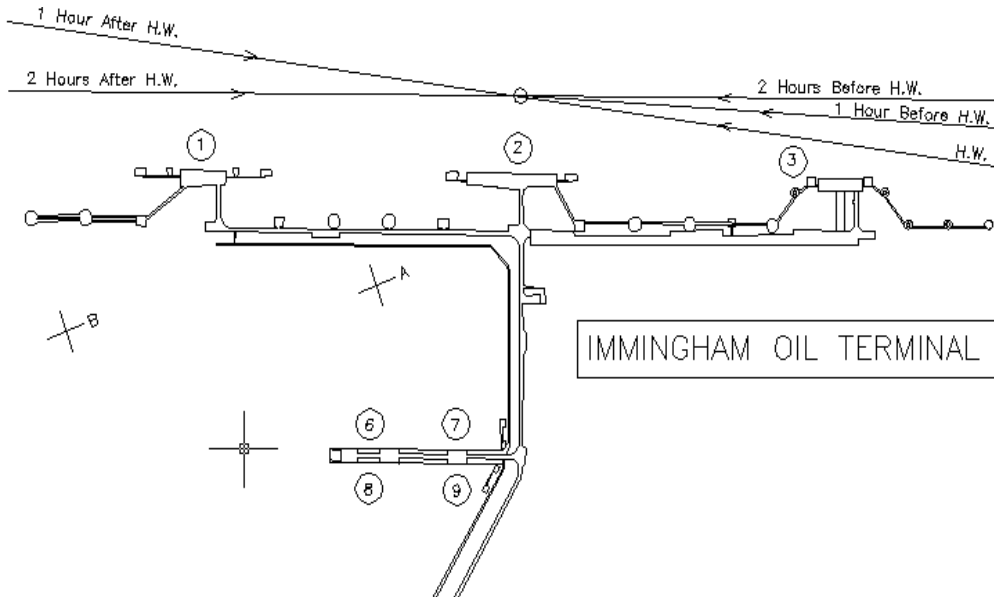
- (i) The vessel passes the Humber Light Float at a time later than 2 hours before HW Albert.
- (ii) If a PPV berthing SST, during any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth SST at HW Albert, then due consideration and discussion with all interested parties regarding the feasibility of berthing PST should be had. If for any reason this will not be possible then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

6.3 For LW Immingham berthing the passage should be aborted if:-

- (i) The vessel passes the Humber Light Float at a time later than 2 hours 30 minutes before LW Immingham.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 45 minutes before LW Immingham.
- (iii) During any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth PST before the flood tide starts, then due consideration and discussion with all interested parties regarding the feasibility of berthing SST should be had. If for any reason this will not be possible then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

SECTION 7 IOT

TIDAL DIAGRAM



TIDAL STREAM OBSERVATIONS TAKEN
5th NOV., 1964. POSITION 'A' BEARING 091°
DISTANT 1375M TOWER 'A' IMMINGHAM DOCK

	Hours (GMT)	Direction	Rate knots	Spring Rate knots	Neap Rate knots
Before HW Immingham	6	104°	2.32	2.36	1.20
	5	106°	0.61	0.63	0.32
	4	283°	1.66	1.71	0.86
	3	294°	1.56	1.60	0.81
	2	299°	1.63	1.66	0.85
	1	304°	1.42	1.45	0.74
	HW	312°	0.94	0.96	0.49
After HW Immingham	1	130°	0.95	0.97	0.49
	2	114°	2.58	2.63	1.39
	3	114°	3.69	3.76	1.92
	4	112°	3.76	3.84	1.96
	5	110°	3.53	3.60	1.84
	6	105°	2.63	2.69	1.36

TIDAL STREAM OBSERVATIONS TAKEN
5th NOV., 1964. POSITION 'B' BEARING 089°
DISTANT 1057M TOWER 'A' IMMINGHAM DOCK

	Hours (GMT)	Direction	Rate knots	Spring Rate knots	Neap Rate knots
Before HW Immingham	6	118°	1.95	2.00	1.02
	5	115°	0.30	0.37	0.16
	4	278°	1.89	1.94	0.98
	3	290°	1.72	1.77	0.89
	2	292°	1.84	1.89	0.96
	1	296°	1.46	1.50	0.76
	HW	309°	0.72	0.74	0.37
After HW Immingham	1	126°	1.81	1.21	0.61
	2	115°	2.69	2.76	1.40
	3	114°	3.84	3.95	2.00
	4	113°	3.54	3.64	1.84
	5	114°	3.25	3.34	1.69
	6	112°	2.42	2.49	1.26

CHAPTER 3

PORT OF IMMINGHAM (EAST AND WEST JETTIES)

SECTION 1 IMMINGHAM (EAST AND WEST JETTIES)

ESTABLISHING COMMUNICATIONS AND REPORTING PROCEDURE

1.1 All communication regarding Pilotage should be carried out through VTS Humber as indicated in the General Communication and Reporting Procedure section.

1.2 On passing the Sunk Spit Light Buoy the PPV should establish direct communications with the ADM Immingham and attendant tugs for all communications with regard to moorings and deployment of tugs using the appropriate working VHF channels.

SECTION 2 IMMINGHAM (EAST AND WEST JETTIES)

VESSEL TRAFFIC SERVICES HUMBER

2.1 On being advised by Immingham Dock ADM at a time of not later than 3 hours 45 minutes before HW Albert for HW arrival or 4 hours 15 minutes before LW Immingham for LW arrivals, of the berthing situation at the terminal, VTS Humber will advise the pilot that:

- (a) The berth is available.
- (b) The berth is occupied but should be available on arrival.
- (c) The berth will not be available on arrival.

If the advice received from the ADM Immingham is that the berth is available or will be available on arrival, the inward passage may commence.

Any subsequent change in the berthing situation reported by the ADM Immingham will be passed on receipt to the pilot of the vessel on passage.

2.2 The ADM Immingham will be advised when the inward passage has commenced and again when the vessel passes the Sunk Spit Light Buoy. If at any stage of the vessel's passage a decision is taken by the Master/Pilot to abort the operation, the ADM Immingham must be informed giving any other relevant information received from the incoming vessel.

SECTION 3 IMMINGHAM (EAST AND WEST JETTIES)

PILOTAGE

3.1 BOARDING FOR BERTHING EAST/WEST JETTY AT HW ALBERT PST

Pilots should be on board the vessel not later than 3 hours 30 minutes before HW Albert

For berthing at Immingham East/West Jetty (PST) the PPV should pass the Humber Light Float not later than 3 hours before HW Albert and pass the Sunk Spit Light Buoy not later than 1 hour before HW Albert.

3.2 BOARDING FOR BERTHING EAST/WEST JETTY AT HW ALBERT SST

Pilots should be on board not later than 4 hours before HW Albert

The vessel should pass the HLF inwards not later than 3 hours 15 minutes for berthing at Immingham E/W Jetties SST (Head East), passing Sunk Spit Light Buoy not later than 1 hour 15 minutes before HW Albert.

The berth operator must ensure that the requirement to berth SST is communicated to the ship's master, ABP Pilotage Operations Manager, VTS Humber, tug broker and berthing staff, giving as much advance notice as possible and submitting a mooring plan to all parties. The ADM Immingham must also be informed.

For HW Albert berthing the PPV should be alongside the berth, making fast by HW Albert.

3.3 BOARDING FOR BERTHING LW IMMINGHAM PST/SST

Pilots should be on board the vessel not later than 4 hours before LW Immingham.

PPVs should pass the Humber Light Float inbound not later than 3 hrs 30 minutes before LW Immingham and should pass the Sunk Spit Light Buoy not later than 1 hour 30 minutes before LW Immingham. A PPV berthing PST at LW should arrive off the berth at LW Immingham and berth on the last of the ebb tide.

If berthing SST the PPV should arrive off the berth to commence swing at slack water or first of flood between LW Immingham and 1 hour after LW Immingham.

The berth operator must ensure that the requirement to berth SST is communicated to the ship's master, ABP Pilotage Operations Manager, VTS Humber, tug broker and berthing staff, giving as much advance notice as possible and submitting a mooring plan to all parties. The ADM Immingham must also be informed.

3.4 ON PASSAGE

When the vessel is underway the reporting procedure outlined in the General Communication and Reporting Procedure section must be strictly complied with.

PPV inbound for Immingham E/W Jetties shall not pass N^o 10 Upper Burcom Light Float until their berth is available.

A PPV must have at least two wire tugs made fast (with pusher tugs available) by the time the vessel is abeam of the Humber Power Intake.

3.5 BERTHING

The vessel should arrive off the berth parallel to the berth and stopped relative to it. Until this stage has been reached no attempt should be made to land the vessel onto the jetty.

Berthing should be carried out as a separate manoeuvre.

A ship specific mooring plan will be made for each vessel, from the vessel's plans, before the passage commences and placed on board with the pilots, if not already supplied.

Whilst berthing, wire tugs can only be let go when the master, pilots and berthing master have agreed that the vessel has sufficient mooring lines secured. Pusher tugs should not be dismissed until the vessel is all fast on the berth in compliance with the mooring plan.

For HW Albert SST berthing the PPV should be alongside the berth, making fast by HW Albert, if any delay is foreseen which would prevent this, full consideration must be given to berthing PST.

For LW Immingham PST berthing the PPV should be alongside the berth, making fast by LW Immingham. When berthing SST the PPV should arrive off the berth to commence swing at slack water or first of flood and should be alongside the berth, making fast between LW Immingham and 1 hour after LW Immingham.

3.6 SAILING FROM EAST/WEST JETTY HW ALBERT PST/SST

Pilots should board all outward bound vessels not later than 2 hours before HW Albert, the vessel should be singling up with tugs in attendance not later than 1 hour before HW Albert, the vessel should be clear of the berth no later than HW Albert.

3.7 SAILING FROM EAST/WEST JETTY LW IMMINGHAM PST/SST

Pilots should board at LW Immingham. Vessel to be singled up ready to depart the berth once the ebb flow has ceased. The vessel can depart the berth up to 1 hour 30 minutes after LW Immingham.

SECTION 4 IMMINGHAM (EAST AND WEST JETTIES)

IMMINGHAM EAST/WEST JETTIES

4.1 At a time not later than 3 hours 45 minutes before HW Albert for HW arrivals (4 hours 15 minutes before LW Immingham for LW arrivals) the ADM Immingham will inform VTS Humber of the anticipated status of the berth for the arrival of the incoming vessel.

4.2 All information received by VTS Humber will be relayed on receipt to the Master/Pilot of the incoming PPV so as to enable a decision to be taken whether to commence the inward passage or not.

4.3 If the berth is occupied by a vessel scheduled to sail prior to the arrival of the incoming vessel, the ADM Immingham will immediately update VTS Humber if there is any change to the berth status from that reported at 3 hours 30 minutes hours before agreed safe berthing time, for onward transmission to the Master/Pilot.

4.4 If at any stage of the inward vessel's passage it is established by APT that the berth will not be available on arrival, the APT Berthing Master will advise VTS Humber immediately and not later than 1 hour before HW Albert for HW berthing or 1 hour 15 minutes before LW Immingham for LW berthing and preferably before the incoming PPV passes the Sunk Spit Light Buoy so as to enable the Master/Pilot of the inbound PPV to be informed.

4.5 The ADM Immingham should ensure that at a time of 1 hour before the scheduled pilots boarding time for sailing, the vessel will have completed all ballasting/cargo operations and will in all respects be ready to sail.

4.6 Responsibility for verifying that vessels are adequately equipped with moorings and mooring/tension winches rests with the ADM Immingham and Ship's Agents. The moorings for the East/West Jetties should be supervised by the East/West Jetty Berthing Master according with the mooring plan.

4.7 ADM Immingham is responsible for ensuring that a ship specific mooring plan will be made for each vessel before the passage commences and placed on board with the pilots, if not already supplied.

A PPV berthing SST a back-up PST mooring plan should be produced in the event that the vessel is unable to berth SST for whatever reason.

Pilots should be advised in advance if a PST berthing is not available.

SECTION 5 IMMINGHAM (EAST AND WEST JETTIES)

TUG PROVIDERS

5.1 At a time not later than 3 hours 30 minutes hours before HW Albert for HW arrivals (4 hours 30 minutes before LW Immingham for LW arrivals) the Allocated Tug Broker should advise VTS Humber of the availability of tugs and confirm that the agreed number of tugs will be in attendance when the incoming vessel reaches the Sunk Spit Light Buoy.

MINIMUM TUGS REQUIRED

Vessel DWT Immingham East / West Jetties Tonnes	Number of tugs at Sunk Spit Buoy	Category	Number of tugs Berthing	Category	Minimum Total Bollard Pull Tonnes	Number of tugs Unberthing	Category	Minimum Total Bollard Pull Tonnes
to 49,999								
Ballast	2	CC	3	C	90	3 or	CCC	90
Ballast	2	CC	3	C	90	2	AB	90
Loaded	2	CC	3	C	90	3 or	ACC	110
Loaded	2	CC	3	C	90	3	BBC	110

5.2 After passing the Sunk Spit Light Buoy the PPV must have at least two tugs made fast by the time the vessel is abeam of the Humber Power Intake.

5.3 If the agreed number of tugs cannot be assigned to the Humber Passage Plan tanker, the vessel should not proceed.

5.4 The tug broker should ascertain the inward PPV ETA at the Sunk Spit Light Buoy; ensure that the appropriate numbers of tugs will be available on station and declare the leading tug.

5.5 Tugs allocated to the incoming vessel should report to VTS Humber when leaving the dock or berth or leaving the anchorage or 2 hours 30 minutes before entering the Humber pilotage area and again when in position to meet the PPV in the vicinity of the Sunk Spit Light Buoy.

5.6 For any inward PPV movement, it is the responsibility of the Tugs Masters to obtain confirmation of the time the PPV is expected to pass the Sunk Spit Light Buoy, direct from the PPV or via VTS so that no delay is experienced in making fast the wire tugs before the PPV reaches the Humber Power Intake.

As a guideline :-

For PPV HW Albert berthing at East/West Jetties PST (Head West) the wire tugs should be in position at the Sunk Spit Buoy no later than 1 hour before HW Albert.

For PPV HW Albert berthing at East/West Jetties SST (Head East) the wire tugs should be in position at the Sunk Spit Buoy no later than 1 hour 15 minutes before HW Albert.

For PPV LW Immingham berthing at East/West Jetties PST (Head West) or SST (Head East) the wire tugs should be in position at the Sunk Spit Buoy no later than 1 hour 30 minutes before LW Immingham.

SAILING TUGS

5.7 Tugs allocated to a vessel sailing shall be ordered to attend at the vessel at the same time as the Pilots and shall report to VTS Humber when they are in attendance at the sailing vessel.

5.8 The number of tugs allocated to a PPV on sailing shall be decided after consultation between the Master, the Agent and the Tug Provider. The minimum number of tugs to be allocated shall not be less than two and will be governed by the Minimum Tugs Required table in this passage plan. When a vessel is to unberth in the loaded condition full consideration must be given by all parties to the use of the same number of tugs as would apply for berthing that size of vessel.

5.9 On clearing the berth after sailing one tug will remain with the vessel until she is past and clear of the IOT.

SECTION 6 IMMINGHAM (EAST AND WEST JETTIES)

ABORT PROCEDURES

The appropriate action to be taken in the event of the passage being aborted will be decided by the Master/Pilot. The Master at all times retains full responsibility for the safe navigation of the vessel and the safety of the crew.

6.1 Notwithstanding that a decision to abort may be taken by the Master/Pilot at any stage of the vessel's passage for reasons other than those listed below, the abort procedure should be put into operation if:-

- (i) Insufficient depth of water is available;
- (ii) The wire tugs are not available by the time the PPV has reached the Sunk Spit Light Buoy.
- (iii) It has been established during the vessel's passage that adequate tugs will not be available on arrival. A PPV must have at least two tugs made fast and pusher tugs available by the time the vessel is abeam of the Humber Power Intake.
- (iv) It has been established that the berth will not be available on arrival.
- (v) The vessel should not proceed upriver of the N^o10 Upper Burcom Light Float if the berth is not available.

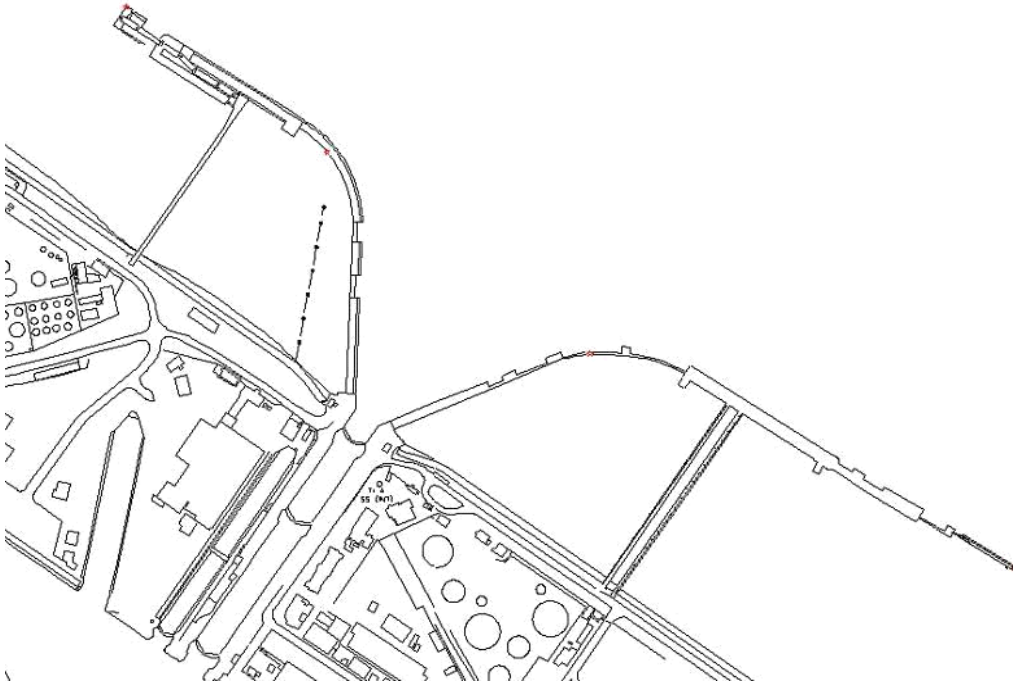
6.2 For HW Albert berthing the passage should be aborted if:-

- (i) The vessel passes the Humber Light Float at a time later than 2 hours 15 minutes before HW Albert.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 40 minutes before HW Albert.
- (iii) If a PPV berthing SST, during any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth SST at HW Albert, then due consideration and discussion with all interested parties regarding the feasibility of berthing PST should be had. If for any reason this will not be possible then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

6.3 For LW Immingham berthing the passage should be aborted if:-

- (i) The vessel passes the Humber Light Float at a time later than 2 hours 30 minutes before LW Immingham.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 1 hour before LW Immingham.
- (iii) During any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth PST before the flood tide starts, then due consideration and discussion with all interested parties regarding the feasibility of berthing SST should be had. If for any reason this will not be possible then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

SECTION 7 IMMINGHAM (EAST AND WEST JETTIES)



CHAPTER 4

IMMINGHAM BULK TERMINAL (IBT)

SECTION 1 IBT

ESTABLISHING COMMUNICATIONS AND REPORTING PROCEDURE

1.1 All communication regarding Pilotage should be carried out through VTS Humber as indicated in the General Communication and Reporting Procedure section.

1.2 On passing the Sunk Spit Light Buoy the PPV should establish direct communications with the IBT and attendant tugs for all communications with regard to moorings and deployment of tugs using the appropriate working VHF channels.

SECTION 2 IBT

VESSEL TRAFFIC SERVICES HUMBER

2.1 On being informed by the Jetty Control Officer at the IBT at a time not later than 3 hours 45 minutes before HW Albert for HW arrival or 4 hours 15 minutes before LW Immingham for LW arrivals, of the berthing situation at the terminal, VTS Humber will advise the pilot that:

- (a) The berth is available.
- (b) The berth is occupied but should be available on arrival.
- (c) The berth will not be available on arrival.

If the advice received from IBT is that the berth is available or will be available on arrival, the inward passage may commence.

Any subsequent change in the berthing situation reported by the IBT will be passed on receipt to the pilot of the vessel on passage.

2.2 The Jetty Control Officer at the IBT and the ADM Immingham will be advised when the inward passage has commenced and again when the vessel passes the Sunk Spit Light Buoy.

If, at any stage of the vessel's passage a decision is taken by the Master/Pilot to abort the operation, the ADM Immingham and the Jetty Control Officer at the IBT must be informed giving any other relevant information received from the incoming vessel.

SECTION 3 IBT

PILOTAGE

3.1 BOARDING FOR BERTHING IBT AT HW ALBERT PST

Pilots should be on board the vessel not later than 3 hours 30 minutes before HW Albert

For berthing at IBT (PST) the PPV should pass the Humber Light Float not later than 3 hours before HW Albert. The PPV should Pass Sunk Spit Light Buoy not later than 1 hour before HW Albert.

3.2 BOARDING FOR BERTHING IBT AT LW IMMINGHAM PST

Pilots should be on board the vessel not later than 4 hours before LW Immingham.

PPVs should pass the Humber Light Float inbound not later than 3 hrs 30 minutes before LW Immingham and should pass the Sunk Spit Light Buoy not later than 1 hour 30 minutes before LW Immingham. A PPV berthing PST at LW should arrive off the berth at LW Immingham and berth on the last of the ebb tide.

3.3 ON PASSAGE

When the vessel is underway the reporting procedure outlined in the General Communication and Reporting Procedure section must be strictly complied with.

PPV inbound for IBT shall not pass N^o 10 Upper Burcom Light Float until their berth is available.

A PPV must have at least two wire tugs made fast (with pusher tugs available) by the time the vessel is abeam of the Humber Power Intake.

3.4 BERTHING

The vessel should approach the berth in the white sector of the oscillating light and should arrive off the berth parallel to the berth and stopped relative to it. Until this stage has been reached no attempt should be made to land the vessel onto the jetty.

Berthing should be carried out as a separate manoeuvre.

A ship specific mooring plan will be made for each vessel, from the vessel's plans, before the passage commences and placed on board with the pilots, if not already supplied.

Whilst berthing, wire tugs can only be let go when the master, pilots and berthing master have agreed that the vessel has sufficient mooring lines secured. Pusher tugs should not be dismissed until the vessel is all fast on the berth in compliance with the mooring plan.

For HW Albert SST berthing the PPV should be alongside the berth, making fast by HW Albert.

For LW Immingham PST berthing the PPV should be alongside the berth, making fast by LW Immingham.

3.5 SAILING FROM IBT AT HW ALBERT

Pilots should board all outward bound vessels not later than 2 hours before HW Albert, the vessel should be singling up with tugs in attendance not later than 1 hour before HW Albert, the vessel should be clear of the berth no later than HW Albert.

3.6 SAILING FROM IBT AT LW IMMINGHAM

Pilots should board at LW Immingham. Vessel to be singled up ready to depart the berth once the ebb flow has ceased. The vessel can depart the berth up to 1 hour 30 minutes after LW Immingham.

SECTION 4 IBT IMMINGHAM

BULK TERMINAL

4.1 At a time not later than 3 hours 30 minutes before HW Albert (4 hours 30 minutes before LW Immingham for LW arrivals) the IBT Jetty Control Officer will inform VTS Humber of the anticipated status of the berth for the arrival of the incoming vessel.

4.2 All information received by VTS Humber will be relayed on receipt to the Master/Pilot of the incoming vessel so as to enable a decision to be taken whether to commence the inward passage or not.

4.3 If the berth is occupied by a vessel scheduled to sail prior to the arrival of the incoming vessel, the IBT Jetty Control Officer will immediately update VTS Humber if there is any change to the berth status from that previously reported.

4.4 If at any stage of the inward vessel's passage it is established by IBT that the berth will not be available on arrival, the IBT Jetty Control Officer will advise VTS Humber immediately and not later than 1 hour before HW Albert for HW berthing or 1 hour 30 minutes before LW Immingham for LW berthing and preferably before the incoming PPV passes the Sunk Spit Light Buoy so as to enable the Master/Pilot of the inbound PPV to be informed.

4.5 IBT Jetty Control Officer should ensure that at a time of 1 hour before the scheduled pilots boarding time for sailing, the vessel will have completed all ballasting/cargo operations and will in all respects be ready to sail.

4.6 Responsibility for verifying that vessels are adequately equipped with moorings and mooring/tension winches rests with the IBT Jetty Control Officer and Ship's Agents. The moorings for the IBT Jetty will be as indicated on the Mooring Plan and will be supervised by the IBT Berthing Master'.

4.7 IBT Jetty Control Officer is responsible for ensuring that a ships mooring plan will be made for each vessel before the passage commences and placed on board with the pilots, if not already supplied.

SECTION 5 IBT TUG

PROVIDERS

5.1 At a time not later than 3 hours 30 minutes before HW Albert for HW arrivals (4 hours 30 minutes before LW Immingham for LW arrivals) the Allocated Tug Broker should advise VTS Humber of the availability of tugs and confirm that the agreed number of tugs will be in attendance when the incoming PPV reaches the Sunk Spit Light Buoy.

MINIMUM TUGS REQUIRED

Vessel DWT Bulkers for IBT Tonnes	Number of tugs at Sunk Spit Buoy	Category	Number of tugs Berthing	Category	Minimum Total Bollard Pull Tonnes	Number of tugs Unberthing	Category	Minimum Total Bollard Pull Tonnes
150,000+	2	AA	4	AABB	200	3	AAA	200
80,000 to 149,999	2	AA	4 or 3	AABC AAA	170 200	3	AAC	130
50,000 to 79,999	2 or 2	AA CC	3 or 4	AAA CCCC	200 120	2 or 3	AA CCC	120 90
To 49,999	2	CC	3	CCC	90	2	CC	60

5.2 After passing the Sunk Spit Light Buoy the PPV must have at least two tugs made fast by the time the vessel is abeam of the Humber Power Intake.

5.3 If the agreed number of tugs cannot be assigned to the Humber Passage Plan vessel, the vessel should not proceed.

5.4 The tug broker should ascertain the inward PPV ETA at the Sunk Spit Light Buoy; ensure that the appropriate numbers of tugs will be available on station and declare the leading tug.

5.5 Tugs allocated to the incoming vessel should report to VTS Humber when leaving the dock or berth or leaving the anchorage or 2 hours 30 minutes before entering the Humber pilotage area and again when in position to meet the PPV in the vicinity of the Sunk Spit Light Buoy.

5.6 For any inward PPV movement, it is the responsibility of the Tugs Masters to obtain confirmation of the time the PPV is expected to pass the Sunk Spit Light Buoy, direct from the PPV or via VTS so that no delay is experienced in making fast the wire tugs before the PPV reaches the Humber Power Intake.

As a guideline;

For HW Albert berthing at IBT the wire tugs should be in position at the Sunk Spit Buoy no later than 1 hour before HW Albert.

For LW Immingham berthing at IBT the wire tugs should be in position at the Sunk Spit Buoy no later than 1 hour 30 minutes before LW Immingham.

SAILING TUGS

5.7 Tugs allocated to a vessel sailing shall be ordered to attend at the vessel at the same time as the Pilots and shall report to VTS Humber when they are in attendance at the sailing vessel.

5.8 The number of tugs allocated to a PPV on sailing shall be decided after consultation between the Master, the Agent and the Tug Provider. The minimum number of tugs to be allocated shall not be less than two and will be governed by the Minimum Tugs Required table in this passage plan. When a vessel is to unberth in the loaded condition full consideration must be given by all parties to the use of the same number of tugs as would apply for berthing that size of vessel.

5.9 On clearing the berth after sailing one tug will remain with the vessel until she is past and clear of the IOT.

SECTION 6 IBT ABORT

PROCEDURES

The appropriate action to be taken in the event of the passage being aborted will be decided by the Master/Pilot. The Master at all times retains full responsibility for the safe navigation of the vessel and the safety of the crew.

6.1 Notwithstanding that a decision to abort may be taken by the Master/Pilot at any stage of the vessel's passage for reasons other than those listed below, the abort procedure should be put into operation if:-

- (i) Insufficient depth of water is available;
- (ii) The wire tugs are not available by the time the PPV has reached the Sunk Spit Light Buoy.
- (iii) It has been established during the vessel's passage that adequate tugs will not be available on arrival. A PPV must have at least two tugs made fast and pusher tugs available by the time the vessel is abeam of the Humber Power Intake.
- (iv) It has been established that the berth will not be available on arrival.
- (v) The vessel should not proceed upriver of the N^o10 Upper Burcom Light Float if the berth is not available.

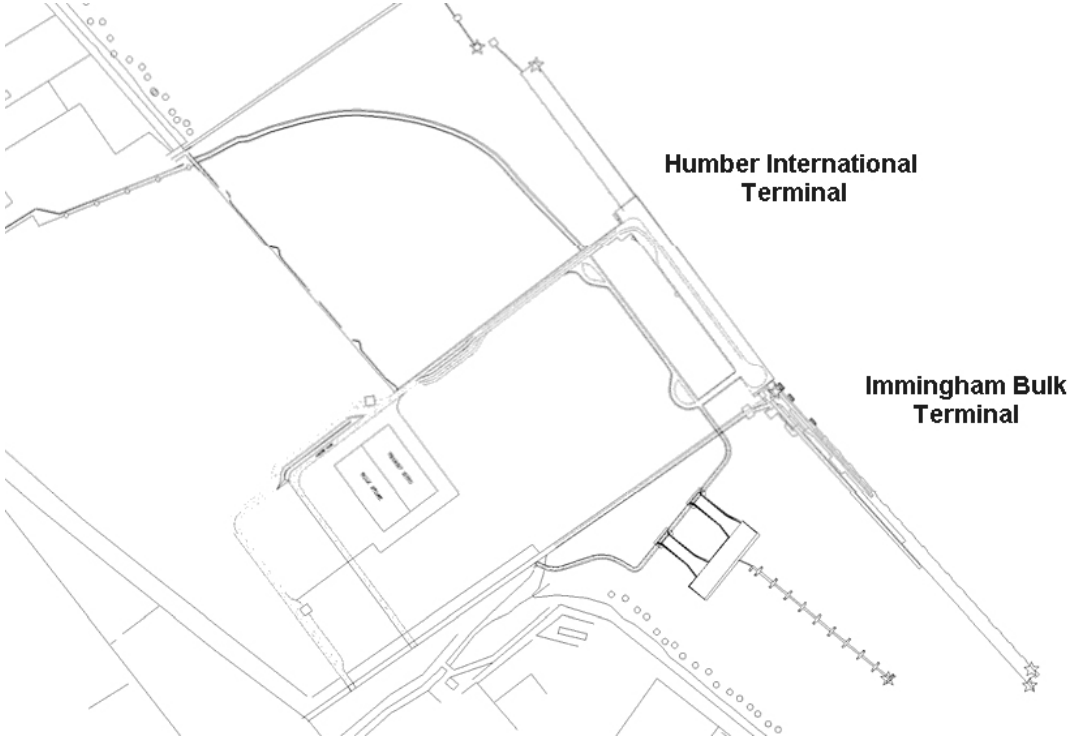
6.2 For HW Albert berthing the passage should be aborted if:-

- (i) The vessel passes the Humber Light Float at a time later than 2 hours 15 minutes before HW Albert.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 30 minutes before HW Albert.

6.3 For LW Immingham berthing the passage should be aborted if:-

- (i) The vessel passes the Humber Light Float at a time later than 2 hours 30 minutes before LW Immingham.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 1 hour before LW Immingham.
- (iii) During any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth PST before the flood tide starts, then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

**SECTION 7
IMMINGHAM BULK TERMINAL**



CHAPTER 5

HUMBER INTERNATIONAL TERMINAL (HInT)

SECTION 1 HInT

ESTABLISHING COMMUNICATIONS AND REPORTING PROCEDURE

1.1 All communication regarding Pilotage should be carried out through VTS Humber as indicated in the General Communication and Reporting Procedure section.

1.2 On passing the Sunk Spit Light Buoy the PPV should establish direct communications with the ADM Immingham and attendant tugs for all communications with regard to moorings and deployment of tugs using the appropriate VHF working channels.

SECTION 2 HInT

VESSEL TRAFFIC SERVICES HUMBER

2.1 On being advised by HInT Terminal Operations at a time of not later than 3 hours 45 minutes before the agreed safe berthing time of the berthing situation at the terminal, VTS Humber will advise the pilot that:

- (a) The berth is available.
- (b) The berth is occupied but should be available on arrival.
- (c) The berth will not be available on arrival.

If the advice received from the HInT Terminal Operations is that the berth is available or will be available on arrival, the inward passage may commence.

Any subsequent change in the berthing situation reported by the HInT Terminal Operations will be passed on receipt to the pilot of the vessel on passage.

2.2 HInT Terminal Operations will be advised when the inward passage has commenced, and again when the vessel passes the Sunk Spit Light Buoy. If at any stage of the vessel's passage a decision is taken by the Master/Pilot to abort the operation, the HInT Terminal Operations must be informed giving any other relevant information received from the incoming vessel.

SECTION 3 HInT

PILOTAGE

3.1 BOARDING FOR BERTHING HInT AT HW ALBERT PST

Pilots should be on board the vessel not later than 3 hours 30 minutes before HW Albert

For berthing at HInT 1 or 2 (PST) the PPV should pass the Humber Light Float not later than 3 hours before HW Albert. The PPV should pass the Sunk Spit Light Buoy not later than 1 hour before HW Albert.

3.2 BOARDING FOR BERTHING HInT AT HW ALBERT SST

Pilots should be on board the vessel not later than 4 hours before HW Albert.

For berthing at HInT (SST) at HW Albert the PPV should pass the Humber Light Float not later than 3 hours 30 minutes before HW Albert. The PPV should pass the Sunk Spit Light Buoy not later than 1 hour 30 minutes before HW Albert.

The berth operator must ensure that the requirement to berth SST is communicated to the ship's master, ABP Pilotage Operations Manager, VTS Humber, tug broker and berthing staff, giving as much advance notice as possible and submitting a mooring plan to all parties. The ADM Immingham must also be informed.

For HW Albert berthing the PPV should be alongside the berth, making fast by HW Albert. If any delay is foreseen which would prevent this, full consideration must be given to berthing port-side-to in the normal manner.

3.3 BOARDING FOR BERTHING HInT AT LW IMMINGHAM PST

Pilots should be on board the vessel not later than 4 hours before LW Immingham.

PPVs should pass the Humber Light Float inbound not later than 3 hrs 30 minutes before LW Immingham and should pass the Sunk Spit Light Buoy not later than 1 hour 30 minutes before LW Immingham. A PPV berthing PST at LW should arrive off the berth at LW Immingham and berth on the last of the ebb tide.

3.4 ON PASSAGE

When the vessel is underway the reporting procedure outlined in the General Communication and Reporting Procedure section must be strictly complied with.

PPV inbound for HInT should not pass No. 10 Upper Burcom Light Float until their berth is available.

A PPV must have at least two wire tugs made fast (with pusher tugs available) by the time the vessel is abeam of the Humber Power Intake.

3.5 BERTHING

The vessel should approach the berth in the white sector of the oscillating light and should arrive off the berth, parallel to the berth and stopped relative to it. Until this stage has been reached no attempt should be made to land the vessel onto the jetty.

Berthing should be carried out as a separate manoeuvre.

A ship specific mooring plan will be made for each vessel, from the vessel's plans, before the passage commences and placed on board with the pilots, if not already supplied.

Whilst berthing, wire tugs can only be let go when the master, pilots and berthing master have agreed that the vessel has sufficient mooring lines secured. Pusher tugs should not be dismissed until the vessel is all fast on the berth in compliance with the mooring plan.

For HW Albert SST berthing the PPV should be alongside the berth, making fast by HW Albert, if any delay is foreseen which would prevent this, full consideration must be given to berthing PST.

For LW Immingham PST berthing the PPV should be alongside the berth, making fast by LW Immingham.

3.6 SAILING FROM HIInT 1 or 2 AT HW ALBERT PST/SST

Pilots should board all outward bound vessels not later than 2 hours before HW Albert, the vessel should be singling up with tugs in attendance not later than 1 hour before HW Albert, the vessel should be clear of the berth no later than HW Albert.

3.7 SAILING FROM HIInT 2 AT HW ALBERT PST/SST IN THE CASE OF A CHANGEOVER

Pilots can be ordered on board as early as 3 hours before HW Albert for sailing in order to clear the IOT before the inbound vessels reaches the N° 10 Upper Burcom Light Float, in the case of a changeover

3.8 SAILING FROM HIInT 1 or 2 AT LW IMMINGHAM

Pilots should board at LW Immingham. Vessel to be singled up ready to depart the berth once the ebb flow has ceased. The vessel can depart the berth up to 1 hour 30 minutes after LW Immingham.

SECTION 4 (HInT)

HUMBER INTERNATIONAL TERMINAL/DOCK MASTER, IMMINGHAM

Whenever a PPV is required to berth SST, HInT Terminal Operations must give as much advance warning as possible to ABP Pilotage Operations Manager, Dock Master, Immingham, VTS Humber, tug provider and berthing staff and, once agreed, submit mooring plans to all parties prior to the commencement of the inward passage.

4.1 At a time not later than 3 hours 30 minutes before HW Albert for HW berthing or 4 hours 30 minutes before LW Immingham for LW arrivals), the Terminal Operations at HInT will establish communications with VTS Humber, advising of the anticipated status of the berth for the arrival of the incoming vessel.

4.2 All information received by VTS Humber will be relayed on receipt to the Master/Pilot of the incoming vessel so as to enable a decision to be taken whether to commence the inward passage or not.

4.3 If the berth is occupied by a vessel scheduled to sail prior to the arrival of the incoming vessel, the Terminal Operations at HInT will immediately update VTS Humber if there is any change to the berth status from that previously reported.

4.4 If at any stage of the inward vessel's passage it is established by the Terminal Operations at HInT that the berth will not be available on arrival, they will advise VTS Humber immediately and not later than 1 hours 30 minutes before HW Albert for HW berthing and 1 hour 30 minutes before LW Immingham for LW berthing and preferably before the incoming vessel passes the Sunk Spit Light Buoy so as to enable the Master/Pilot of the inbound PPV to be informed.

4.5 The Terminal Operations at HInT should ensure that at 1 hour before the scheduled pilots boarding time for sailing, the vessel will have completed all ballasting/cargo operations and will in all respects be ready to sail.

4.6 Responsibility for verifying that vessels are adequately equipped with moorings and mooring/tension winches rests with the ABP Berthing Master and Ship's Agents. The moorings for the HInT Jetty will be as indicated on the Mooring Plan and will be supervised by the ABP Berthing Master.

4.7 ABP Berthing Master is responsible for ensuring that a ship specific mooring plan will be made for each vessel before the passage commences and placed on board with the pilots, if not already supplied

A PPV berthing SST a back-up PST mooring plan should be produced in the event that the vessel is unable to berth SST for whatever reason.

Pilots should be advised in advance if a PST berthing is not available.

SECTION 5 HIInT

TUG PROVIDERS

5.1 At a time not later than 3 hours 30 minutes before HW Albert (4 hours 30 minutes before LW Immingham for LW arrivals) the Allocated Tug Broker should advise VTS Humber of the availability of tugs and confirm that the agreed number of tugs will be in attendance when the incoming vessel reaches Sunk Spit Light Buoy.

MINIMUM TUGS REQUIRED

Vessel DWT Bulkers for HIInT 1 or 2 PST Tonnes	Number of tugs at Sunk Spit Buoy	Category	Number of tugs Berthing	Category	Minimum Total Bollard Pull Tonnes	Number of tugs Unberthing	Category	Minimum Total Bollard Pull Tonnes
150,000+	2	AA	4	AABB	200	3	AAA	200
80,000 to 149,999	2	AA	4 or 3	AABC AAA	170 200	3	AAC	130
50,000 to 79,999	2 or 2	AA CC	3 or 4	AAA CCCC	200 120	3 or 2	CCC AA	90 120
To 49,999	2	CC	3	CCC	90	2	CC	60

Vessel DWT Bulkers for HIInT 1 or 2 SST Tonnes	Number of tugs at Sunk Spit Buoy	Category	Number of tugs Berthing	Category	Minimum Total Bollard Pull Tonnes	Number of tugs Unberthing	Category	Minimum Total Bollard Pull Tonnes
150,000+	2	AA	4	AAAB	200	3	AAA	200
80,000 to 149,999	2	AA	4	AABC	170	3 or 2	AAC AA	130 130
50,000 to 79,999	2	AA	4 or 3	AACC AAA	160 200	3 or 2	CCC AB	90 90
To 49,999	2	CC	3	ACC	110	2	CC	60

5.2 After passing the Sunk Spit Light Buoy the PPV must have at least two tugs made fast by the time the vessel is abeam of the Humber Power Intake.

5.3 If the agreed number of tugs cannot be assigned to the Humber Passage Plan vessel, the vessel should not proceed.

5.4 The tug broker should ascertain the inward PPV ETA at the Sunk Spit Light Buoy; ensure that the appropriate numbers of tugs will be available on station and declare the leading tug.

5.5 Tugs allocated to the incoming vessel should report to VTS Humber when leaving the dock or berth or leaving the anchorage or 2 hours 30 minutes before entering the Humber pilotage area and again when in position to meet the PPV in the vicinity of the Sunk Spit Light Buoy.

5.6 For any inward PPV movement, it is the responsibility of the Tugs Masters to obtain confirmation of the time the PPV is expected to pass the Sunk Spit Light Buoy, direct from the PPV or via VTS so that no delay is experienced in making fast the wire tugs before the PPV reaches the Humber Power Intake.

As a guideline;

For PST at HW Albert berthing at HInT 1 or 2 the wire tugs should be in position at the Sunk Spit Buoy no later than 1 hour 15 minutes before HW Albert.

For SST at HW Albert berthing at HInT 1 or 2 the wire tugs should be in position at the Sunk Spit Buoy no later than 1 hour 30 minutes before HW Albert.

For LW Immingham berthing at HInT 1 or 2 (PST or SST) the wire tugs should be in position at the Sunk Spit Buoy no later than 1 hour 30 minutes before LW Immingham.

SAILING TUGS

5.7 Tugs allocated to a vessel sailing shall be ordered to attend at the vessel at the same time as the Pilots and shall report to VTS Humber when they are in attendance at the sailing vessel.

5.8 The number of tugs allocated to a PPV on sailing shall be decided after consultation between the Master, the Agent and the Tug Provider. The minimum number of tugs to be allocated shall not be less than two and will be governed by the Minimum Tugs Required table in this passage plan. When a vessel is to unberth in the loaded condition full consideration must be given by all parties to the use of the same number of tugs as would apply for berthing that size of vessel.

5.9 On clearing the berth after sailing one tug will remain with the vessel until she is past and clear of the IOT.

SECTION 6 HInT

ABORT PROCEDURES

The appropriate action to be taken in the event of the passage being aborted will be decided by the Master/Pilot. The Master at all times retains full responsibility for the safe navigation of the vessel and the safety of the crew.

6.1 Notwithstanding that a decision to abort may be taken by the Master/Pilot at any stage of the vessel's passage for reasons other than those listed below, the abort procedure will should be put into operation if:-

- (i) Insufficient depth of water is available;
- (ii) The wire tugs are not available by the time the PPV has reached the Sunk Spit Light Buoy.
- (iii) It has been established during the vessel's passage that adequate tugs will not be available on arrival. A PPV must have at least two tugs made fast and pusher tugs available by the time the vessel is abeam of the Humber Power Intake.
- (iv) It has been established that the berth will not be available on arrival.
- (v) The vessel should not proceed upriver of the N^o10 Upper Burcom Light Float if the berth is not available.

6.2 For HW Albert berthing the passage should be aborted if:-

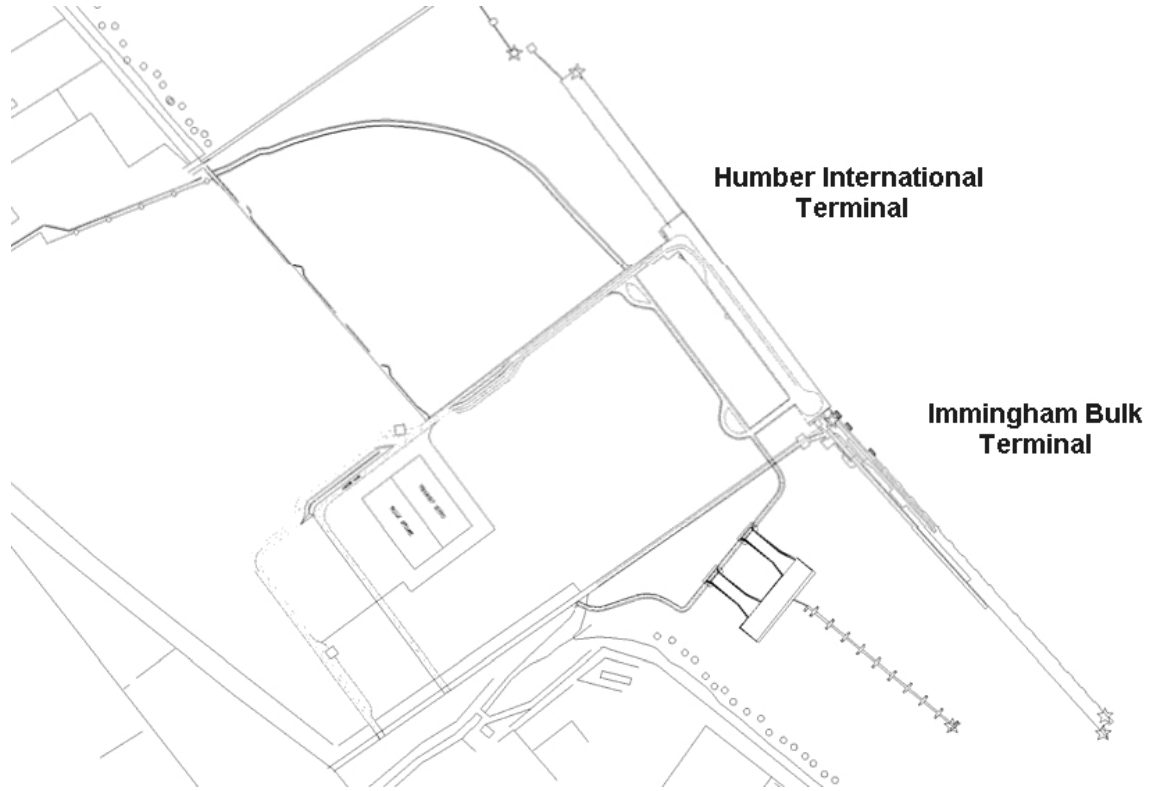
- (i) The vessel passes the Humber Light Float at a time later than 2 hours 15 minutes before HW Albert.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 30 minutes before HW Albert.
- (iii) If a PPV berthing SST, during any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth SST at HW Albert, then due consideration and discussion with all interested parties regarding the feasibility of berthing PST should be had. If for any reason this will not be possible then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

(See General Notice to Pilots No. 07/2013 Amendments to HInT Large Vessel Parameters at HInT)

6.3 For LW Immingham berthing the passage should be aborted if:-

- (i) The vessel passes the Humber Light Float at a time later than 2 hours 30 minutes before LW Immingham.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 1 hour before LW Immingham.
- (iii) During any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth PST before the flood tide starts, then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

**SECTION 7
HUMBER INTERNATIONAL TERMINAL (HInT)**



CHAPTER 6

IMMINGHAM GAS TERMINAL,

SOUTH KILLINGHOLME JETTY

SECTION 1 IGT/SKJ

ESTABLISHING COMMUNICATIONS AND REPORTING PROCEDURE

1.1 All communication regarding Pilotage should be carried out through VTS Humber as indicated in the General Communication and Reporting Procedure section.

1.2 On passing the Sunk Spit Light Buoy the PPV should establish direct communications with the APT and attendant tugs for all communications with regard to moorings and deployment of tugs using the appropriate working VHF channels.

SECTION 2 IGT/SKJ

VESSEL TRAFFIC SERVICES HUMBER

2.1 The Berthing Master at the APT at a time not later than 3 hours 45 minutes before HW Albert for HW berthing or 4 hours 15 minutes before LW Immingham for LW berthing, of the berthing situation at the Terminal, should advise VTS Humber that:-

- (a) The berth is available.
- (b) The berth is occupied but should be available on arrival.
- (c) The berth will not be available on arrival.

If the advice received from APT is that the berth is available or will be available on arrival, the inward passage may commence.

Any subsequent change in the berthing situation reported by the APT will be passed on receipt to the pilot of the vessel on passage.

2.2 The APT Berthing Master and the ADM Immingham will be advised when the inward passage has commenced and again when the vessel passes the Sunk Spit Light Buoy.

If, at any stage of the vessel's passage a decision is taken by the Master/Pilot to abort the passage, the ADM Immingham and the APT Berthing Master must be informed giving any other relevant information received from the incoming vessel.

SECTION 3 IGT/SKJ

PILOTAGE

3.1 BOARDING FOR BERTHING IGT/SKJ AT HW ALBERT PST

Pilots should be on board the vessel not later than 3 hours 30 minutes before HW Albert.

For berthing at IGT or SKJ (PST) the vessel should pass the HLF not later than 3 hours 15 minutes before HW Albert. The vessel should pass the Sunk Spit Light Buoy not later than 1 hour 15 minutes before HW Albert.

3.2 BOARDING FOR BERTHING IGT/SKJ AT HW ALBERT SST

Pilots should be on board not later than 4 hours before HW Albert

The vessel should pass the HLF inwards 3 hours 30 minutes before HW Albert for berthing SST at IGT/SKJ, passing Sunk Spit Light Buoy at 1 hour 30 minutes before HW Albert.

The berth operator must ensure that the requirement to berth SST is communicated to the ship's master, ABP Pilotage Operations Manager, VTS Humber, tug broker and berthing staff, giving as much advance notice as possible and submitting a mooring plan to all parties. The ADM, Immingham must also be informed.

For HW Albert berthing the PPV should be alongside the berth, making fast by HW Albert.

3.3 BOARDING FOR BERTHING IGT/SKJ AT LW IMMINGHAM PST

Pilots should be on board the vessel not later than 4 hours before LW Immingham.

PPVs should pass the Humber Light Float inbound not later than 3 hrs 30 minutes before LW Immingham and should pass the Sunk Spit Light Buoy not later than 1 hour 30 minutes before LW Immingham. A PPV berthing PST at LW should arrive off the berth at LW Immingham and berth on the last of the ebb tide.

3.4 ON PASSAGE

When the vessel is underway the reporting procedure outlined in the General Communication and Reporting Procedure section must be strictly complied with.

PPV inbound for IGT/SKJ should not pass No. 10 Upper Burcom Light Float until their berth is available.

A PPV must have at least two wire tugs made fast (with pusher tugs available) by the time the vessel is abeam of the Humber Power Intake.

3.5 BERTHING

The vessel should arrive off the berth parallel to the berth and stopped relative to it. Until this stage has been reached no attempt should be made to land the vessel onto the jetty.

Berthing should be carried out as a separate manoeuvre.

A ship specific mooring plan will be made for each vessel, from the vessel's plans, before the passage commences and placed on board with the pilots, if not already supplied.

Whilst berthing, wire tugs can only be let go when the master, pilots and berthing master have agreed that the vessel has sufficient mooring lines secured. Pusher tugs should not be dismissed until the vessel is all fast on the berth in compliance with the mooring plan.

For HW Albert SST berthing the PPV should be alongside the berth, making fast by HW Albert, if any delay is foreseen which would prevent this, full consideration must be given to berthing PST.

For LW Immingham PST berthing the PPV should be alongside the berth, making fast by LW Immingham. When berthing SST the PPV should arrive off the berth to commence swing at slack water or first of flood and should be alongside the berth, making fast between LW Immingham and 1 hour after LW Immingham.

3.6 SAILING IGT/SKJ AT HW ALBERT PST/SST

Pilots should board all outward bound vessels not later than 2 hours before HW Albert, the vessel should be singling up with tugs in attendance not later than 1 hour before HW Albert, the vessel should be clear of the berth no later than HW Albert.

3.7 SAILING IGT/SKJ AT LW IMMINGHAM PST/SST

Pilots should board at LW Immingham. Vessel to be singled up ready to depart the berth once the ebb flow has ceased. The vessel can depart the berth up to 1 hour 30 minutes after LW Immingham.

SECTION 4 IGT/SKJ

ASSOCIATED PETROLEUM TERMINALS (IMMINGHAM) LIMITED

4.1 At a time not later than 3 hours 45 minutes before HW Albert time for HW berthing or 4 hours 15 minutes before LW Immingham for LW berthing, the APT Berthing Master will inform VTS Humber of the anticipated status of the berth for the arrival of the incoming PPV.

4.2 All information received by VTS Humber will be relayed on receipt to the inbound PPV so as to enable a decision to be taken whether to commence the inward passage or not.

4.3 If the berth is occupied by a vessel scheduled to sail prior to the arrival of the incoming PPV, the APT Berthing Master will immediately update VTS Humber if there is any change to the berth status from that previously reported.

4.4 If at any stage of the inward vessel's passage it is established by APT that the berth will not be available on arrival, the APT Berthing Master will advise VTS Humber immediately and not later than 1 hour before HW Albert for HW berthing or 1 hour 30 minutes before LW Immingham for LW berthing and preferably before the incoming PPV passes the Sunk Spit Light Buoy so as to enable the Master/Pilot of the inbound PPV to be informed.

4.5 APT Berthing Master should ensure that at a time of 1 hour before the scheduled pilots boarding time for sailing, the vessel will have completed all ballasting/cargo operations and will in all respects be ready to sail.

4.6 Responsibility for verifying that vessels are adequately equipped with moorings and mooring/tension winches rests with APT and Ship's Agents. The moorings for the APT berths will be as indicated on the Mooring Plan and will be supervised by the APT Berthing Master'

4.7 APT are responsible for ensuring that a ship specific mooring plan will be made for each vessel before the passage commences and placed on board with the pilots, if not already supplied.

A PPV berthing SST a back-up PST mooring plan should be produced in the event that the vessel is unable to berth SST for whatever reason.

Pilots should be advised in advance if a PST berthing is not available.

SECTION 5 IGT/SKJ TUG

PROVIDER

5.1 At a time not later than 4 hours before HW Albert for HW arrivals (4 hours 30 minutes before LW Immingham for LW arrivals) the Allocated Tug Broker should advise VTS Humber of the availability of tugs and confirm that the agreed number of tugs will be in attendance when the incoming vessel reaches the Sunk Spit Light Buoy.

MINIMUM TUGS REQUIRED

Vessel DWT Oil Tankers for IGT/SKJ	Number of tugs at Sunk Spit Buoy	Category	Number of tugs Berthing	Category	Minimum Total Bollard Pull Tonnes	Number of tugs Unberthing	Category	Minimum Total Bollard Pull Tonnes
80,000 +	2	AA	4	AABC	170	3	AAC	150
50,000 to 79,999 Ballast Loaded	2	CC	4	CCCC	120	3	CCC	90
	2	CC	4	CCCC	120	3	ACC	130
To 49,999 Ballast Ballast Loaded Loaded	2	CC	3	CCC	90	3	CCC	90
	2	CC	3	CCC	90	2	AB	90
	2	CC	3	CCC	90	3	ACC	110
	2	CC	3	CCC	90	3	BBC	110

Vessel DWT Gas Tankers for IGT/SKJ	Number of tugs at Sunk Spit Buoy	Category	Number of tugs Berthing	Category	Minimum Total Bollard Pull Tonnes	Number of tugs Unberthing	Category	Minimum Total Bollard Pull Tonnes
50,000 + cbm	2	AA	4	AABC	170	3	AAC	150
40,000 to 49,999 cbm	2	AA	3	AAC	130	2	AA	100
To 39,999 cbm	2	AA	2	AA	100	2	AA	100

5.2 After passing the Sunk Spit Light Buoy the PPV must have at least two tugs made fast by the time the vessel is abeam of the Humber Power Intake.

5.3 If the agreed number of tugs cannot be assigned to the Humber Passage Plan tanker, the vessel should not proceed.

5.4 The tug broker should ascertain the inward PPV ETA at the Sunk Spit Light Buoy; ensure that the appropriate numbers of tugs will be available on station and declare the leading tug.

5.5 Tugs allocated to the incoming vessel should report to VTS Humber when leaving the dock or berth or leaving the anchorage or 2 hours 30 minutes before entering the Humber pilotage area and again when in position to meet the PPV in the vicinity of the Sunk Spit Light Buoy.

5.6 For any inward PPV movement, it is the responsibility of the Tugs Masters to obtain confirmation of the time the PPV is expected to pass the Sunk Spit Light Buoy, direct from the PPV or via VTS so that no delay is experienced in making fast the wire tugs before the PPV reaches the Humber Power Intake.

As a guideline;

For HW Albert PST berthing the wire tugs should be in position at the Sunk Spit Buoy for berthing at IGT/SKJ not later than 1 hour 30 minutes before HW Albert.

For HW Albert SST berthing the wire tugs should be in position at the Sunk Spit Buoy for berthing at IGT/SKJ not later than 1 hour 45 minutes before HW Albert.

For LW Immingham berthing the wire tugs should be in position at the Sunk Spit Light Buoy not later than 1 hour 45 minutes before LW Immingham.

SAILING TUGS

5.7 Tugs allocated to a vessel sailing shall be ordered to attend at the vessel at the same time as the Pilots and shall report to VTS Humber when they are in attendance at the sailing vessel.

5.8 The number of tugs allocated to a PPV on sailing shall be decided after consultation between the Master, the Agent and the Tug Provider. The minimum number of tugs to be allocated shall not be less than two and will be governed by the Minimum Tugs Required table in this passage plan. When a vessel is to unberth in the loaded condition full consideration must be given by all parties to the use of the same number of tugs as would apply for berthing that size of vessel.

5.9 On clearing the berth after sailing one tug will remain with the vessel until she is past and clear of the IOT.

SECTION 6 IGT/SKJ

ABORT PROCEDURES

The appropriate action to be taken in the event of the passage being aborted will be decided by the Master/Pilot. The Master at all times retains full responsibility for the safe navigation of the vessel and the safety of the crew.

6.1 Notwithstanding that a decision to abort may be taken by the Master/Pilot at any stage of the vessel's passage for reasons other than those listed below, the abort procedure should be put into operation if:-

- (i) Insufficient depth of water is available;
- (ii) The wire tugs are not available by the time the PPV has reached the Sunk Spit Light Buoy.
- (iii) It has been established during the vessel's passage that adequate tugs will not be available on arrival. A PPV must have at least two tugs made fast and pusher tugs available by the time the vessel is abeam of the Humber Power Intake.
- (iv) It has been established that the berth will not be available on arrival.
- (v) The vessel should not proceed upriver of the N^o10 Upper Burcom Light Float if the berth is not available.

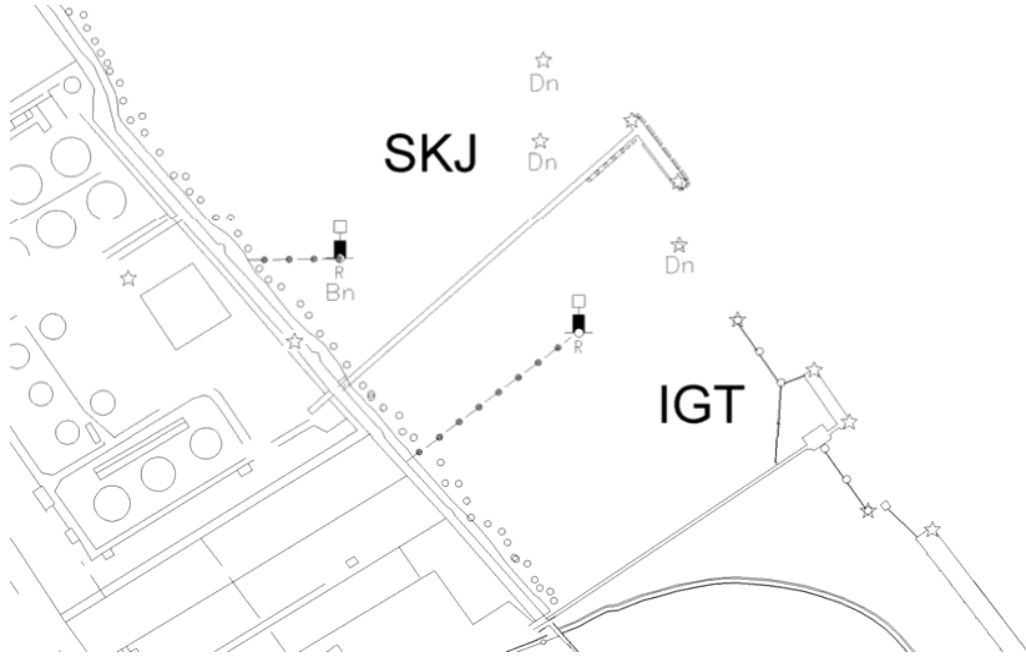
6.2 For HW Albert berthing the passage should be aborted if:-

- (i) The vessel passes the Humber Light Float at a time later than 2 hours 30 minutes before HW Albert.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 1 hour before HW Albert.
- (iii) If a PPV berthing SST, during any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth SST at HW Albert, then due consideration and discussion with all interested parties regarding the feasibility of berthing PST should be had. If for any reason this will not be possible then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

6.3 For LW Immingham berthing the passage should be aborted if:-

- (i) The vessel passes the Humber Light Float at a time later than 2 hours 30 minutes before LW Immingham.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 1 hour before LW Immingham.
- (iii) During any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth PST before the flood tide starts, then due consideration and discussion with all interested parties regarding the feasibility of berthing SST should be had. If for any reason this will not be possible then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

SECTION 7 IGT/SKJ



CHAPTER 7

SALTEND JETTIES

SECTION 1 SALTEND JETTIES

ESTABLISHING COMMUNICATIONS AND REPORTING PROCEDURE

1.1 All communication regarding Pilotage should be carried out through VTS Humber as indicated in the General Communication and Reporting Procedure section.

1.2 On passing the Sunk Spit Light Buoy the PPV should establish direct communications with Saltend Jetties and attendant tugs for all communications with regard to moorings and deployment of tugs using the appropriate working VHF channels.

SECTION 2 SALTEND JETTIES

VESSEL TRAFFIC SERVICE, HUMBER

2.1 On being informed by the Assistant Pier Master at the Saltend Terminal at a time not later than 5 hours 15 minutes before HW Albert of the berthing situation at the Terminal, VTS Humber will advise the pilot that:-

- (a) The berth is available.
- (b) The berth is occupied but should be available on arrival.
- (c) The berth will not be available on arrival.

If the advice received from Saltend Terminal is that the berth is available or will be available on arrival, the inward passage may commence.

Any subsequent change in the berthing situation reported by the Saltend Terminal will be passed on receipt to the pilot of the vessel on passage.

2.2 The Assistant Pier Master Saltend and the ADM at Hull will be advised when the inward passage has commenced and again when the vessel passes the Sunk Spit Light Buoy.

If, at any stage of the vessel's passage a decision is taken by the Master/Pilot to abort the operation, the ADM Hull and Assistant Pier Master Saltend must be informed giving any other relevant information received from the incoming vessel.

SECTION 3 SALTEND JETTIES

PILOTAGE

3.1 BOARDING FOR BERTHING SEJ AT HW ALBERT PST

Pilots should be on board the vessel not later than 5 hours before HW Albert.

The PPV should pass the Humber Light Float not later than 4 hours 15 minutes before HW Albert (to be at Elbow Light Buoy 45 minutes before HW Albert) and should pass the Sunk Spit Light Buoy not later than 2 hours before HW Albert.

3.2 ON PASSAGE

When the vessel is underway the reporting procedure outlined in the General Communication and Reporting Procedure section must be strictly complied with.

Tugs will meet the inbound PPV in the vicinity of the N^o 17 North Holme Light Buoy and should be made fast before the vessel passes N^o 19 Paull Sand Light Buoy.

PPV should not normally arrive at the Elbow Buoy earlier than 45 minutes before HW Albert.

Vessels will normally be swung to starboard off the berth once clear of the Elbow Buoy, prior to berthing PST.

3.4 BERTHING

Vessels over 175m in length, bound for Saltend Jetty No. 1, must berth starboard side to, to facilitate a proper mooring arrangement. These vessels will have to adjust the arrival time accordingly.

The vessel should arrive off the berth parallel to the berth and stopped relative to it. Until this stage has been reached no attempt should be made to land the vessel onto the jetty.

Berthing should be carried out as a separate manoeuvre.

A ship specific mooring plan will be made for each vessel, from the vessel's plans, before the passage commences and placed on board with the pilots, if not already supplied.

Whilst berthing, wire tugs can only be let go when the master, pilots and berthing master have agreed that the vessel has sufficient mooring lines secured. Pusher tugs should not be dismissed until the vessel is all fast on the berth in compliance with the mooring plan.

For HW Albert PST berthing the PPV should be alongside the berth, making fast by HW Albert.

3.5 SAILING FROM SEJ AT HW ALBERT PST

Pilots should board 2 hours before HW Albert. A vessel should be singling up with tugs in attendance not later than 1 hour before HW Albert, clearing the berth not later than 30 minutes before HW Albert.

SECTION 4 SALTEND JETTIES

SALTEND JETTIES

4.1 At a time not later than 5 hours before HW Albert the Assistant Pier Master Saltend will inform VTS Humber of the anticipated status of the berth for the arrival of the incoming vessel.

4.2 All information received by VTS Humber will be relayed on receipt to the Master/Pilot of the incoming vessel so as to enable a decision to be taken whether to commence the inward passage or not.

4.3 If the berth is occupied by a vessel scheduled to sail prior to the arrival of the incoming vessel, the Assistant Pier Master Saltend will immediately update VTS Humber if there is any change to the berth status from that previously reported for onward transmission to the Master/Pilot of the inbound PPV.

4.4 If at any stage of the inward vessel's passage it is established that the berth will not be available on arrival, the Assistant Pier Master Saltend will advise VTS Humber immediately and not later than 2 hours before HW Albert for HW berthing and preferably before the incoming PPV passes the Sunk Spit Light Buoy so as to enable the Master/Pilot of the inbound PPV to be informed.

4.5 Assistant Pier Master Saltend should ensure that at a time of 2 hours before HW Albert the sailing vessel will have completed all ballasting/cargo operations and will in all respects be ready to sail.

4.6 Responsibility for verifying that vessels are adequately equipped with moorings and mooring/tension winches rests with the Assistant Pier Master Saltend and Ships' Agents. The moorings for the Saltend Jetties will be as indicated on the Mooring Plan and will be supervised by the Assistant Pier Master Saltend.

4.7 Assistant Pier Master Saltend is responsible for ensuring that a mooring plan is promulgated to pilots and vessels.

SECTION 5 SALTEND JETTIES

TUG PROVIDER

5.1 At any time not later than 5 hours before HW Albert the Allocated Tug Broker to advise VTS Humber of the availability of tugs and to confirm that the agreed number of tugs will be in attendance when the incoming vessel is at N^o 17 (North Holme) Light Float.

MINIMUM TUGS REQUIRED

Vessel DWT for Saltend Tonnes	Number of tugs on arrival at N ^o 17 North Holme L/F	Category	Number of tugs Berthing	Category	Minimum Total Bollard Pull Tonnes	Number of tugs Unberthing	Category	Minimum Total Bollard Pull Tonnes
Tankers								
40,000+	2	CC	3	CCC	90	2	CC	60
Gas Carriers								
20,000+ cbm	2	AA	2	AA	100	2	AA	100

5.2 After passing the N^o 17 North Holme Light Float the PPV must have at least two tugs made fast by the time the vessel is abeam of the No 19 Paull Sand Buoy.

5.3 If the agreed number of tugs cannot be assigned to the Humber Passage Plan tanker, the vessel should not proceed.

5.4 The tug broker should ascertain the inward PPV ETA at the N^o 17 North Holme Light Float; ensure that the appropriate numbers of tugs will be available on station and declare the leading tug.

5.5 Tugs allocated to the incoming vessel should report to VTS Humber when leaving the dock or berth or leaving the anchorage or 2 hours 30 minutes before entering the Humber pilotage area and again when in position to meet the PPV in the vicinity of the N^o 17 North Holme Light Float.

5.6 For any inward PPV movement, it is the responsibility of the Tugs Masters to obtain confirmation of the time the PPV is expected to pass the N^o 17 North Holme Light Float, direct from the PPV or via VTS so that no delay is experienced in making fast the wire tugs before the PPV reaches the No 19 Paull Sand Buoy.

As a guideline

The wire tugs should be in position at the N^o. 17 North Holme Light Float for berthing at Saltend no later than 1 hour 15 minutes before HW Albert

SAILING TUGS

5.7 Tugs allocated to a vessel sailing shall be ordered to attend at the vessel at the same time as the Pilots and shall report to VTS Humber when they are in attendance at the sailing vessel.

5.8 The number of tugs allocated to a PPV on sailing shall be decided after consultation between the Master, the Agent and the Tug Provider. The minimum number of tugs to be allocated shall not be less than two and will be governed by the Minimum Tugs Required table in this passage plan. When a vessel is to unberth in the loaded condition full consideration must be given by all parties to the use of the same number of tugs as would apply for berthing that size of vessel.

5.9 On clearing the berth after sailing one tug will remain with the vessel from Clay Huts Light Float until she is past and clear of the IOT.

SECTION 6 SALTEND JETTIES

ABORT PROCEDURES

The appropriate action to be taken in the event of the passage being aborted will be decided by the Master/Pilot. The Master at all times retains full responsibility for the safe navigation of the vessel and the safety of the crew.

6.1 Notwithstanding that a decision to abort may be taken by the Master/Pilot at any stage of the vessel's passage for reasons other than those listed below, the abort procedure will should put into operation if:-

- (i) Insufficient depth of water is available;
- (ii) The wire tugs are not available by the time the PPV has reached the Sunk Spit Light Buoy.
- (iii) It has been established during the vessel's passage that adequate tugs will not be available on arrival. A PPV must have at least two tugs made fast and pusher tugs available (if required) by the time the vessel is abeam of the No. 19 Paull Sand Buoy.
- (iv) It has been established that the berth will not be available on arrival.
- (v) The vessel should not proceed upriver of the N^o10 Upper Burcom Light Float if the berth is not available.

6.2 For HW Albert berthing the passage should be aborted if:-

- (i) The vessel passes the Humber Light Float at a time later than 3 hours 30 minutes before HW Albert.
- (ii) The vessel passes the Sunk Spit Light Buoy at a later time than 1 hour 30 minutes before HW Albert.
- (iii) If during any stage of the inward passage it becomes apparent that the vessel will for any reason be unable to berth then the vessel must abort the inward passage and either return to the Humber anchorage or anchor in the vicinity of Holme Ridge.

SECTION 7 SALTEND JETTIES

Estimated heights of tide at Immingham and at Halton Middle based on Immingham tidal height predictions

Predicted HW height at Immingham			Correction to be applied to predicted HW height at Immingham for the height in Halton Middle (mtrs)			
Above CD	On Sill	At HW Immingham	½ hour before HW Immingham	1 hour before HW Immingham	1½ hours before HW Immingham	2 hours before HW Immingham
8.0	15.6	+0.10	+0.05	-.-	-0.05	-0.05
7.5	15.1	+0.10	+0.05	-0.02	-0.05	-0.07
7.0	14.6	+0.10	+0.05	+0.05	-0.05	-0.05
6.5	14.1	+0.05	+0.02	+0.02	-0.05	-0.07
6.0	13.6	+0.03	-.-	-0.04	-0.05	-0.05
5.5	13.1	+0.02	-.-	-.-	-0.02	-0.05
5.0	12.6	-.-	-.-	-.-	-0.02	-0.05
4.5	12.1	-.-	-.-	-.-	-.-	-.-

SALTEND JETTIES MOORINGS

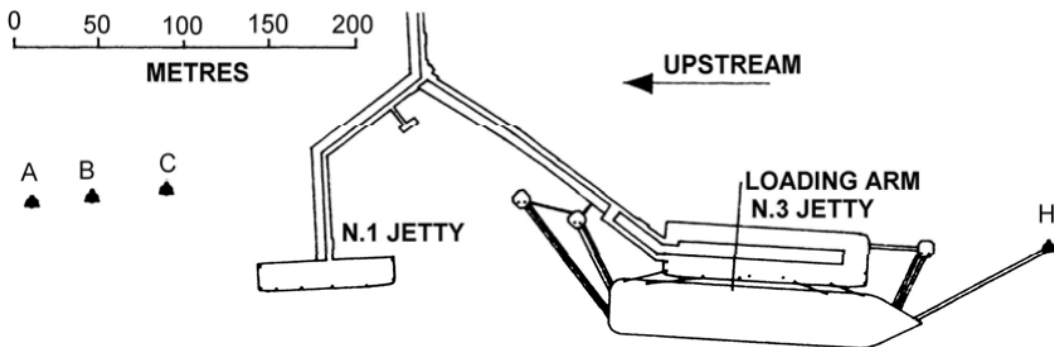
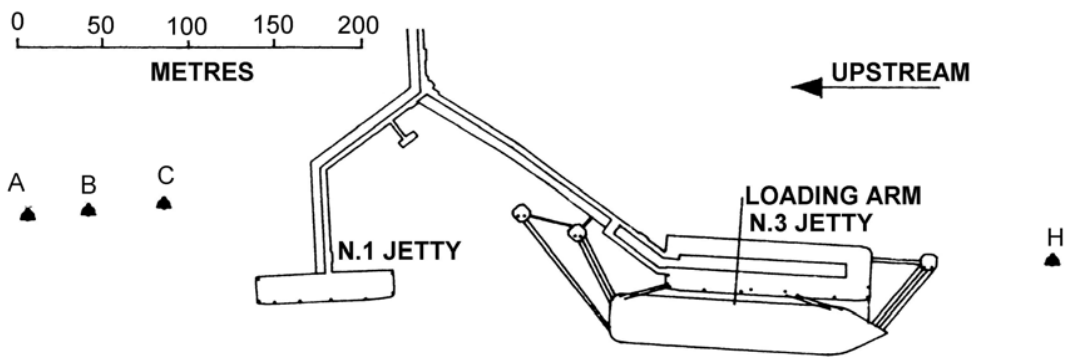
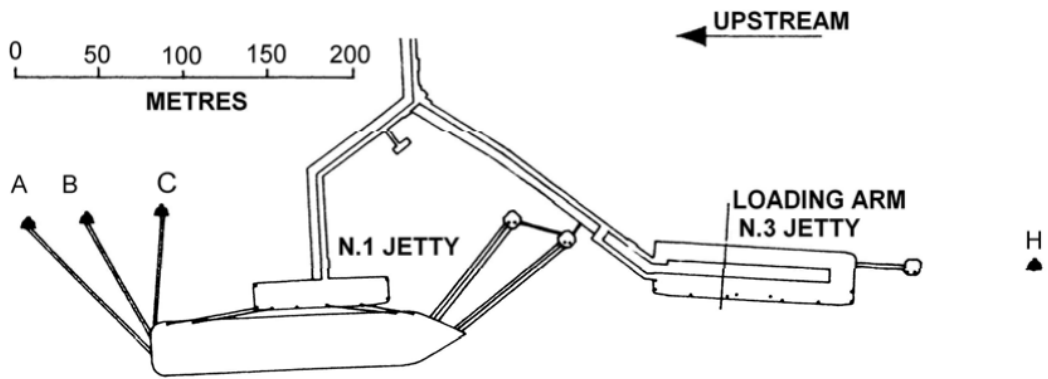
Mooring arrangements, fore and aft, are governed by:

- (a) Type of vessel
- (b) Vessel's deadweight
- (c) Vessel's length
- (d) Should adverse weather dictate
- (e) Whether flexible hoses or hard arms are to be used.

A mooring plan will be supplied by the jetty prior to boarding.

GUIDANCE NOTES

- (a) Springs to be put out before moorings to buoys or dolphins.
- (b) Tension winches should have brakes screwed up hard and left out of gear.
- (c) Ropes and wires on bits should be turned up in a figure of eight.
- (d) Extreme caution must be exercised when tending moorings. Adjustments should only be made at slack water, and only with the permission of the Assistant Pier Master (Saltend and Hedon Haven Byelaw).
- (e) Buoy moorings should be heaved sufficiently taut to stretch the chain moorings and lift them off the riverbed. It is good practice if securing these moorings to bits to have two moorings to the buoy so that one can be held tight on the winch whilst the other is stopped off and secured.
- (f) Communication alongside - a VHF radio channel as agreed and noted on checklist.
- (g) If it is found necessary to berth the vessel SST it is accepted that the mooring pattern will be the same as for PST.



APPENDIX

PASSAGE LENGTHS AND TIMES

Passages	Advised transit Times	Miles
A Humber Light Float - Spurn Light Float		6.9
B Spurn Light Float - N° 3 Chequer L/Buoy		2.2
C N° 3 Chequer L/Buoy - TMB	0:50	2.5
D Spurn Light Float - Spurn point		5.2
E Spurn Point - N° P5 Light Buoy		3.6
F N° P5 Light Buoy - Sunk Spit Light Buoy		3.9
G Sunk Spit L. B. - IOT HW PST	0:50	3.4
H Sunk Spit L. B. - IOT HW SST	1:10	3.4
I Sunk Spit L. B. - IOT LW PST/SST	1:30	3.4
J Sunk Spit L. B. - EAST/WEST JETTIES HW PST	1:00	4.0
K Sunk Spit L. B. - EAST/WEST JETTIES HW SST	1:15	4.0
L Sunk Spit L. B. - EAST/WEST JETTIES LW PST/SST	1:30	4.0
M Sunk Spit L. B. - IBT HW	1:00	4.4
N Sunk Spit L. B. - IBT LW	1:30	4.4
O Sunk Spit L. B. - HInT HW PST	1:15	5.0
P Sunk Spit L. B. - HInT HW SST	1:30	5.0
Q Sunk Spit L. B. - HInT LW	1:30	5.0
R Sunk Spit L. B. - IGT / SKJ HW PST	1:15	5.0
S Sunk Spit L. B. - IGT / SKJ HW SST	1:30	5.0
T Sunk Spit L. B. - IGT / SKJ LW	1:30	5.0
U Sunk Spit L. B. - SALTEND	1:30	9.7

Dist.	Passage Speed in Knots								
	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
2.5	1:15	1:00	0:50	0:42	0:37	0:33	0:30	0:27	0:25
3.4	1:42	1:21	1:08	0:58	0:51	0:45	0:40	0:37	0:34
4.0	2:00	1:36	1:20	1:08	1:00	0:53	0:48	0:43	0:40
4.4	2:12	1:45	1:28	1:15	1:06	0:58	0:52	0:48	0:44
4.9	2:27	1:57	1:38	1:24	1:13	1:05	0:58	0:53	0:49
5.0	2:30	2:00	1:40	1:25	1:15	1:06	1:00	0:54	0:50
9.7	4:51	3:52	3:14	2:46	2:25	2:09	1:56	1:45	1:37

Dist.	Passage Speed in Knots								
	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5
2.5	0:23	0:21	0:20	0:18	0:17	0:16	0:15	0:15	0:14
3.4	0:31	0:29	0:27	0:25	0:24	0:22	0:21	0:20	0:19
4.0	0:36	0:34	0:32	0:30	0:28	0:26	0:25	0:24	0:22
4.4	0:40	0:37	0:35	0:33	0:31	0:29	0:27	0:26	0:25
4.9	0:45	0:42	0:39	0:36	0:34	0:32	0:30	0:29	0:28
5.0	0:46	0:42	0:40	0:37	0:35	0:33	0:31	0:30	0:28
9.7	1:29	1:23	1:17	1:12	1:08	1:04	1:01	0:58	0:55

SPEED AND DISTANCE TABLES HUMBER LIGHT FLOAT to BERTH

Speed in Knots

Passage Length	Dist	Total Dist	4.0 Kts		4.5 Kts		5.0 Kts		5.5 Kts	
			Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time
A HLF - Spurn LF	6.9	6.9	1:43	1:43	1:32	1:32	1:22	1:22	1:15	1:15
B Spurn LF - N ^o 3 C.	2.2	9.1	0:33	2:16	0:29	2:01	0:26	1:49	0:24	1:39
TETNEY MBUOY	2.5	11.6	0:50	3:06	0:50	2:51	0:50	2:39	0:50	2:29
D Spurn LF - Point	5.2	12.1	1:18	3:01	1:09	2:41	1:02	2:25	0:56	2:12
E Point - P 5	3.6	15.7	0:54	3:55	0:48	3:29	0:43	3:08	0:39	2:51
F P 5 - SUNK SPIT	3.9	19.6	0:58	4:54	0:52	4:21	0:46	3:55	0:42	3:33

FROM SUNK SPIT LIGHT BUOY IN THE SUGGESTED TIMES:

IOT HW PST	3.4	23.0	0:50	5:44	0:50	5:11	0:50	4:45	0:50	4:23
IOT HW SST	3.4	23.0	1:10	6:04	1:10	6:21	1:10	5:55	1:10	5:33
IOT LW PST/SST	3.4	23.0	1:30	7:14	1:30	6:41	1:30	6:15	1:30	5:53
EAST/WEST J. HW PST	4.0	23.6	1:00	5:54	1:00	5:21	1:00	4:55	1:00	4:33
EAST/WEST J. HW SST	4.0	23.6	1:15	6:09	1:15	5:36	1:15	5:10	1:15	4:48
EAST/W. J. LW PST/SST	4.0	23.6	1:30	6:24	1:30	5:51	1:30	5:25	1:30	5:03
IBT HW	4.4	24.0	1:00	5:54	1:00	5:21	1:00	4:55	1:00	4:33
IBT LW	4.4	24.0	1:30	6:24	1:30	5:51	1:30	5:25	1:30	5:03
HInT HW PST	4.9	24.5	1:15	6:09	1:15	5:36	1:15	5:10	1:15	4:48
HInT HW SST	4.9	24.5	1:30	6:24	1:30	5:51	1:30	5:25	1:30	5:03
HInT LW	4.9	24.5	1:30	6:24	1:30	5:51	1:30	5:25	1:30	5:03
IGT / SKJ HW PST	5.0	24.6	1:15	6:09	1:15	5:36	1:15	5:10	1:15	4:48
IGT / SKJ HW SST	5.0	24.6	1:30	6:24	1:30	5:51	1:30	5:25	1:30	5:03
IGT / SKJ LW	5.0	24.6	1:30	6:24	1:30	5:51	1:30	5:25	1:30	5:03
SALTEND	9.7	29.3	1:30	6:24	1:30	5:51	1:30	5:25	1:30	5:03

SPEED AND DISTANCE TABLES HUMBER LIGHT FLOAT to BERTH

Speed in Knots

Passage Length	Dist	Total Dist	6.0 Kts		6.5 Kts		7.0 Kts		7.5 Kts	
			Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time
A HLF - Spurn LF	6.9	6.9	1:09	1:09	1:03	1:03	0:59	0:59	0:55	0:55
B Spurn LF - N ^o 3 C.	2.2	9.1	0:22	1:31	0:20	1:24	0:18	1:18	0:17	1:12
TETNEY MBUOY	2.5	11.6	0:50	2:21	0:50	2:14	0:50	2:08	0:50	2:02
D Spurn LF - Point	5.2	12.1	0:52	2:01	0:48	1:51	0:44	1:43	0:41	1:36
E Point - P 5	3.6	15.7	0:36	2:37	0:33	2:24	0:30	2:14	0:28	2:05
F P 5 - SUNK SPIT	3.9	19.6	0:39	3:16	0:36	3:00	0:33	2:48	0:31	2:36

FROM SUNK SPIT LIGHT BUOY IN THE SUGGESTED TIMES:

IOT HW PST	3.4	23.0	0:50	4:06	0:50	3:50	0:50	3:38	0:50	3:26
IOT HW SST	3.4	23.0	1:10	4:26	1:10	5:00	1:10	4:48	1:10	4:36
IOT LW PST/SST	3.4	23.0	1:30	5:36	1:30	5:20	1:30	5:08	1:30	4:56
EAST/WEST J. HW PST	4.0	23.6	1:00	4:16	1:00	4:00	1:00	3:48	1:00	3:36
EAST/WEST J. HW SST	4.0	23.6	1:15	4:31	1:15	4:15	1:15	4:03	1:15	3:51
EAST/W. J. LW PST/SST	4.0	23.6	1:30	4:46	1:30	4:30	1:30	4:18	1:30	4:06
IBT HW	4.4	24.0	1:00	4:16	1:00	4:00	1:00	3:48	1:00	3:36
IBT LW	4.4	24.0	1:30	4:46	1:30	4:30	1:30	4:18	1:30	4:06
HInT HW PST	4.9	24.5	1:15	4:31	1:15	4:15	1:15	4:03	1:15	3:51
HInT HW SST	4.9	24.5	1:30	4:46	1:30	4:30	1:30	4:18	1:30	4:06
HInT LW	4.9	24.5	1:30	4:46	1:30	4:30	1:30	4:18	1:30	4:06
IGT / SKJ HW PST	5.0	24.6	1:15	4:31	1:15	4:15	1:15	4:03	1:15	3:51
IGT / SKJ HW SST	5.0	24.6	1:30	4:46	1:30	4:30	1:30	4:18	1:30	4:06
IGT / SKJ LW	5.0	24.6	1:30	4:46	1:30	4:30	1:30	4:18	1:30	4:06
SALTEND	9.7	29.3	1:30	4:46	1:30	4:30	1:30	4:18	1:30	4:06

SPEED AND DISTANCE TABLES HUMBER LIGHT FLOAT to BERTH

Speed in Knots

Passage Length	Dist	Total Dist	8.0 Kts		8.5 Kts		9.0 Kts		9.5 Kts	
			Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time
A HLF - Spurn LF	6.9	6.9	0:51	0:51	0:48	0:48	0:46	0:46	0:43	0:43
B Spurn LF - N ^o 3 C.	2.2	9.1	0:16	1:08	0:15	1:04	0:14	1:00	0:13	0:57
TETNEY MBUOY	2.5	11.6	0:50	1:58	0:50	1:54	0:50	1:50	0:50	1:47
D Spurn LF - Point	5.2	12.1	0:39	1:30	0:36	1:25	0:34	1:20	0:32	1:16
E Point - P 5	3.6	15.7	0:27	1:57	0:25	1:50	0:24	1:44	0:22	1:39
F P 5 - SUNK SPIT	3.9	19.6	0:29	2:27	0:27	2:18	0:26	2:10	0:24	2:03

FROM SUNK SPIT LIGHT BUOY IN THE SUGGESTED TIMES:

IOT HW PST	3.4	23.0	0:50	3:17	0:50	3:08	0:50	3:00	0:50	2:53
IOT HW SST	3.4	23.0	1:10	3:37	1:10	4:18	1:10	4:10	1:10	4:03
IOT LW PST/SST	3.4	23.0	1:30	4:47	1:30	4:38	1:30	4:30	1:30	4:23
EAST/WEST J. HW PST	4.0	23.6	1:00	3:27	1:00	3:18	1:00	3:10	1:00	3:03
EAST/WEST J. HW SST	4.0	23.6	1:15	3:42	1:15	3:33	1:15	3:25	1:15	3:18
EAST/W. J. LW PST/SST	4.0	23.6	1:30	3:57	1:30	3:48	1:30	3:40	1:30	3:33
IBT HW	4.4	24.0	1:00	3:27	1:00	3:18	1:00	3:10	1:00	3:03
IBT LW	4.4	24.0	1:30	3:57	1:30	3:48	1:30	3:40	1:30	3:33
HInT HW PST	4.9	24.5	1:15	3:42	1:15	3:33	1:15	3:25	1:15	3:18
HInT HW SST	4.9	24.5	1:30	3:57	1:30	3:48	1:30	3:40	1:30	3:33
HInT LW	4.9	24.5	1:30	3:57	1:30	3:48	1:30	3:40	1:30	3:33
IGT / SKJ HW PST	5.0	24.6	1:15	3:42	1:15	3:33	1:15	3:25	1:15	3:18
IGT / SKJ HW SST	5.0	24.6	1:30	3:57	1:30	3:48	1:30	3:40	1:30	3:33
IGT / SKJ LW	5.0	24.6	1:30	3:57	1:30	3:48	1:30	3:40	1:30	3:33
SALTEND	9.7	29.3	1:30	3:57	1:30	3:48	1:30	3:40	1:30	3:33

SPEED AND DISTANCE TABLES HUMBER LIGHT FLOAT to BERTH

Speed in Knots

Passage Length	Dist	Total Dist	10.0 Kts		10.5 Kts		11.0 Kts		11.5 Kts	
			Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time
A HLF - Spurn LF	6.9	6.9	0:41	0:41	0:39	0:39	0:37	0:37	0:36	0:36
B Spurn LF - N ^o 3 C.	2.2	9.1	0:13	0:54	0:12	0:52	0:12	0:49	0:11	0:47
TETNEY MBUOY	2.5	11.6	0:50	1:44	0:50	1:42	0:50	1:39	0:50	1:37
D Spurn LF - Point	5.2	12.1	0:31	1:12	0:29	1:09	0:28	1:06	0:27	1:03
E Point - P 5	3.6	15.7	0:21	1:34	0:20	1:29	0:19	1:25	0:18	1:21
F P 5 - SUNK SPIT	3.9	19.6	0:23	1:57	0:22	1:52	0:21	1:46	0:20	1:42

FROM SUNK SPIT LIGHT BUOY IN THE SUGGESTED TIMES:

IOT HW PST	3.4	23.0	0:50	2:47	0:50	2:42	0:50	2:36	0:50	2:32
IOT HW SST	3.4	23.0	1:10	3:07	1:10	3:52	1:10	3:46	1:10	3:42
IOT LW PST/SST	3.4	23.0	1:30	4:17	1:30	4:12	1:30	4:06	1:30	4:02
EAST/WEST J. HW PST	4.0	23.6	1:00	2:57	1:00	2:52	1:00	2:46	1:00	2:42
EAST/WEST J. HW SST	4.0	23.6	1:15	3:12	1:15	3:07	1:15	3:01	1:15	2:57
EAST/W. J. LW PST/SST	4.0	23.6	1:30	3:27	1:30	3:22	1:30	3:16	1:30	3:12
IBT HW	4.4	24.0	1:00	2:57	1:00	2:52	1:00	2:46	1:00	2:42
IBT LW	4.4	24.0	1:30	3:27	1:30	3:22	1:30	3:16	1:30	3:12
HInT HW PST	4.9	24.5	1:15	3:12	1:15	3:07	1:15	3:01	1:15	2:57
HInT HW SST	4.9	24.5	1:30	3:27	1:30	3:22	1:30	3:16	1:30	3:12
HInT LW	4.9	24.5	1:30	3:27	1:30	3:22	1:30	3:16	1:30	3:12
IGT / SKJ HW PST	5.0	24.6	1:15	3:12	1:15	3:07	1:15	3:01	1:15	2:57
IGT / SKJ HW SST	5.0	24.6	1:30	3:27	1:30	3:22	1:30	3:16	1:30	3:12
IGT / SKJ LW	5.0	24.6	1:30	3:27	1:30	3:22	1:30	3:16	1:30	3:12
SALTEND	9.7	29.3	1:30	3:27	1:30	3:22	1:30	3:16	1:30	3:12

SPEED AND DISTANCE TABLES HUMBER LIGHT FLOAT to BERTH

Speed in Knots

Passage Length	Dist	Total Dist	12.0 Kts		12.5 Kts		13.0 Kts		13.5 Kts	
			Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time
A HLF - Spurn LF	6.9	6.9	0:34	0:34	0:33	0:33	0:31	0:31	0:30	0:30
B Spurn LF - N ^o 3 C.	2.2	9.1	0:11	0:45	0:10	0:43	0:10	0:42	0:09	0:40
TETNEY MBUOY	2.5	11.6	0:50	1:35	0:50	1:33	0:50	1:32	0:50	1:30
D Spurn LF - Point	5.2	12.1	0:26	1:00	0:24	0:58	0:24	0:55	0:23	0:53
E Point - P 5	3.6	15.7	0:18	1:18	0:17	1:15	0:16	1:12	0:16	1:09
F P 5 - SUNK SPIT	3.9	19.6	0:19	1:38	0:18	1:34	0:18	1:30	0:17	1:27

FROM SUNK SPIT LIGHT BUOY IN THE SUGGESTED TIMES:

IOT HW PST	3.4	23.0	0:50	2:28	0:50	2:24	0:50	2:20	0:50	2:17
IOT HW SST	3.4	23.0	1:10	2:48	1:10	3:34	1:10	3:30	1:10	3:27
IOT LW PST/SST	3.4	23.0	1:30	3:58	1:30	3:54	1:30	3:50	1:30	3:47
EAST/WEST J. HW PST	4.0	23.6	1:00	2:38	1:00	2:34	1:00	2:30	1:00	2:27
EAST/WEST J. HW SST	4.0	23.6	1:15	2:53	1:15	2:49	1:15	2:45	1:15	2:42
EAST/W. J. LW PST/SST	4.0	23.6	1:30	3:08	1:30	3:04	1:30	3:00	1:30	2:57
IBT HW	4.4	24.0	1:00	2:38	1:00	2:34	1:00	2:30	1:00	2:27
IBT LW	4.4	24.0	1:30	3:08	1:30	3:04	1:30	3:00	1:30	2:57
HInT HW PST	4.9	24.5	1:15	2:53	1:15	2:49	1:15	2:45	1:15	2:42
HInT HW SST	4.9	24.5	1:30	3:08	1:30	3:04	1:30	3:00	1:30	2:57
HInT LW	4.9	24.5	1:30	3:08	1:30	3:04	1:30	3:00	1:30	2:57
IGT / SKJ HW PST	5.0	24.6	1:15	2:53	1:15	2:49	1:15	2:45	1:15	2:42
IGT / SKJ HW SST	5.0	24.6	1:30	3:08	1:30	3:04	1:30	3:00	1:30	2:57
IGT / SKJ LW	5.0	24.6	1:30	3:08	1:30	3:04	1:30	3:00	1:30	2:57
SALTEND	9.7	29.3	1:30	3:08	1:30	3:04	1:30	3:00	1:30	2:57

SPEED AND DISTANCE TABLES HUMBER LIGHT FLOAT to BERTH

Speed in Knots

Passage Length	Dist	Total Dist	14.0 Kts		15.0 Kts		16.0 Kts		17.0 Kts	
			Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time	Passage Time	Total Time
A HLF - Spurn LF	6.9	6.9	0:29	0:29	0:27	0:27	0:25	0:25	0:24	0:24
B Spurn LF - N ^o 3 C.	2.2	9.1	0:09	0:39	0:08	0:36	0:08	0:34	0:07	0:32
TETNEY MBUOY	2.5	11.6	0:50	1:29	0:50	1:26	0:50	1:24	0:50	1:22
D Spurn LF - Point	5.2	12.1	0:22	0:51	0:20	0:48	0:19	0:45	0:18	0:42
E Point - P 5	3.6	15.7	0:15	1:07	0:14	1:02	0:13	0:58	0:12	0:55
F P 5 - SUNK SPIT	3.9	19.6	0:16	1:24	0:15	1:18	0:14	1:13	0:13	1:09

FROM SUNK SPIT LIGHT BUOY IN THE SUGGESTED TIMES:

IOT HW PST	3.4	23.0	0:50	2:14	0:50	2:08	0:50	2:03	0:50	1:59
IOT HW SST	3.4	23.0	1:10	2:34	1:10	3:18	1:10	3:13	1:10	3:09
IOT LW PST/SST	3.4	23.0	1:30	3:44	1:30	3:38	1:30	3:33	1:30	3:29
EAST/WEST J. HW PST	4.0	23.6	1:00	2:24	1:00	2:18	1:00	2:13	1:00	2:09
EAST/WEST J. HW SST	4.0	23.6	1:15	2:39	1:15	2:33	1:15	2:28	1:15	2:24
EAST/W. J. LW PST/SST	4.0	23.6	1:30	2:54	1:30	2:48	1:30	2:43	1:30	2:39
IBT HW	4.4	24.0	1:00	2:24	1:00	2:18	1:00	2:13	1:00	2:09
IBT LW	4.4	24.0	1:30	2:54	1:30	2:48	1:30	2:43	1:30	2:39
HInT HW PST	4.9	24.5	1:15	2:39	1:15	2:33	1:15	2:28	1:15	2:24
HInT HW SST	4.9	24.5	1:30	2:54	1:30	2:48	1:30	2:43	1:30	2:39
HInT LW	4.9	24.5	1:30	2:54	1:30	2:48	1:30	2:43	1:30	2:39
IGT / SKJ HW PST	5.0	24.6	1:15	2:39	1:15	2:33	1:15	2:28	1:15	2:24
IGT / SKJ HW SST	5.0	24.6	1:30	2:54	1:30	2:48	1:30	2:43	1:30	2:39
IGT / SKJ LW	5.0	24.6	1:30	2:54	1:30	2:48	1:30	2:43	1:30	2:39
SALTEND	9.7	29.3	1:30	2:54	1:30	2:48	1:30	2:43	1:30	2:39

CONVERSION TABLE - METRES TO FEET AND INCHES (1 FOOT = 0.3048 Metres)

Metres	Feet	Inches	Metres	Feet	Inches	Metres	Feet	Inches
1.0	03	03	6.0	19	08	11.0	36	01
1.1	03	07	6.1	20	00	11.1	36	05
1.2	03	11	6.2	20	04	11.2	36	09
1.3	04	03	6.3	20	08	11.3	37	01
1.4	04	07	6.4	20	12	11.4	37	05
1.5	04	11	6.5	21	04	11.5	37	09
1.6	05	03	6.6	21	08	11.6	38	01
1.7	05	07	6.7	21	12	11.7	38	05
1.8	05	11	6.8	22	04	11.8	38	09
1.9	06	03	6.9	22	08	11.9	39	01
2.0	06	07	7.0	22	12	12.0	39	04
2.1	06	11	7.1	23	04	12.1	39	08
2.2	07	03	7.2	23	07	12.2	40	00
2.3	07	07	7.3	23	11	12.3	40	04
2.4	07	10	7.4	24	03	12.4	40	08
2.5	08	02	7.5	24	07	12.5	41	00
2.6	08	06	7.6	24	11	12.6	41	04
2.7	08	10	7.7	25	03	12.7	41	08
2.8	09	02	7.8	25	07	12.8	41	12
2.9	09	06	7.9	25	11	12.9	42	04
3.0	09	10	8.0	26	03	13.0	42	08
3.1	10	02	8.1	26	07	13.1	42	12
3.2	10	06	8.2	26	11	13.2	43	04
3.3	10	10	8.3	27	03	13.3	43	08
3.4	11	02	8.4	27	07	13.4	43	12
3.5	11	06	8.5	27	11	13.5	44	03
3.6	11	10	8.6	28	03	13.6	44	07
3.7	12	02	8.7	28	07	13.7	44	11
3.8	12	06	8.8	28	10	13.8	45	03
3.9	12	10	8.9	29	02	13.9	45	07
4.0	13	01	9.0	29	06	14.0	45	11
4.1	13	05	9.1	29	10	14.1	46	03
4.2	13	09	9.2	30	02	14.2	46	07
4.3	14	01	9.3	30	06	14.3	46	11
4.4	14	05	9.4	30	10	14.4	47	03
4.5	14	09	9.5	31	02	14.5	47	07
4.6	15	01	9.6	31	06	14.6	47	11
4.7	15	05	9.7	31	10	14.7	48	03
4.8	15	09	9.8	32	02	14.8	48	07
4.9	16	01	9.9	32	06	14.9	48	11
5.0	16	05	10.0	32	10	15.0	49	03
5.1	16	09	10.1	33	02	15.1	49	06
5.2	17	01	10.2	33	06	15.2	49	10
5.3	17	05	10.3	33	10	15.3	50	02
5.4	17	09	10.4	34	01	15.4	50	06
5.5	18	01	10.5	34	05	15.5	50	10
5.6	18	04	10.6	34	09	15.6	51	02
5.7	18	08	10.7	35	01	15.7	51	06
5.8	19	00	10.8	35	05	15.8	51	10
5.9	19	04	10.9	35	09	15.9	52	02
6.0	19	08	11.0	36	01	16.0	52	06