



## Marine Procedures

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## Definitions and Abbreviations

AA	Administration Assistant
Abort Time	The time at which the process of docking or sailing a vessel must be terminated as it will not have its minimum under keel clearance.
ABP	Associated British Ports
ABS	Agricultural Bulk Services
AHM	Assistant Haven Master
Air Draught	Height of the upper most structure above the vessels water line (including whip aerials).
Avomax	PCC 180 metres LOA and over, any other type of vessel up to 190 metres LOA with beam in excess of 27 metres or draft in excess of 9 metres, or any vessel over 190 metres LOA and up to 220 metres
BAFT	Bristol Aviation Fuel Terminal
BCR	Bulk Terminal Control room
Beam	Extreme beam
Brackish water	Water with a relative density of 1.012
CG	Coast Guard
CM	Conservancy Manager
DAHM	Duty Assistant Haven Master
Daylight	Day light is defined as the period between morning civil twilight to evening civil twilight.
Deep-draught vessel	Any vessel with a draught of 12.5m or more
DfT	Department for Transport
DHM	Deputy Haven Master
EAM	Environment and Administration Manager
ETA	Estimated time of arrival
ETD	Estimated time of departure
HM	Haven Master
HS	Hydrographic Surveyor
KR	King Road
Large Kerosene Vessel	Tanker of 160 m or more LOA and with a displacement of 45,000 tonnes or more bound to/from BAFT with kerosene
LKV	Large Kerosene Vessel
LOA	Length overall
MAIB	Marine Accident Investigation Branch
MAC	Marine Administration Controller
MCA	Maritime and Coastguard Agency
MEM	Marine Engineering Manager
MRCC	Marine Rescue Co-ordination Centre
MSO	Marine Support Officer
OB	Oil Basin
OBO	Oil Bulk Ore (vessel)



OPA	Oil and Pipelines Agency
PIE	Port Installations Engineer
PO	Pilot Order
Portbury Max	Bulk carriers with a draught >12.5m and LOA >200m
Post-Panamax	A vessel 34m or more extreme beam
RPD	Royal Portbury Dock
SV	Sensitive Vessel
Sensitive vessel	Any post-Panamax, Avomax, LKV, deep-draught vessel or any other vessel that requires planning beyond a basic passage plan (MS26F), or any other vessels that have a lock-window of 1 hour or less
UKC	Under Keel Clearance
VTS	Vessel Traffic Service



## 1. Marine Procedures: process for creation, update, review and deletion.

### 1.1. Creation of a procedure;

- 1.1.1. A procedure should be created and placed in the Draft Procedures file in S:\users\marshare\marine procedures\draft procedures. Once finalised as a draft it should be forwarded to interested parties for consultation. The draft should be given a filename that includes the word 'draft'. The covering email should indicate a planned issuance date to enable consultees to judge its urgency. The file should then be placed in the consultation folder at marshare\marine procedures\consultation.
- 1.1.2. After consultation, and duly amended, the procedure should be given an issue number date and placed in the 'to issue' folder in marshare\marine procedures\to issue.
- 1.1.3. As soon as practicable the file should be converted to a pdf document and placed in the appropriate folder at S:\users\marshare\marineprocedures\procedures.
- 1.1.4. The completed word document should be placed in the folder S:\users\marshare\marineprocedures\edit file\procedures.

### 1.2. Procedure updating;

- 1.2.1. Updated procedures should be highlighted in the amendments section on page 2 of the general document.

### 1.3. Procedure review;

- 1.3.1. These procedures will be reviewed every 12 months.

## 2. General Flood, Tidal & Wind Warnings

### 2.1. Flood and Tide

The Environment Agency issues flood warning alerts by phone and email.

- 2.1.1. A snapshot flood risk assessment is available at

<http://www.environment-agency.gov.uk/homeandleisure/floods/31618.aspx>

- 2.1.2. When a flood alert is issued VTS should assess its severity and inform other interested and/or affected parties by either telephone/fax or email. These parties may include;

- Marine Department
- Port Police
- Hobblers, Svitzer and Pilots



- Emergency Management Team
- Building Services
- Operations
- Oil Basin
- SGS/BAFT

2.1.3. Regardless of Environment Agency warnings, duty DAHMs should make their own assessment of tide heights and inform the above when there is a risk of tide/wave heights exceeding 14.5m.

## 2.2. Wind

When it becomes apparent that the wind speed in King Road is constantly 30 knots or greater (consult Procedure 18 for VTS/vessel specific operations) Bristol VTS should send out an 'Adverse Weather Condition Alert' (AWCA). The alert can be sent from the standard sigsta email server to the following email address:

[tlgrp117605@txtlocal.co.uk](mailto:tlgrp117605@txtlocal.co.uk)

2.2.1. The alert should be constructed in the following format, an example is shown:

*Adverse Weather Condition Alert  
Current wind speed & direction: 35kts SSW  
Trend: Steady or gusting  
Forecast: To decrease or increase##*

2.2.2. It is vital that the end of the message ends with ## characters. If the two hashes are not included then the SMS message will not be sent.

2.2.3. Once your alert has been sent to the above email address the following people will automatically receive a text message containing the above text:

Rory Fitzgerald  
Matty Atwell  
Jerry Male  
Steve Taylor  
Pete Edbrooke  
Jason Vickers  
Duty Engineer  
Graham Smith  
Oil Basin Controller  
Evenlode  
Malago  
John McCorquodale  
Jerry Stanford



- 2.2.4. It is the responsibility of the DAHM to initiate consultation with the relevant parties as soon as it becomes apparent that adverse weather conditions are forecast or experienced.
- 2.2.5. Those parties should include, but not be limited to Pilots, Tug Skippers, Ships Masters and on-call Shipping Manager.
- 2.2.6. The aim of this process is to alert all parties to the relevant conditions enabling them to make an informed decision on whether or not to continue with the movement.
- 2.2.7. During the consultation each of the following elements must be considered :-
- A vessel's ability to maintain a desired track or position. In this respect vessels with large windage are particularly susceptible,
  - Wind direction particularly regarding the intended manoeuvre,
  - Whether the wind is steady or gusting,
  - Whether the vessel is Piloted, PECH or non-compulsory,
  - The ability to safely pass a heaving line from vessel to tug,
  - The ability of tugs to manoeuvre safely whilst connecting and disconnecting a tow line,
  - Whether additional tugs are required and their availability,
  - The nature of the vessels cargo,
  - If cargo operations are due to commence on arrival,
  - The safety of lock controllers when mitring the lock gates,
  - Available space on the berth with regard to the proximity of other vessels on adjacent berths,
  - The ability of a vessel to safely remain on berth, or work cargo, under the prevailing conditions,
  - Whether a departing vessel will be able to manoeuvre away from the Pier.

### **3. Pilotage Invoicing**

- 3.1. The pilotage invoicing system is part of The Bristol Port Company's Operations Database. Its purpose is to facilitate the production of invoices for pilotage charges which will be rendered to ships' agents. It uses information generated automatically by the system but allows the manual creation, amendment and deletion of charges.
- 3.2. Guidance is contained in the document at marshare\6. Quality and Planning\Pilotage & PECH\Pilotage accounts and rates
- 3.3. Authorised users of the system, for amending, any information is restricted to DHM, VTS Personnel and Trade Revenue Controller.



3.4. For the system to be effective the operators are required to be familiar with the following:

- The port's schedule of Pilotage Charges.
- Pilotage Directions and General Pilotage Regulations, particularly the difference between pilotage dues, pilotage standard charges and pilotage surcharges.

3.5. Using the system

3.5.1. It is very important to understand that the Operations Database is a live system throughout (including history) and that any change to the following categories can have an effect on the invoicing system;

- Pilotage Type
- Agent
- Vessel Details
- TBN Vessels

3.5.2. The effect of changing any of these categories will affect the dues, thus any amendments require the Pilotage Invoicing system to be checked.

3.5.3. Particular attention should be taken to amending Pilotage category and taking pilot orders.

3.5.4. Any flags activated should be resolved by the individual raising them, whenever possible. When this can not be achieved then as much information concerning the issue should be passed on to the next DAHM in a written format if required.

3.6. The Trade Revenue Controller will address all queries concerning pilotage invoicing to the DAHM at for resolution.

#### **4. Fresh Water Requests**

4.1. Upon receipt of water order by from ship or agent customer, complete MS5 and forward a copy to the Gear Store (see information re hours below).

4.2. Information regarding provision of Water to Vessels

4.2.1. The Gear Store has stated that they can act upon water requests received between the following hours:-  
0800 – 1700 Monday -Thursday  
0800 – 1600 Friday



- 4.2.2. Outside of these hours water can be provided by contacting Port Police control which has call-out numbers.
- 4.2.3. Charges for water are found in the latest edition of the BPC Vessel and Cargo Dues Schedule

## **5. The Consolidated European Reporting Scheme (CERS) and Hazardous Cargoes in the Operations Database**

- 5.1. The Requirement to transmit CERS information is MANDATORY and is part of a live IT system linking the Operations Database with MCA Aberdeen.
- 5.2. Responsibility:
  - 5.2.1. The primary responsibility for the update of CERS information will lie with the DHM and MAC/AA except where an imminent arrival has not been updated (?) or where hazmat information has not been completed (×). In these cases it is the responsibility of the VTS Centre to ensure that the correct status of the vessel (- or ✓) is achieved before its arrival at the pilot station.
- 5.3. Instructions
  - 5.3.1. In the Ops Database there is a provision to show the CERS status within a column in the 'Forward Movements' screen, via which information can be entered which is then transmitted to MRCC Aberdeen.
  - 5.3.2. This is a statutory duty and responsibility for supplied information lies with the relevant port authority.
  - 5.3.3. The bulk of the CERS system is dealt with by utilizing a system-to-system link between the MCA and our own database and thus little action is required. However where the vessel is carrying dangerous or polluting goods then some field input will be necessary.
  - 5.3.4. Our administrative procedure will therefore be driven by two questions to the Agents, namely;
    - Is the vessel carrying dangerous or polluting cargo (Hazmat) on departure?
    - If the answer to the above is 'yes' then what are the contact details for the person holding the cargo manifest and technical information?
  - 5.3.5. This will normally be achieved by the vessel or Agent completing a standard arrival message MS61. The information MUST be inputted



before the vessel arrives at the pilot station. It must be remembered that the vessel may change her intentions and sail with all or some of the cargo that she arrived with. In the particular case of container vessels then dangerous cargo may be loaded in Bristol.

#### 5.4. CERS Access

5.4.1. Authorised users of the CERS system will need to set their columns in 'Forward Movements' to show the CERS column.

5.4.2. This column will have four possible icons as follows;

- ? There has been no designation for the vessel regarding hazmat – *action required*
- Hazmat field has been designated as not required
- ✓ Hazmat field has been designated as required and contact details have yet to be completed – *action required*
- X Hazmat contact information has been entered

5.4.3. Access to user input is gained by double clicking the appropriate CERS icon. (The CERS input screen displays various fields and icons to guide the user, icon information can be seen by hovering the mouse pointer over an icon).

5.4.4. The ? icon prompts the administrator to ask "Is the vessel carrying dangerous or polluting goods?".

5.4.5. If the answer is no then the CERS input button 'clear hazmat' can be clicked, which will change the icon to a -

5.4.6. The X icon will appear if the vessel *is* carrying hazmat and the button 'set hazmat' is clicked. This will require the Agent (or the vessel/shipowner) to produce the following information;

Cargo information:

(a) the correct technical names of the dangerous or polluting goods, the United Nations (UN) numbers where they exist, the IMO hazard classes in accordance with the IMDG, IBC and IGC Codes and, where appropriate, the class of the ship as defined by the INF Code, the quantities of such goods and their location on board and, if they are being carried in cargo transport units other than tanks, the identification number thereof;

(b) confirmation that a list or manifest or appropriate loading plan giving details of the dangerous or polluting goods carried and of their location on the ship is on board;

(c) name, location and contact details from which detailed information on the cargo may be obtained.

5.4.7. To update the hazmat information the lightning arrow icon should be clicked and the blue fields completed.

5.4.8. The information fields that *must* be completed in the CERS input screen are;



- Second name of contact
- Email of contact
- Telephone number of contact
- Location of contact (this is a UNLOCODE which is available by in the 'update Hazmat' area).

5.4.9. Source of information.

Once the required fields are completed then the + sign in the screen will change to a solid blue colour and it can be clicked to update the system. The screen should now be closed and the CERS column checked to confirm that the × has changed to a ✓

5.4.10. List Of Hazardous And Polluting Cargoes For The Purpose Of CERS

"Dangerous goods" are defined as:

- (a) goods classified as dangerous in the IMDG Code
- (b) dangerous liquid substances listed in Chapter 17 of the IBC Code;
- (c) liquefied gases listed in Chapter 19 of the IGC Code;
- (d) solids referred to in Appendix B of the BC Code; and
- (e) goods in respect of whose carriage appropriate preconditions have been imposed in accordance with paragraph 1.1.3 of the IBC Code or paragraph 1.1.6 of the IGC code.

"Polluting goods" are defined as:

- (a) oil, oily mixture, oil fuel or crude oil (as defined in Annex I to MARPOL);
- (b) noxious liquid substances (as defined in Annex II to MARPOL);
- (c) harmful substances (as defined in Annex III to MARPOL) and;
- (d) any marine pollutant identified in the IMDG Code.

**GUIDE (non-exhaustive but indicative of cargoes shipped through Bristol)**

Vessels carrying hazardous cargo in containers or breakbulk (IMDG)

Vessels carrying dangerous cargoes in bulk such as;

Coal

Ammonium Nitrate

AFS oily seed expellers (PKE etc)

Woodchips and wood pulp pellets

Petroleum products

But only if they are coming from a non-EU port or are loading/on-carrying to an EU/non-EU port

5.5. Dangerous Cargo Notification in Operations Database

- 5.5.1. Vessels carrying dangerous cargoes shall be indicated in the Operations Database as red.
- 5.5.2. Any vessel that is carrying dangerous cargo which is either IMDG, bulk oil or bulk ammonium nitrate shall be shown in red.
- 5.5.3. The dangerous cargo tick box should be selected when setting up the movement or in the overview tab.



## 6. International Port Facility Security Code (ISPS)

- 6.1. Under the code all vessels over 500GT on international voyages are required to submit an ISPS declaration 24 hours before arrival. Those vessels not covered by the code are required to provide a Declaration of Security (DOS). The port has also asked for a crew list and notification of any receipt of stores, changes of crew, bunkers etc prior to arrival, in order that security clearance arrangements can be made in advance of the vessel arrival.
- 6.2. When a vessel record is created in the database it automatically creates the requirement for:-
  - Security Pre-Arrival Notice (SPAN) or
  - Declaration of Security (DOS)
- 6.2.1. This will be represented on the screen as a red **O** (denoting information outstanding)
- 6.3. The Port of Bristol Police are the administrators of the system but we have a duty to monitor security status.
  - 6.3.1. If a vessel does not have an A (approved) against it before the start of the arrival tide then the Port Police must be advised.

## 7. Local Notices to Mariners (NtoM)

- 7.1. It is vital that all matters of navigational safety and/or changes in Harbour Authority procedures are brought to the attention of Channel users.
- 7.2. Notice to Mariners can only be issued by the Haven Master or Deputy Haven Master.
- 7.3. Creation of NtoM
  - Create the Notice to Mariners as per the format contained in MARSHARE\3. Marine Admin\3.7 Notice to Mariners
  - Proof read and check
  - Pass to HM or DHM then if cleared for publication
  - Inform Marine Admin for emailing
- 7.4. Publication to website

This should be automatic via IT but the website should be checked by the notice issuer towards the end of the day to ensure that it is published.



7.5. Cancellation

The originator of the Notice to Mariner should ensure that it is cancelled when appropriate and removed from the web site and that a cancellation notice is issued where applicable.

**8. OBO and Ammonium Nitrate Vessels**

- 8.1. OBO vessels may have carried oil cargo or have oil residues on board. It is essential that these vessels are checked to ensure that cargo spaces and adjacent tanks are safe for cargo operations
- 8.2. When an OBO vessel is nominated then MAC/AA shall ensure that the agent is sent a questionnaire (MS19D). If the timing is such that this type of response is impractical then the information on the form should be obtained directly from the vessel by the MSO.
- 8.3. Until information to the contrary is received the vessel should be entered in the Operation Database as a dangerous cargo vessel.
- 8.4. Information returned by an Agent should be noted in the 'Basics' comments box on the Operations database.
- 8.5. OBO vessels that have either oil residues or part cargoes of oil will require a gas free certificate before starting cargo operations.
- 8.6. If the information received before arrival at the berth does not allow the Bulk Terminal or Marine Department to be assured that there is no oil or oil residue on board then cargo operations must not be permitted. Liaison with the BCR is essential.
- 8.7. When a vessel carrying Ammonium Nitrate in bulk is nominated then the following should be implemented;
  - Marine Department Administration to provide form MS 44 to the Agent and/or vessel,
  - On berthing a Marine Department representative is to check that the safety precautions are in place and that the Master has signed form MS44,
  - A copy of the signed agreement should be returned to the Marine Department and filed in M 323.

**9. Vessel Acceptance**

- 9.1. To ensure that when a vessel is accepted a suitable berth is available and the vessel is capable of entering the Port.
- 9.2. Vessels shall be booked by the Agent via MAC/AA or Bristol VTS.



- 9.3. It must be checked that the vessels dimensions do not exceed:-
- For Royal Portbury - 300m L.O.A., 41.0m beam and 14.5m draught brackish water (RD 1.012).
  - For Avonmouth - 210m L.O.A., 30.1m beam and 11.0m draught brackish water (RD 1.012).
- 9.4. A vessel should not be given a pilot order unless all safety considerations have been assessed and particularly that the vessel has an adequate UKC for all stages of the passage. A pilot order can be issued without a specific berth being allocated.
- 9.5. A vessel must not be committed to entry, which is to say boarding a pilot or passing Breaksea, unless it has an allocated berth which is indicated in the Operations Database. The berth does not need to be unoccupied if there is a specific plan to have it ready for close approach i.e. dock swap.
- 9.6. Non-compulsory vessels within the harbour area must not be committed to lock entry unless there is a suitable berth available. This berth may be allocated by the DAHM on an *ad hoc* basis.
- 9.7. It may be the case that the Operations Director, General Manager Operations, appropriate Trade Manager or Commercial Team needs to be consulted to resolve a conflict with berthing.

## 10. Pilot allocation

- 10.1. All vessels that require a compulsory pilot must take one unless specifically sanctioned by the HM.
- 10.2. In some cases an assistant pilot may be required, either because it has been deemed necessary by the CHA (see below) or because of ship specific requirements or weather conditions.

Type of vessel	
Sensitive vessel 13.0m draught or greater	Assistant pilot required
LKV 12.5m draught or greater inwards	Assistant pilot required
LKV less than 12.5m draught inwards	Assistant pilot required lock to berth
LKV >200m LOA, >32m beam, >12.5m draught outwards	Assistant pilot required berth to lock
LKV >34m beam	Assistant pilot required berth to lock
AVOMAX >190m	Assistant pilot in dock

- 10.3. For vessels manoeuvring on or off BAFT, one of the pilots must be approved' for that facility.



## 11. Tidal Planning VTS

11.1. When planning pilot orders, King Road ETAs, arrival and departure times, and tug allocations, the following points should be considered:

HW King Road

Minimum sill clearances;

The minimum under-keel clearance for the following vessel types are;

**Post-Panamax** **1.8m**

**LKV (BP vessel or BP charter)** **10% draught (but not less than 1.2m)**

**All other vessels** **1.2m**

Sensitive vessels

Traffic volume

Air draft at M5 bridge.

11.2. Pilot orders for all sensitive vessels should normally be booked for 3½ hours before HW so that the vessel will lock in for HW. The appropriate planning form must be completed by the DAHM and agreed with the pilot before he embarks.

11.3. The earliest time that a vessel may start to cross the cill is when the UKC is at least draught + 1m provided that;

- The tide is still rising,
- The lock and required personnel are ready in all respects,
- UKC is expected to be the minimum defined for the particular type of vessel (see 12.1)
- Vessels docking on the ebb tide must comply with the UKC requirements of 12.1 at all times.

11.4. Vessels that cannot swing in King Road

11.4.1. Definition: A ship whose draught minus the Portishead Point rule-of-thumb allowance (Section ) is greater than the expected HW height KR may not be expected to swing

11.4.2. These vessels are required to dock from the west due to the available water east of RP pier. It is possible for them to swing in King Road with tug assistance, but this must not be considered routine and should only be executed as an emergency or abort procedure.

11.4.3. For these vessels, pilot orders should be no later than 3hrs 30 mins before HW KR.

11.4.4. The tugs should be planned to meet the vessel at Welsh Hook, and the pilot must be advised in good time if this is not achievable. This is to allow the pilot to consider aborting in Walton Bay. The 3<sup>rd</sup> and/or 4<sup>th</sup> tug should be planned to meet the vessel at Portishead Point.



11.5. Other vessels

- 11.5.1. For all other arriving vessels, pilot orders and King Road ETAs should be such that;
- 11.5.2. For planning purposes, vessels intending to swing in King Road will not expect to pass Portishead Point until the King Road tide reading is equal to draught minus the Portishead Point rule.
- 11.5.3. Vessels should not come into the entrance until the UKC is equal to draught plus 0.5m
- 11.5.4. The lock is in all respects ready, unless it has been agreed between VTS and the pilot that the vessel will lie alongside the pier until the lock is ready.

11.6. All vessels must be in the lock with the gates closed by the abort time

11.7. Departures

- 11.7.1. The following table and the appropriate planning form should be used where applicable;

Vessel	Planning Form	Earliest PO Time	Latest PO Time
Post-Panamax (Loaded)	MS 26B	2½ hours before HW	1½ hours before HW
Post-Panamax (Ballast)	MS 26B	2½ hours before HW	1 hours before HW
Bulk Panamax (Loaded)	MS 26B*	2½ hours before HW	1½ hours before HW
Avomax	MS 26E	As below for 'other vessels'	2 hours before Abort time
LKV (Loaded)	MS 26B	2½ hour before HW	1½ hours before HW
River Avon	MS26F	As per tide	HW

\* MS26B should be completed if draught exceeds 12.5m or vessel is post-Panamax

- 11.7.2. Part loaded vessels will be considered by the DAHM on a case-by-case basis.
- 11.7.3. Other vessels  
For all other departing vessels, pilot orders and sailing times should be such that they must not cross the sill unless the UKC for the whole passage beyond the lock entrance is at least 1.2m



- 11.7.4. For early departures care is to be taken to ensure that the lock is not lowered away too early resulting in a dangerously small under keel clearance.
- 11.7.5. **All vessels** must be lowered to sea with the gates fully open by the abort time.

11.8. Abort Time

11.8.1. The abort time must be calculated by the DAHM and agreed between both pilot/ship's master and VTS prior to the vessel entering the lock. If there is a difference between the actual and the predicted abort time due to the tide cutting or making, the abort time will be at the earlier of the two. Portbury or Avonmouth Radio or MSO should issue a warning to the Master or Pilot of a vessel 10 minutes before the abort time.

11.8.2. **The abort time is when the UKC allowance on the cill is at the limit of 1.0m on a falling tide less the time allowance below;**

VESSEL SIZE	VESSEL DESCRIPTION		ALLOWANCE TIME
	AVONMOUTH	PORTBURY	TIME (MINS)
<b>LARGE</b>	Avomax	Portbury max	<b>30</b>
<b>MEDIUM</b>	Vessels over 100m LOA (excluding Avomax)	Vessels over 130m LOA (excluding Portbury Max)	<b>20</b>
<b>SMALL</b>	Vessels less than 100m LOA	Vessels less than 130m LOA	<b>10</b>

Allowance times are estimated times that will normally permit the vessel to be cleared to safe water in King Road.

**12. Passage Planning and Execution**

12.1. Up-to-date depth data should be obtained from Hydrographic Department charts and limiting depths advice in Local Notices to Mariners.

12.2. Bridge Depth - The depth for calculation is based upon the minimum depth within the designated area as shown in TBPC Bridge Patch chart.

12.3. Tide plan process

12.3.1. The main point of the process is to discuss and agree a plan for the tide.

12.3.2. The completion of one of the following forms is required prior to pilot boarding. All forms are to be completed by DAHM except for the MS26F:-



- MS26A Deep draught/LKV vessel arrival
- MS26B Deep draught/LKV vessel departure
- MS26D Avomax arrival
- MS26E Avomax departure
- MS26F Pilot Passage Plan

12.3.3. The complexity of the tide in question will dictate whether the planning process is carried out by telephone with or by a meeting of the pilots, tug company and Marine Department representative.

12.3.4. The decision to have a meeting rests with the Haven Master or his deputy. However, the pilot or tug company may request the HM or DHM to call a meeting if they consider it appropriate.

12.3.5. If there are changes to the passage plan then the form should be amended and re-issued.

#### 12.4. Initial Planning

12.4.1. For complex tides, an initial plan should be considered at least a day in advance to ensure that an adequate number of tugs are available.

12.4.2. An appropriate pilot will be available for consultation; initial contact should be made via the pilotage clerk in order that the correct pilot is contacted at a convenient time.

#### 12.5. Specific Planning

12.5.1. The responsibility for the completion of the appropriate form, its amendment and dissemination rests with the DAHM.

#### 12.6. Arrival

12.6.1. At least 24 hours before Prior to arrival masters/agents must communicate to the port, amongst other things, the vessel's maximum draught, DWT/displacement at current draught, main engine manoeuvring full-ahead speed.

12.6.2. Passage from Pilot embarkation point to Portishead Point

During this period the pilot will:-

- Make an assessment of the vessel, noting and reporting any factors liable to affect passage plan particularly defects likely to affect navigation. In particular any variance from expected draught or speed should be reported to Bristol VTS.
- Conversely height and deviation of tide plus weather conditions are to be passed to the pilot from Bristol VTS.
- Confirm that the squat allowance is correct.



- Ascertain the distance from bow to bridge and report this to Bristol VTS. During berthing the pilot will be advised by the MSO how the position of the vessel's bridge will be marked.

12.6.3. The objective is to lock in the vessel and have the outer gates closed by the abort time. For deep draught and sensitive vessels an ETA at Portishead Point 1 hour 15 minutes before HW KR is to be expected to achieve a successful docking.

12.6.4. For deep draught and post-Panamax vessels the escort tug will meet the vessel at English and Welsh Light Buoy; other tugs will be programmed to join the vessel at Walton Bay/King Road.

12.6.5. When the vessel's UKC is at least 0.5m for the lock entrance then the pilot should be advised so that he may continue his approach.

12.6.6. Vessels are not to commence crossing the sill unless they comply with section 11.3

#### 12.7. Departure

12.7.1. Prior to departure the pilot should confirm visually the vessel's draught.

12.7.2. On boarding, the pilot should confirm that the information supplied on the appropriate MS26 has been completed and is correct.

12.7.3. Bristol VTS should advise of any changes to predicted tidal height and current weather conditions.

12.7.4. The vessel must not depart from the lock after the abort time as detailed in 12.8.1.

12.7.5. If the vessel is deep-draught or post-Panamax, the tugs are programmed to remain with the vessel until Portishead Point; thereafter the escort tug will remain with the vessel to the English and Welsh Grounds buoy.

#### 12.8. Abort Procedure

12.8.1. This is the operation by which the entry to the port is terminated and the vessel returned to safe water, or in the event of a departing vessel returned to the berth or held over in the lock. This may be initiated;

- At any stage of the passage between Breaksea and the lock entrances
- Before lock entry
- In the lock
- In an emergency.



- 12.8.2. The decision to abort may be made by the HM/DHM/DAHM/MSO, the pilot, or the master of the vessel. However there should be no disputes over the air. If any party calls an abort then it must be acted upon, there is no right of veto.
- 12.8.3. When considering the abort, both the abort time for the sill and the latest clearance depth at The Bridge should be considered.
- 12.8.4. On no account should the abort time be overrun. In order to alert all involved to the impending abort time, Bristol VTS or the MSO should initiate a '10 minute warning'.
- 12.8.5. Lock abort on Arrival - the abort must be initiated immediately if the vessel is not in the lock with the outer gates closed by the stipulated abort time as indicated on MS26
- 12.8.6. Lock Abort on Departure - the abort must be initiated immediately if the vessel is not lowered in the lock with the outer gates fully open by the stipulated abort time as indicated on MS26
- 12.8.7. The abort time for The Bridge should be calculated as follows;

Vessel's draught	m
PLUS safety margin	1.2m
PLUS allowance for squat	m
<u>EQUALS Depth required</u>	<u>m</u>
MINUS minimum charted height at Bridge	m
<u>EQUALS predicted tide height required</u>	<u>m</u>
From above height, time of predicted tide	hhmm
MINUS run time of vessel from KR to E&W	hhmm
<u>MINUS clearance time for lock (see 11.8.2)</u>	<u>hhmm</u>
<b><u>Abort time</u></b>	<b><u>hhmm</u></b>

- 12.8.8. Run time to The Bridge  
*Run time required = Distance from 'King Road' to E&W (10.9 miles) divided by the vessel or tugs speed + 2knots for tide.*
- 12.8.9. At the initial planning stage a value of 0.5m may be used for squat in the calculation on form MS26. However, on boarding the vessel the above calculation should be carried out specifically. Should amendments be necessary the pilot must advise Bristol VTS of new abort time.
- 12.8.10. The Master must be advised of the situation and his agreement confirmed on the squat value to be used.

**13. Other vessel movements with Sensitive Vessels**



13.1. The progress of a sensitive vessel is constrained by a pre-determined timetable. The timing of other vessels movements in or out of the dock/lock must therefore be controlled to ensure that the entry of a sensitive vessel is not impeded.

13.2. Latest Pilot Orders

<b>Inbound vessels</b>	
Not using tugs	HW – 4 hours
Using tugs not allocated to SV	HW – 4 hours
Using SV pusher tugs to lock only	HW – 4½ hours*
Using 1 of the SV pusher tugs to berth**	HW – 5 hours***
<b>Outbound vessels</b>	
Not using tugs	HW – 2½ hours
Using tugs not allocated to SV	HW – 2½ hours
Using SV pusher tugs	HW – 2¾ hours***
Using SV Welsh Hook tugs	HW – 4 hours

Tugs must be released by HW-2 hours

\*\* Vessel must be able to enter KR with draught -1½m at HW -3½ hours

\*\*\*Tug must be released by HW-1¾ hours

13.3. The E&W Escort Tug is not to be used for any movement if it is required for the docking of a Sensitive Vessel.

13.4. If the criteria above cannot be met due to any reason such as delays on arrival, cargo etc. then the movement/PO must be cancelled and rebooked after the Sensitive Vessel docking. Contact must be established with the duty shipping manager if this occurs

13.5. Any vessel due to dock at behind a sensitive vessel must not approach the pier or enter the lock entrance area until that vessel is safely in the lock with the gates closed.

**14. Control of Vessel Movements**

14.1. To ensure that all movements within the Harbour Authority’s area of responsibility are carried out in a safe and efficient manner the following procedures are to be followed amongst others.

14.2. Responsibility

The DAHM is responsible for the positive control of vessel movements within Royal Portbury and Avonmouth Dock. The VTS Officer is responsible



for positive control of vessel movements to and from the seaward approaches until control is handed to the appropriate lock control station.

14.3. Prior to granting permission for vessel movements from/to lock and berth and from the seaward approaches to the lock the following should be considered:-

- Other vessels or craft already underway, or expected to be underway, within the area,
- Diving Operations,
- Waterborne maintenance works or other works in close proximity to the water or near to the cope edge,
- Tidal and dock levels,
- The location and movement of Critical Equipment,
- Readiness of the lock and attending personnel,
- Weather conditions.

14.4. Stations

14.4.1. Note: Call signs must not be abbreviated.

There are five stations and their call-signs/VHF channels are;

- Bristol VTS, Ch12
- Portbury Dock Radio, Ch14
- Portbury Lock Control, Ch14
- Avonmouth Dock Radio, Ch14
- Avonmouth Lock Control, Ch14

14.5. Procedure

14.5.1. FROM BERTH TO LOCK

14.5.1.1. Master/Pilot shall contact the relevant dock (Portbury Dock Radio or Avonmouth Dock Radio) on VHF Ch14 to exchange relevant information and request permission to proceed.

14.5.1.2. The following minimum information must be received by the dock radio station before permission to leave is granted.

- Draught,
- Next port of call,
- If the vessel is piloted confirmation that the Master/Pilot exchange (MPX) has been completed satisfactorily,
- If the vessel is non-piloted (excluding harbour tugs and workboats) confirmation that a passage plan has been completed.

14.5.1.3. A vessel may only leave the berth when it has been given positive permission to do so by the dock radio station.



- 14.5.1.4. Once permission to leave the berth is obtained and if the vessel is proceeding to the lock it should contact the appropriate lock control on VHF Ch14 (Portbury Lock Control or Avonmouth Lock Control) before letting go any lines to ascertain lock status and to receive specific instructions applicable thereto. It is not necessary for a vessel to wait until the lock is ready before leaving the berth.
- 14.5.1.5. If a vessel is conducting an in-dock shift then it must report to the appropriate dock radio station once the vessel is re-secured.

#### 14.5.2. ENTERING/DEPARTING THE LOCKS FROM/TO SEAWARD

- 14.5.2.1. **Entering:** A vessel must request permission to enter the lock, from Bristol VTS, prior to commencing their approach.
- 14.5.2.2. If permission is granted then the vessel should reply positively i.e. "Bristol VTS this is XXX, I am commencing my approach to XXX lock and I am changing to VHF Channel 14".
- 14.5.2.3. The vessel should then communicate directly with Avonmouth or Portbury Lock Control on VHF Ch14. Once secured in the lock the vessel should ascertain from the lock control station their berth position and any other pertinent information.
- 14.5.2.4. **Departing:** Vessels departing the lock outwards must request permission from Bristol VTS before letting go any mooring lines.\*

#### 14.5.3. DEPARTING THE LOCK INWARDS

- 14.5.3.1. Vessels departing the lock inwards must request permission from Royal Portbury Dock or Avonmouth Dock Radio before letting go any mooring lines.\*

14.6. Vessels which do not moor in the lock must communicate before moving ahead. A flotilla, including tug groups may communicate as a single unit via the lead vessel.

14.7. When a movement has taken place outside of the direct control of the Harbour Authority e.g. a vessel leaving berth or lock without permission, then a report must be made on MS70 in order that the matter can be investigated.

#### 14.8. Station locations

- Bristol VTS VHF Ch12 is based at the Signal Station.
- Portbury Dock Radio and Avonmouth Dock Radio VHF Ch14 are based at the Signal Station.
- Portbury Lock Control and Avonmouth Lock Control VHF Ch14 are based at the relevant lock control towers.



## **15. Multiple Ship Moves In Dock (Dock Swap)**

- 15.1. The DAHM/Master/Pilot may agree to move a vessel in tandem with another (dock swap) within the same dock.
- 15.2. The following should be considered before agreeing a dock swap
  - Weather
  - Vessel size
  - Other berth occupancy
  - Tug allocation
- 15.3. In general it is not considered good practice to plan or execute dock swaps when;
  - 15.3.1. winds exceed 15 knots
  - 15.3.2. one of the vessels is sensitive
  - 15.3.3. one or both vessels is non-compulsory pilotage

## **16. Levelling Tides**

- 16.1.1. Levelling tides produce unpredictable tidal flows around the Lock Entrances and Docks which may cause embarrassment to ship handling. It is therefore essential that affected parties are advised before a potential levelling tide takes place and also when it occurs.
- 16.1.2. A software programme (located in Tide Monitor) has been written to assist in predicting levelling tides. From the "Operations database" select "Utilities", "Tide Monitor" then "Tide graph". The dock can then be selected by choosing either A or P.
- 16.1.3. For all tides over 12 metres King Road the possibility of a levelling tide should be considered by the DAHM and Lock Controllers.
- 16.1.4. The timing of a possible level should be predicted and closely monitored.
- 16.1.5. The timing of a level must be communicated to all appropriate vessels (inbound or on the berth), by Avonmouth Signal Station, in advance of their movements so that they may consider the implications on their movement. These parties include but are not limited to:-
  - Pilots,
  - PEC Holders and Masters of non-compulsory vessels,
  - Tug masters, dredger masters and skippers of other vessels,



- Lock Controllers
  - Bulk Terminal Control Room
  - Any other berth (operations supervisor) where Bristol VTS have been advised that there is an air-draft critical operation in progress.
- 16.1.6. Tide Planning should consider an anticipated level and its affect on vessel movements.
- 16.1.7. When a level breaks;
- The Lock Controllers should advise;
    - a) Vessels at or close to the locks system and then
    - b) Bristol VTS.
  - The DAHM should inform the BCR and any other berth (operations supervisor) where Bristol VTS have been advised that there is an air-draft critical operation in progress.
  - All movements to and from the Oil Basin are prohibited for the duration of a level.
  - All movements are prohibited for the duration of a level unless authorised by the Duty Assistant Haven Master.
  - Restricted movements may be undertaken during a level after consultation between the Duty Assistant Haven Master and pilot/master.
- 16.1.8. Restricted movements may be undertaken during the latter stages of a level when the tidal flow has reduced and after consultation between the DAHM and Pilot and/or Master. As part of this consultation the following points must be considered :-
- The Lock Controllers should advise Bristol VTS.
  - The DAHM should inform the BCR.
  - All movements to and from the Oil basin are prohibited for the duration of a level.
  - All other movements are prohibited for the duration of a level unless authorised by the DAHM.

## **17. Dock Level Management.**

- 17.1. Non-shipping and mission critical requests should be made by the appropriate manager to Bristol VTS DAHM by telephone or email stating;
- At which dock or lock the level request is for and,
  - The level required at what date/time,
  - Duration of dock level.
- 17.2. Requests will be considered alongside shipping requirements and then a formal request will be made to the Engineering Department on the nominated forms.
- 17.3. Shipping specific dock level requests will normally be identified by VTS.



- 17.4. The request form, as stated below, should be completed in the first instance by the DAHM and forwarded to the Port Installations Engineer (PIE)
- MS35P Dock level request Portbury
  - MS35A Dock level request Avonmouth
- 17.5. The PIE or his deputy must confirm the request by completing the form and returning it to the Marine Department. This acts to confirm that no problems are anticipated attaining these levels. Additionally the number and availability of pumps and their settings should also be recorded on a tide by tide basis on the form.
- 17.6. The completed MS35 should then be emailed to the group contact 'LEVEL REQUESTS'
- 17.7. If the level is a reduction then the lock controllers should ascertain the best time to adjust it in consultation with DAHM. Ad hoc reductions in dock level should be carried out in parallel with locking off pumps at Portbury, or in the case of Avonmouth by contacting the appropriate engineer.
- 17.8. If the dock level cannot be achieved as planned then the duty shipping manager and/or PIE should be consulted. Dock level variances caused by levelling tides should be examined and, barring the requirements of shipping, the dock level should be returned to the requested level as soon as practicable.
- 17.9. A requirement for a dock/lock level change outside of office hours should be made by the DAHM to the on-call Engineer. A note of the request and action time should be made in the VTS Logbook.
- 17.10. Responsibility for dock levels in Avonmouth and Portbury lies with the DAHM. Frequent and regular inspection of dock levels should be made to ensure that they are conforming to the requirement. Required and actual levels for the docks must be entered in the VTS logbook.
- 18. Bristol Aviation Fuel Terminal (BAFT); LKVs or other vessels (tankers or non-tankers)**
- 18.1. In addition to the requirements of previous sections the following points should be noted for LKVs
- Minimum towage is 3+3 inwards, 3+2 outwards.
  - Pre arrival information is required for terminal planning sheet MS71.
  - MSO must complete the pre-arrival checks on form MS72 at least one day prior to arrival.
  - DAHM will produce a mooring plan MS73 and scan it to marshare.
- 18.2. Traffic Movements and Planning



18.2.1. No vessel should pass an inbound or outbound LKV within the buoyed channel between Black Nore and Avonmouth North Pier. An inbound vessel that has passed the Firefly buoy and is committed to the pier approach may be considered as out of the buoyed channel. A departing LKV will be deemed to have joined the channel once passed the Portbury Middle buoy.

18.3. All other tug requirements are detailed in the Towage Guidelines.

18.4. Non-tankers on BAFT

18.4.1. Vessels other than LKVs on BAFT shall conform to the appropriate LKV rules and/or size rules regarding pilotage and towage.

18.4.2. Such vessels are required to conform to the safety requirements for tankers and accordingly must have a MS50 Non-tankers information pack on board.

## **19. AVOMAX vessels**

19.1. Special consideration is given to vessels over 190m LOA such that;

- An assistant pilot is required in dock.
- There should be no movement during a level.
- Vessels 205m LOA and greater will require P berth to be unoccupied.

## **20. Vessel movements in restricted visibility**

20.1. Shipping and VTS Operations require a modified approach in conditions of reduced visibility. The inability to visually assess situations elevates the risks and this may be mitigated by enhanced procedures and the increase of safety margins. This procedure will apply to all vessels.

20.2. Restricted visibility procedures are to be introduced when the general or localised visibility is less than 1 nautical mile.

20.3. In the River Avon –VTS reporting vessels are not permitted to navigate within the river unless;

- Nelson Point is visible from Avonmouth Signal Station,
- Nightingale Valley is visible from Cumberland Basin (as determined by the lock controllers on duty at Bristol City Lock),
- Sea Mills is visible from Upper Horse Shoe.

20.4. These checks should be carried out when the vessel is either inbound passing Portishead Point or outbound ready to leave the lock at Bristol City



Docks. The DAHM should use any available means to assess the visibility but if they cannot then they must assume that the visibility is detrimental given the local conditions.

20.5. All vessels required to furnish passage plans<sup>1</sup> will comply with this procedure.

#### 20.6. Initial Actions – VTS & Shipping

20.6.1. When it becomes apparent that the visibility in King Road or the River Avon is below, or shortly expected to be below, 1 nautical mile then the docking or sailing of vessels should be re-assessed in consultation with relevant parties.

20.6.2. It is the responsibility of the DAHM at Bristol VTS to initiate consultation as soon as it becomes apparent that reduced visibility conditions are forecast or experienced.

20.6.3. Those parties consulted should include, but not be limited to pilots, tug masters, ship masters and the duty shipping manager.

20.6.4. In consultation, the following should be considered :-

- The passage plan(s),
- Other vessel movements within the VTS area,
- The ability of a vessel to maintain the desired track or position,
- The ability to safely pass a heaving line from vessel to tug,
- The ability of tugs to manoeuvre safely whilst connecting or disconnecting a tow line,
- The characteristics of all the tugs which will be involved in the operation,
- Tug assist methods that might best be used,
- Available space on the berth,
- Restrictions and limitations of the lock and berth, and any other factors such as critical equipment positions and dredger operations,
- Navigation aid failures including VTS systems,
- If the tug is fast at the time visibility reduces.
- Contingency plans especially for unforeseen tug disengagement.

20.6.5. If at anytime a tug master cannot see the vessel and he is attached to by his line then he must let go and consider different methods of assisting the ship in consultation with the pilot.

#### 20.7. Actions Specific to Tug-Assisted Operations

20.7.1. To plan the operation with full knowledge of any restrictions that may apply and to form contingency plans should these circumstances

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<sup>1</sup> Vessels more than 30m LOA or vessels carrying more than 12 passengers



change, the tug master will inform the pilot/ship master of the following:-

- Any limitations on the tug's ability to assist,
- The maximum permissible speed at which any manoeuvre may have to be carried out,
- The necessity to provide information well in advance to the tug of all engine movements and alterations of course of the towed vessel,
- The necessity to inform the tug immediately of any changes in the towed vessel's circumstances,
- If a tug master believes that his tug is being put at risk or if he is not comfortable with the tug's position relative to the vessel.

20.7.2. All of the tugs involved must maintain communications with each other throughout the operation.

20.7.3. 17.5.3 During the consultation each of the following elements must be discussed and agreed:-

- The method of tow,
- Speed – with good advance notice,
- Contingency planning.
- Pilots must be aware that if a bow tug is made fast when visibility falls to a distance where the tug master deems it unsafe to continue using this towing method, the tug master will advise the pilot that he will let go and assist by a different agreed method,
- The minimum distance which this will be done is when the tug master cannot see the line of the ship.

20.7.4. It is imperative that communications continue between the pilots, tugs and VTS and that contingency planning is considered as part of the passage plan.

## 20.8. VTS - General Actions

20.8.1. 17.6.1 Consultation should produce the following general actions;

- Tidal planning amendments to de-conflict shipping to the east of Black Nore,
- The restriction of vessels departing the River Avon and lock(s) into King Road when other shipping is present (this includes Portishead Marina),
- Advisement to relevant parties that the VTS station is conducting operations in restricted visibility and that instructions may be issued to alter the tidal programme. This may include cancellations and postponements,
- Traffic organization contingency plans,
- More specific actions as detailed in the checklist MF7 at 16.12.7



20.8.2. When VTS advises shipping of reduced visibility (or vice-versa) they will, in addition to the passing of standard information, enquire whether the vessel is sounding the appropriate fog signal. If the reply is negative then the vessel must be reminded of the requirement to do so.

## 20.9. VTS Manning

20.9.1. VTS personnel must take additional actions to ensure that safe operations continue. The presence of restricted visibility requires extra vigilance and this will be achieved by the DAHM assessing whether additional support is required for the VTSO to concentrate on the radar information and radio traffic, and for the DAHM to control operations.

20.9.2. If support is required then he shall call an appropriate off-duty member of the VTS staff. If staff are not available then the HM/DHM should be called.

20.9.3. If restricted visibility is experienced during office hours then office staff may be called upon to assist with administrative duties.

20.9.4. The following should be considered when assessing the need for additional personnel;

- The time of day (during office hours it is quicker to procure office personnel),
- The current and predicted level of distractions such as telephone calls,
- The state of tide and whether shipping is active or not,
- Traffic density.

20.9.5. Support personnel should be tasked, primarily, with receiving telephone calls and other minor tasks. The VTSO and/or the DAHM telephones should be diverted to the support position.

20.9.6. Support staff will not be able to take pilot bookings and may not be able to deal with enquiries adequately. Non-urgent incoming calls should not be passed on to the DAHM or VTSO until they signal they are able to do so. Marine Office managers and assistants should be able to assist with enquiries and permits-to-work.

20.9.7. Restricted Visibility Checklist MF7

Portishead Point fog signal activated	
Shipping advised	
Tug company and/or tug masters informed	



Visibility updates obtained	
Radio navigation warning issued	
Visibility details entered in weather log	
River Avon checks made if applicable	
Support staff arranged	

## **21. Vessel movements in high winds**

### **21.1.1. Refer also to Section 2**

- 21.2. When actual or forecasted high winds are expected, and in general this should be considered to be 30 knots then special consideration should be given to the docking and sailing of vessels. It should be noted that in many cases wind speeds in excess of 15 knots may require the use of an extra tug.
- 21.3. It is the responsibility of the DAHM at Bristol VTS to initiate consultation with the relevant parties as soon as it becomes apparent that adverse weather conditions are forecast or experienced.
- 21.4. Those parties should include, but not be limited to pilots, tug skippers, ships' masters and duty shipping manager.
- 21.5. During the consultation the following must be considered :-
- A vessel's ability to maintain a desired track or position. In this respect vessels with a large windage are particularly susceptible,
  - Wind direction, particularly regarding the intended manoeuvre,
  - Whether the wind is steady or gusting,
  - Whether the vessel is piloted, PECH or non-compulsory,
  - The ability to safely pass a heaving line from vessel to tug,
  - The ability of tugs to manoeuvre safely whilst connecting and disconnecting a tow line,
  - Whether additional tugs are required and their availability,
  - The nature of the vessel's cargo,
  - The safety of lockgate controllers when mitring the lockgates,
  - Available space on the berth with regard to the proximity of other vessels on adjacent berths.
  - The ability of a vessel to safely remain on berth.
- 21.6. If there is a conflict between the tug allocation decided by the Harbour Authority and the master of the vessel then the DAHM may issue a direction accordingly.

## **22. King Road**

- 22.1. The sea area known as 'King Road' to the north-west of Royal Portbury and Avonmouth Docks is an area whereby traffic conflict should be considered,



- 22.2. Vessel movements are co-ordinated within the Bristol Port Company statutory harbour limits by Bristol VTS. Within these statutory limits certain local conditions apply,
- 22.3. All vessels over 50 GT within the VTS area shall maintain a radio watch on VHF Channel 12. They should inform Bristol VTS of their intentions or intended track when passing the designated reporting points or departure from the locks or River Avon.
- 22.4. Ships sailing from Avonmouth or Royal Portbury locks must contact Bristol VTS before leaving the lock to ascertain the traffic situation in the area and to be granted permission to leave.
- 22.5. Should it be necessary for ships to pass in King Road, the outbound vessel must establish communication with the other ship(s) to agree a passing procedure.
  - 22.5.1. The leading inbound ship will dictate how the ships should pass in King Road. If the outbound vessel is unwilling to comply with this decision then it must remain in the lock until the risk is passed.
  - 22.5.2. Once an agreement has been reached between ships, this information should be confirmed with Bristol VTS for onward transmission to other relevant vessels.
- 22.6. Similar agreements must be made with subsequent inbound vessels if required.
- 22.7. **Bristol VTS will only grant permission to leave the lock if the situation is clear and all parties understand the course(s) of action**, if there is any doubt then Bristol VTS will hold the outbound vessel in the lock until other shipping is clear.
- 22.8. Radio contact should be maintained directly between ships in close quarters situations; radio traffic may be on various matters, but traffic relating to matters of navigation shall be conducted on VHF Channel 12. It is essential that radio traffic relating to matters of navigation is conducted on VHF Channel 12 (Primary) or, alternatively, the vessel's working frequency (normally VHF Channels 6, 8, 10 or 72).
- 22.9. Those vessels already in the navigable channel and proceeding with the flow shall have priority, and vessels stemming should give way. Overtaking vessels shall give way.
- 22.10. Vessels inbound on the flood should endeavour to transit King Road with the aim of preventing passing or crossing situations.



- 22.11. Vessels inbound on the flood should swing to port in the swinging areas of either Avonmouth or Royal Portbury Docks. These swinging areas should be kept clear when required by inbound vessels. Any intention to depart from this procedure should be notified at the designated reporting points.
- 22.12. The deep-water channel passes close to Portishead Point. Bristol VTS should inform inbound craft unfamiliar with the area that, if they intend to keep to the starboard side of the fairway, they will need to pass close to Black Nore Point and very close to Portishead Point. They should also be advised that ships sailing from Avonmouth and Royal Portbury docks, particularly when early on the tide, may pass down close inshore to avoid the main strength of the flood tide. Small vessels or yachts inbound should therefore endeavour to keep clear of this area under such circumstances.
- 22.13. This procedure shall apply in all cases. Any intended deviation shall be communicated to Bristol VTS as soon as possible on Channel 12.

### **23. River Avon**

- 23.1. Vessels navigating in the River Avon between Avonmouth South Pier and Tongue Head (Bristol City Docks) are required to complete a passage plan
- 23.2. Passage planning applies to:-
- All vessels with a LOA greater than 30 m or in the case of a tug and tow a combined length in excess of 30m
  - All Vessels carrying more than 12 passengers.
- 23.3. The M5 Bridge height is charted (Admiralty Chart 1859) as 29m at HAT (a total height of 43.4m above chart datum is used for passage planning; HAT=14.7m KR-0.3m correction for Broad Pill plus 29m bridge height)
- 23.4. Day light is defined as the period between morning civil twilight to evening civil twilight.
- 23.5. Depth information is to be taken from Admiralty Chart 1859 and local information provided by The Bristol Port Company.
- 23.6. There are visibility restrictions detailed in section 17.3
- 23.7. Tide heights are taken as King Road and corrected as defined for Cumberland Basin. (KR-3.1)
- 23.8. An escort craft must be used when a vessel carrying more than 12 passengers with a length greater than 30m transits the river or when determined by the CHA. Any escort craft is to be licensed The Bristol Port Company for towage,



- 23.9. Vessels of any length which do not comply fully with the navigation bridge visibility regulations 1998 (SI 1998 No. 1419) paragraph 5 will not be permitted to navigate on the River Avon.
- 23.10. The maximum dimensions of any vessel transiting the river Avon are as follows:-
- Max Length 70 m
  - Max Draught 4.5 m
  - Beam 14 m
  - Or any other vessels as may be determined by the SHA.
- 23.11. Form MS26F should be completed by the River Pilot or PEC holder or Master and conveyed to Bristol VTS by (in order of preference) e-mail, fax or by telephone. The plan will then be checked by the DAHM prior to transit.
- 23.12. River Avon transits for compulsory vessels are to be undertaken during the hours of daylight. Times of civil twilight are to be calculated in order that the transit is completed before this time approaching sunset, and after during sunrise. Tabulated data is available on the internet from:-  
[http://aa.usno.navy.mil/data/docs/RS\\_OneYear.html](http://aa.usno.navy.mil/data/docs/RS_OneYear.html)
- 23.13. Vessels with an air-draft greater than 27m must calculate the time when it is safe to pass under Avonmouth bridge. At HAT the clearance under the bridge is 29m a minimum clearance of 1.5m from all structures and aials must be maintained.
- 23.14. There must be sufficient under-keel clearance for the complete passage.
- 23.15. HW at Cumberland basin is at King Road HW +10 minutes and at this time the height is 3.1m lower than King Road.
- 23.16. Vessels should plan to arrive at Cumberland Basin no later than HW (King Road).
- 23.17. The passage plan should be completed in sufficient time to allow any planning requirements to be put in place.
- 23.18. Vessels should report according to the requirements of ALRS Vol 6.

## **24. Inter-dock communications**

- 24.1. Communication flow between Portishead Marina, Bristol City Docks & Sharpness with Bristol VTS can ensure that leisure and commercial traffic can operate safely and efficiently in the King road area. It is particularly important that leisure operations are carried out in a manner that prevents embarrassment to commercial shipping.



- 24.2. Telephone numbers of docks are as follows;
- |                    |              |
|--------------------|--------------|
| Portishead Marina  | 01275 841941 |
| Bristol City Docks | 0117 9273633 |
| Sharpness          | 01453 511968 |
- 24.3. Portishead Marina/Bristol City Docks/Sharpness Duty Berthing Master should phone Bristol VTS prior to first lock out to ascertain traffic and level of contact required for remainder of tide. (Dock operators can request a faxed/emailed tide tracker)
- 24.4. Any subsequent lock outs where craft are due for The River Avon, Bristol VTS should be advised before lock gates are opened.
- 24.5. Where the vessel has no VHF, berthing master to pass mobile number and destination to Bristol VTS, if available.
- 24.6. In times of reduced visibility Bristol VTS should be contacted prior to any lock out.
- 24.7. Berthing master to advise Bristol VTS of any operational locking problems which could affect inbound small craft.
- 24.8. Bristol VTS to advise duty berthing master of any incidents which may affect safe passage of small craft.
- 24.9. If the duty berthing master becomes aware of a craft requiring assistance. Bristol VTS should be advised of the situation so shipping can be informed if necessary.
- 24.10. Bristol VTS may direct that all leisure craft remain in the waiting area, monitoring VHF channel 12 until a ship, or situation has passed, prior to proceeding to sea. Please see Bristol Port Company "Pilotage advice to small craft" which indicates the waiting area.

## **25. Lock Operations**

- 25.1. Lock Controllers are trained and experienced in the normal operation of the gates. However there may be instances where, due to a system failure or weather, they will need guidance from the Port Engineers.
- 25.2. The Port Engineering Department is to be called in the following circumstances;
- When there is a failure of any part of the hydraulic system requiring a change to diesel operation,
  - When there is a failure of the diesel system,
  - If weather conditions may affect the gate operation,



- If weather conditions are causing unusual behaviour or noise from the gates and/or machinery,
  - When there is a need, or suspected need, that the gates may have to be operated in wire mode,
  - Additionally, the shipping manager is to be called if any of the above circumstances are likely to delay shipping or affect the integrity of the dock. The shipping manager must always be informed if there is any concern with gate operation due to weather.
- 25.3. If there is a failure of only one set of gates then, if the vessel size permits, operations should be completed using the partial lock or if repairs can realistically be achieved in good time. If this is not possible then the vessel should be returned to dock/sea.
- 25.4. It is possible that under certain conditions that there may be a risk of grounding a vessel in the lock at Avonmouth or Royal Portbury. Beyond the normal abort procedure, which assumes that the outer gates are able to be opened, there can be scenarios that will require additional resources and unorthodox corrective action.
- 25.5. An emergency will exist when the outer gates are partly open and cannot be closed or opened fully. This will be due to a loss of power and/or an obstruction at the sill/recess.
- 25.6. If the gates do not operate and they are in the fully closed or open position then a standard abort procedure should be carried out and the vessel returned to sea or dock.
- 25.7. Emergency scenario
- 25.7.1. The only emergency scenario envisaged is that a vessel is in the lock with the outer gates part opened/closed and it is required to leave but primary motive power has been lost for the outer gates. The back-up diesels also fail to start or cannot operate the system due to hydraulic fluid loss. The corrective action will also apply if the gates, in a part open/closed position, are damaged to such an extent that they cannot be moved.
- 25.7.2. Corrective action  
If time permits then the Engineers should be called out to rectify. Preparations for putting the gates on wires should be started. If the time remaining to abort is two hours or less then an available tug should be called to assist. The hydraulic valves will have to be positioned to put the system in neutral. If the wires are unable to be rigged in time then the attending tug should be used to fully close or open the gates dependent on which side it is, or where access is most appropriate. If the tug is trapped and cannot close or open the gates because there is an obstruction on the sill or in the recess then



another tug will have to be summoned to push in the opposite direction. The tug may also rig a towing wire onto the gate main posts.

- 25.7.3. An alternative method to open the gate is to use the vessel and its mooring equipment.
- 25.8. The whole operation of the lock and its machinery is a team exercise and all personnel should not hesitate to call on additional resources whenever difficulty occurs or is envisaged.
- 25.9. It must be stressed that the first priority is the integrity of the lock and dock, and the safety of personnel. The need to 'get the job done' and to service shipping must come second.**
- 25.10. Lock Operations will normally be carried out by two lock controllers/marine operatives.
- 25.11. Ships should be preferably control tower side in/out. Where vessels are required to use the other side then attendance by lock controllers on that side is not necessarily required.
- 25.12. When two ships are planned to share a lock and positioning requires them to overlap (as they require mooring on different sides) or when two ships need to use the unmanned side of the lock then an alternative plan should be considered. If the plan is unavoidable or particularly desirable then the plan should be risk assessed by interested parties. If the risk assessment does not indicate particular concerns then the movement may proceed.
- 25.13. The limit of manpower will necessarily slow down and restrict general operations but delays are unlikely to be significant unless the tide plan is particularly difficult or busy.
- 25.14. Locks will normally manned by two persons, however the following vessels may require 3 persons to operate the lock;
- Vessels over 12.5m draught,
  - All vessels planning to arrive or depart within ½ hour of their abort time,
  - Any other vessel that requires particular treatment as determined by the shipping manager.
- 25.15. Busy tides may also require three persons
- 25.16. Lock Controllers should advise VTS if they consider that three persons are required for particular movements/tides that have not been previously recognised, for instance large ships on levelling tides. VTS will then consider



whether to increase manning or to plan-out the issue, in consultation with the DHM/AHM if necessary.

- 25.17. In general any manning increase will be decided in the planning phase giving as much notice as possible to lock personnel. Short notice call-out arrangements are unchanged. General responsibility for assessment and implementation of increased manning arrangements will lie with the DAHM.
- 25.18. This determination shall be after consultation with all relevant parties which may include VTS, pilots, tugs and lock controllers.
- 25.19. When vessels are moving through the locks then the gate stanchions must be in the lowered position. When the gates are returned to the closed position then the stanchions must be raised again or 'no entry' barriers placed across the walkways.
- 25.20. Non-Operational personnel are not allowed on the lockside with ships using mooring ropes.
- 25.21. Lock Controllers should check that paddle indicator rods are clear before operation.
- 25.22. Labour boarding in the lock
  - 25.22.1. The ship's Master and Agent must be advised in advance so that the appropriate safe means of access can be arranged.
  - 25.22.2. Personnel must not enter the lock area until the vessel is fully secured in the locks. Once the vessel has been safely secured the lock supervisor will indicate that it is safe to proceed to the vessel.
  - 25.22.3. Personnel are reminded that the lock is an operational area and a designated Hard Hat area.
  - 25.22.4. Once in the lock area the supervisor should check that the vessel is tight alongside and only allow the operatives to board if there is no appreciable gap between the vessel and the cope edge.
  - 25.22.5. In the special case of car vessels where access is via a side door and a gap exists between the quay and the vessel, operations supervisor or ship's crew must provide a suitable portable walkway. The lock supervisor must ensure operatives wait until this is deployed before attempting to board the vessel.
  - 25.22.6. In all other cases, arrangements should be put in hand to have the ship's accommodation ladder ready for deployment. The lock supervisor must ensure operatives wait until the accommodation ladder is safely deployed before attempting to board the vessel.



25.22.7. It may be necessary for the DAHM to cancel any boarding in the locks if marine operational factors so dictate.

#### 25.23. Lock gate operating restrictions

##### 25.23.1. Portbury Gates Water Level Requirement

The gates must not be moved without 7.5 meters of water on the cill gauge. The only exception to this would be with engineering approval, in the case of an emergency.

##### 25.23.2. Water level differential

Due to water pressure on the gates, a head of no more than 13.5m should be allowed. e.g. Dock level 18.0m lock minimum level 4.5m. This differential applies to all the Portbury gates where.

#### 25.24. Avonmouth Gates Water Level Requirement

The outer gates can be opened at any state of the tide.

## 26. Fendermen in Avonmouth Lock

26.1. DAHM should advise agents, owners and masters that fendermen should be utilised to avoid damage in the following circumstances:-

Vessel Beam	Draught	Recommendation
>29m	any	Fendermen recommended
27m - 29m	>9m	Fendermen recommended
>27m	any	Dependent on weather
<27m	any	No recommendations

## 27. Shifting of Vessels

- 27.1. Requests by Agents, Masters or the Operations Department to shift vessels should be made through the DAHM at Bristol VTS.
- 27.2. Vessels shifting along quays may not require a pilot if they keep line(s) ashore.
- 27.3. Vessels shifting across dock i.e. when all lines must be let go, will be required to take a pilot if they require compulsory pilotage to dock or sail.
- 27.4. Linesmen (licensed) may not be required if the ship's crew tend lines but manning levels should be considered.
- 27.5. BPC Operations Department personnel are not allowed to tend lines.
- 27.6. When arranging a vessel shift the following should be considered;
  - The manning level of the vessel,
  - Weather conditions especially the effect of wind,



- Pilotage,
- Manoeuvrability of the vessel,
- Requirement for tugs,
- Other shipping movements,
- Levelling tides,
- Critical equipment.

27.7. In general, shifts are to be considered a low priority against other dockings and sailings.

## **28. Oil Basin Berth Allocation**

28.1. When planning the berth allocation for the Oil Basin the following should be considered;

- Vessels berthed at 1 and 7A when vessels are scheduled for 3 and 6,
- Receiver,
- Berth status regarding maintenance and arm availability,
- Requirement for bunkering.

28.2. The principle in this matter is to ensure the maximum passing distance for vessels transiting to No 3 and No 6 berths.

28.3. It may also be possible to reschedule arrivals / departures on a particular tide to maximise the passing distances. Consideration should also be given to berth occupation.

28.4. When it is not possible to allocate berths without this situation arising, the DAHM/Oil Basin Manager should inform the Shipping Manager of the conflict, in order that shipping can be re-scheduled.

28.5. All commercial vessels manoeuvring in the Oil Basin are required to be piloted.

28.6. Where a vessels is required to pass an alongside vessel in the Oil Basin then cargo operations may be required to be suspended.

28.7. Bunkers supplied by road may only be delivered to berths 1 & 6.

## **29. Critical Shore Equipment**

29.1. The following procedure is to ensure that all quayside critical equipment is positioned in such a manner that vessels can berth and depart without damaging that equipment. This may include temporary equipment or structures.



- 29.2. The MSO is primarily responsible for completing the Critical Equipment Movement Form (MS46) which advises relevant BPC managers and supervisors of the position and movement/intended movement of all critical equipment. Maintenance requirements should also be noted in case they have any possible impact on the shipping programme.
- 29.3. Where the critical equipment assessment process has been carried out by DAHM or DHM (when the MSO is off-tide or busy) then they are responsible for the completion of form MS46
- 29.4. The following BPC equipment is considered critical: -
- RP 1 & 2 - Container Cranes,
  - RP 5 - Grain Loader,
  - RP 5 & 6 – CSUs 1 & 2,
  - RP 5 & 6 - Grab Cranes 3 & 4,
  - West Wharf 1/2/3 - Avonmouth Container Gantry Cranes 44 & 45,
  - Fixed quay-side cranes, as detailed on form MS46,
  - Avonmouth mobile cranes (Mantsinen/Sennebogen),
  - West Wharf 3/4/5 Gottwald Crane,
  - Port mobile,
  - Any other equipment that may cause a problem of a similar nature and that requires an assessment to ensure its safety.
- 29.5. Non-BPC equipment such as Sims gantry crane and contractors' equipment should be assessed on an ad hoc basis by the DAHM.
- 29.6. The assessment process should consider;
- Structure of vessel above the cope level,
  - Flair of bow/stern,
  - Movement of ramp/ship's cranes that could cause the vessel to list,
  - Whether the vessel has any angle of heel,
  - Crane boom height,
  - Crane proximity to quay edge.
- 29.7. If cranes are temporarily parked within the body length of a vessel with a stern or side ramp then the DAHM/MSO must advise the Master that he must not operate his ramp.
- 29.8. If the critical equipment cannot be moved (e.g. break down) Bristol VTS must be informed of the problem by the appropriate Trade Manager, Supervisor or Engineer.
- 29.9. When coming on duty the MSO should confirm that critical equipment is in the correct position for a vessel to berth safely.



29.10. If vessel heel is a particular requirement then when the vessel is in the lock it should be checked that they are in an upright condition.

29.11. A minimum separation distance of at least one bollard should be achieved from either the bow or stern of the arriving/departing vessel and the critical equipment.

29.12. If this is not possible then it may be acceptable to position the critical equipment in the midships position or within the parallel body of the vessel but this should occur only with the following considerations;

- Another berth is not available,
- The vessel has been confirmed to be upright; this must be verified before the vessel leaves the lock inwards or departs the berth. (Crane design safety margins normally allow for a  $2\frac{1}{2}^{\circ}$  heel for a vessel alongside, and certain cranes such as the Gottwald are set far back from the cope),
- There are no overhangs from the vessel; container vessels often have released lashing turnbuckles protruding from the side, for instance,
- The wind conditions are such that the vessel will not heel due to wind effect,
- If the vessel has a stern or side ramp, the Master has acknowledged that the ramp will not to be raised or lowered unless the cranes are clear of the ship's body i.e 1 bollard clear from the bow or stern. The acknowledgement of this prohibition must be made via radio before leaving the lock inward and a letter must be issued to the Master once alongside (marshare/letters to ships/car ships on RP1and2.doc).
- Vessel stability has been assessed (vessels may heel under the influence of tugs pulling, for instance),
- The possibility of using additional tugs or placing Yokohama fenders to extend the distance between vessel and critical equipment can also be considered as a countermeasure.
- Also where cranes cannot be positioned in a safe position consideration may be given to berthing the vessel out of position and, when securely controlled by mooring lines, the vessel warped up to its correct position.

### **30 Callouts for Incidents and Emergencies**

30.1 In the event of any incident or emergency that requires management and additional resources then the first contacts listed below should be called. If they cannot be reached then the off-duty contact should be called. The second contacts should be called as soon as possible afterwards depending on the type and severity of the incident.



<b>EMERGENCY</b>	<b>FIRST CONTACT</b>	<b>SECOND CONTACT</b>
Shipping Accident in Dock (Including fire or flooding on board ship)	On-call Shipping Manager and Incident Controller	Port Police, Trade Manager
Shipping Accident in Estuary and River Avon	On-call Shipping Manager	Port Police & Incident Controller
Oil Basin incident	On-call Oil Basin Manager and Shipping Manager	Port Police & Incident Controller
Search and Rescue (Using TBPC craft)	On-call Shipping Manager	Port Police & Incident Controller
Pollution (Oil, Chemical or Dangerous Goods) in Dock	On-call Shipping Manager	Port Police & Incident Controller
Pollution (Oil, Chemical or Dangerous Goods) in Estuary and River Avon	On-call Shipping Manager	Port Police & Incident Controller
Lockgates	On-call Shipping Manager	Affected Trade Managers
Decision as to the acceptance or otherwise of a "Dangerous Vessel"	1.HM 2.DHM	
Industrial Relations problem involving ship delays	On-call Shipping Manager	

Navigational Aids failure	Conservancy Manager	Hydrographic Surveyor 1
Dredging/Dredging craft problems	Marine Engineering Manager	Deputy Haven Master (Planning, Support & Safety)
PV Robina Fisk	Senior Coxswain	Marine Engineering Manager
SV Isambard Brunel Major Mechanical problems	Marine Engineering Manager	Conservancy Manager
SV Investigator Major Mechanical problems	Manager Marine Engineering Manager	Conservancy Manager

