

ASSOCIATED BRITISH PORTS SOUTH WALES	South Wales Regional PMSMS. SE Wales & River /Usk Guide to Navigation, Passage Planning & Ordering of Services	November 2015
		Revision 4

# Associated British Ports South East Wales And River Usk (Newport Harbour)

## Passage Planning, Navigation & Ordering Of Services Guidelines

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### 1. Introduction

#### **Control Of Documentation**

The electronic version of this document is controlled and can only be modified by the Marine Management Team. Printed versions of this document will be "Non Controlled" and should not be used for reference.

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## **Amendments**

All amendments should be recorded in the relevant pages at the end of this document

## **Legal Authorisation**

Associated British Ports South Wales is the Statutory Harbour Authority (SHA) and the Competent Harbour Authority (CHA) pursuant to the Pilotage Act 1987, for several ports and Harbours in South Wales including:

- Barry
- Cardiff
- Newport

The Newport Harbour Commissioners are the Statutory Harbour Authority (SHA) and the Competent Harbour Authority (CHA) pursuant to the Pilotage Act 1987, a guide to their powers and duties is contained in the Port Marine Safety Code (PMSC).

In an agreement dated 9th December 1998, the Newport Harbour Commissioners arranged for all of their functions relating to Pilotage, other than their duty under section 2(1) of the 1987 Act, to be executed on their behalf by Associated British Ports South Wales.

Newport Harbour Commissioners retain their responsibilities as set out in Section 2(1) of the Pilotage Act 1987.

Newport Harbour Authority has contracted out the provision (but not the duty) of Harbour Master functions in their area of jurisdiction.

The agreement between Newport Harbour Authority and ABP was made in 2005 and confirmed and renewed in 2010.

The following Guidelines have been established and agreed between the Harbour Master South Wales, South Wales and Usk CHA Pilots and various Stakeholders including third party towage providers. The information contained in this booklet is intended as a guide to commercial vessels navigating in the South Wales and Usk SHA and CHA areas of Jurisdiction and aims to aid compliance with local rules and national legislation.

Section 52 of the Harbours, Docks and Piers Clauses Act 1847 is incorporated within the British Transport Docks Act 1969 which sets out the powers of a Harbour Master who may give direction for the following purposes.

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**a)** For regulating the time at which and the manner in which any vessel shall enter into, go out of, or lie in or at the Harbour Dock or Pier, and within the prescribed limits, if any, and its position mooring or unmooring, placing and removing whilst therein.

**b)** For removing unserviceable vessels or other obstructions from the Harbour, Dock, Pier and keeping the same clear.

The local Byelaws are published separately and should be used in conjunction with these guidelines.

These guidelines, Byelaws and ABP South Wales Notice to Mariners can be found on [www.southwalesports.co.uk](http://www.southwalesports.co.uk)

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## 2. Local Port Services LPS

The 1st of July 2010 saw the inception of Cardiff LPS. Based in Cardiff QA House, Cardiff LPS, as well as providing local port services for the port of Cardiff became a coordination service for the Marine activities in the South Wales Ports and the River Usk with the following aims;

- To discharge ABP's and (via the contract to provide Harbour Master functions) Newport Harbour Authorities responsibilities for navigational safety.
- To comply with National and International laws and conventions and with the provisions of the relevant Acts, Orders and subordinate legislation
- To co-ordinate and facilitate the supply of pilots to vessels In SE Wales
- To provide pilots with the necessary information to allow a passage plan to be formulated for the vessel to which they are assigned
- To act as a first point of contact and inform the relevant managers as per the Regional Port Emergency Plan and the Regional Oil Spill Contingency Plan in the event of an incident within the jurisdiction of Associated British Ports or Newport Harbour Commissioners which may or may not require the involvement of other organisations, services or authorities.
- To disseminate appropriate information to relevant managers and departmental heads in relation to situations and incidents that may not necessarily come under the title of 'emergency' but are deemed noteworthy.
- To perform a co-ordination role between pilots, rope men, agents, tug services and pilot cutters in the SE Wales area in order to help facilitate the docking and undocking of vessels and associated services.
- To act as the ABP's and (via the contract to provide Harbour Master functions) Newport Harbour Authorities, central point of contact outside normal office hours for all incoming marine inquiries or information, and for the provision of essential advice, co-ordination and information to the shipping and port community.
- To provide a Port Information service which will meet the demands of port users for relevant port related information in a timely and accurate manner.

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Cardiff LPS is continuously manned 24 hours a day.

**VHF:** Ch 68  
**Telephones:** 08456018870  
**Fax:** 02920835006  
**Email:** [Southwalesradio@abports.co.uk](mailto:Southwalesradio@abports.co.uk)  
**Web:** [www.southwalesports.co.uk](http://www.southwalesports.co.uk)

In addition to the services of Cardiff LPS, the individual ports of

- Barry
- Cardiff
- Newport
- Newport Harbour ( River Usk)

are covered by local port services situated at the relevant pier heads. Working details can be found in Admiralty List of Radio Signals (ALRS Vol 6 (1))

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### 3. Navigation Guidelines for South East Wales and the River Usk

#### General note to Guidelines.

#### Port Passage Planning Guidance note (Ref Port Marine Safety Code / IMO resolution A.285 (VIII))

The Harbour Authority and Harbour Masters' powers to regulate the time and manner of ships entry to, departure from and movement within their Waters serve to complement port passage planning. Passage plans are therefore to be operated and enforced as an adjunct to the powers of direction.

The object of port passage planning guidance as required by the Port Marine Safety Code is to ensure that:

- All parties know relevant details of any particular port passage in advance.
- There is a clear, shared understanding of potential hazards, margins of safety, and the ship's characteristics.
- Intentions and required actions are agreed for the conduct of the port passage – including the use of tugs and their availability – and any Significant deviation should it become necessary.

The Port Marine Safety Code requires the exchange of certain information between the Master of the ship and the pilot in conjunction with any VTS /LPS that may be in operation.

The careful planning of the movements of every ship in the confines of the Port areas are an essential element of the ABP South Wales and NHC Safety Management Systems.

Pilots make a significant contribution to the safety of navigation in the confined waters and port approaches of which they have up to date knowledge, but it must be stressed that the responsibilities of the vessel's navigational team and the officer of the watch do not transfer to the pilot.

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**Attention is drawn to the following extract from IMO Resolution A.285 (VIII):**

**"Despite the duties and obligations of a pilot, his presence on board does not relieve the officer of the watch from his duties and obligation for the safety of the vessel. He should co-operate closely with the pilot and maintain an accurate check on the vessel's position and movements. If he is in any doubt as to the pilot's actions or intentions, he should seek clarification from the pilot and if doubt still exists he should notify the master immediately and take whatever action is necessary before the master arrives."**

The Pilot / Master exchange of information needs to be both detailed and structured. The LPS supplied information in conjunction with the pilot and vessel's passage plan are to be integrated to ensure that both the Pilot and Master have the information needed for an agreed Port Passage Plan. It should include as a minimum:

- The provision by the Pilot of relevant planned traffic information, detailed local navigational knowledge, including his recommended passage plan. Such details will assist the master to update his own passage plan.
- The provision by the Master of precise information, about the ship, its manoeuvring characteristics, its equipment, including details of any defects.

**Guideline No 1  
Compulsory Pilotage**

Pilotage is compulsory as described in the Pilotage Directions for the SE Wales Ports and River Usk. All Pilot boarding and landing is undertaken to the standards of the [Pilotage Code of Practice](#)

The Harbour Master publishes Pilotage Directions on the ABP South Wales website [Pilotage Directions](#)

The published Pilotage Directions have provision for strictly risk assessed deviation from the directions.

If the Master of a compulsory piloted vessel chooses not to accept the Pilotage, of the already embarked authorised Pilot, who has been charged

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with the conduct of the navigation the Harbour Master may choose to use his powers to direct the Master of the vessel accordingly

## **Guideline No 2**

### **Towage Guidelines**

The Harbour Master publishes towage guidelines on the ABP South Wales website [Towage Guidelines](#) The guidelines clearly describe the formal provision for deviation from the guidelines. If the master of a vessel chooses not to accept the recommendations of the published guidelines he must inform the Harbour Master of his intentions, The Harbour Master will risk assess the intended manoeuvre, if necessary, consulting with one or more authorised Pilots

The Harbour Master may choose to use his powers to direct the Master of the vessel accordingly.

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### **Guideline No 3**

#### **Allowances to Chart Datum**

On the 1st January 2009 the datum for tide measurement at each of the five ABP ports – Swansea, Port Talbot, Barry, Cardiff and Newport and the Private berths on the River Usk- was changed from local datum's to be consistent with Admiralty Chart Datum. (ACD)

Across the ABP SE Wales Ports, a regular Survey program ensures that up to date soundings are available to Marine staff and Pilots. The frequency of the surveys has been established in response to historical siltation patterns and the experience of the Hydrography department.

PEC holders and Masters of Pilotage exempt Vessels. Should make time to regularly view the latest soundings at QA House in Cardiff.

The Harbourmaster publishes the following allowances for the SE Wales ports. The allowances are generally used for “stemming” purposes and do not guarantee a vessel can berth on any given tide ( see note 1)

Masters and / or Pilots should consider the latest soundings when setting Minimum UKC for approach channel passages. From time to time, in response to survey evidence, the Harbour Master may change the published allowance.

#### **Cardiff and Barry**

Wrach Channel	ACD	<b>1.3 m</b>
Lady Windsor Lock	ACD	<b>1.2m</b>
Barry Basin	ACD	<b>2.68m</b>

#### **Newport Dock**

South Lock	ACD	<b>0.5m (Flood)</b>
	ACD	<b>1.5m (Ebb)</b>

The Newport Channel is maintained at a height approximately 1.0m above the outer lock Cill. To help to ensure that a vessel sailing on the ebb tide safely clears the dredged channel, a greater ebb allowance has been set.

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### River Usk Private berths, docks and wharfs

Berth	Reference	Allowance based upon chart datum
Church Street Wharf	ACD	<b>7.28m</b>
Dallimore's	ACD	<b>5.78m</b>
Eastern Dry Dock	ACD	<b>4.45m</b>
Birdport	ACD	<b>3.53m (up to 17m beam) 3.63m (greater than 17m beam)</b>
Mir Steel ( vessels swinging and berthing PST with Stern within North limit of berth face)	ACD	V/I's up to 130m <b>2.0m</b> V/I's 130m to 140m <b>2.25m</b> V/I's 140m to 150m <b>2.5m</b> V/I's 150m to 160m <b>3.0m</b>
Mir Steel ( vessels berthing SST when loaded Stern positioned within South limit of berth face)	ACD	V/I's 160m to 176m ( SST when berthing loaded) <b>3.5m</b>

The berths on the river Usk are privately owned and conserved. The ABP South Wales and Newport Harbour Authorities are not responsible for monitoring or maintaining siltation levels at these private berths and Wharfs. Because of the large tidal range in the River Usk there are large differences between advertised levels.

The allowances are determined by survey evidence and will be reviewed by the Harbour Master after periodic surveys are commissioned by the responsible persons. From time to time the Harbour Master, in response to evidence or concerns, may change allowances pending a further survey.

The published allowances are to be applied negatively to the actual height of tide to determine the maximum draft or positively to the actual draft to determine the height of tide required.

To determine maximum arrival or sailing draft on a particular tide obtain the predicted height of high water from the tide tables and deduct the applicable allowance. For example: If the predicted height of tide at Cardiff is 9.7 metres ACD then the maximum arrival draft will be  $(9.70 - 1.5m) = 8.2$  metres.

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To determine when a vessel of a particular draft can dock or undock add the applicable allowance to the vessel's draft and look through the tide tables to find a tide on which the predicted height of water is equal to or in excess of the depth of water required. For example: If the arrival draft of a vessel is 8.00 metres and the vessel is due to dock in Newport on a flood tide, the required height of tide will be  $(8.00 + 0.5) = 8.5$  metres

**Note 1**

It should be noted that in stemming a vessel for one of the SE Wales Ports or berths on the River Usk, consideration should be given to conditions that may have an effect on the actual height of tide in relation to the predicted height of tide. The Harbour Master cannot be held responsible for any cut in the actual tide height nor be expected to provide a draft for a vessel to load to. It is the responsibility of the Master, Owner, Manager, Charterer or Agent to make that "commercial" decision.

**Guideline No 4**

**Navigation in restricted Visibility and / or adverse weather conditions**

**Restricted Visibility**

The Harbour Master has set the following procedures for restricted visibility

The ABP South Wales and River Usk Towage guidelines include guidance for towage operations in restricted visibility - [Towage Guidelines](#)

For Vessels that are not requiring the services of tugs the following procedure will be used.

**Trigger Distances:**

- **Barry:** The lights on the eastern and western arms of the breakwater viewed from the Pilot Office.
- **Cardiff:** The Inner Wrach buoy viewed from the third floor of Queen Alexandra House.
- **Newport:** The Number 4 buoy viewed from the Pierhead Building, South Lock.

**Procedure**

When it becomes apparent that the visibility in a specific port is below the trigger distance the docking or sailing of such vessel shall be suspended pending consultation with relevant parties.

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It is the responsibility of the Duty MLC at Cardiff LPS to initiate consultation with the relevant parties as soon as it becomes apparent that adverse weather conditions are forecast or experienced.

Those parties consulted should include, but not be limited to Lock Controllers at the relevant pier head, Pilots, PEC holders, Tug Skippers, Ships Masters, Deputy Harbour Master and/or Harbour Master.

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.

During the consultation each of the following elements must be considered:-

- Passage plan
- Other vessel movements within the harbour or harbour approaches.
- A vessel's ability to maintain a desired track or position.
- Available space on the berth with regard to the proximity of other vessels on adjacent berths.
- The likelihood of the visibility improving in the short term.
- Restrictions / limitations between Lock / Berth or Berth / Lock. E.g. other vessels, container cranes.
- Contingency plans including navigation aid failures.

### **Adverse Weather Conditions**

The Harbour Master has not set definitive parameters for navigating and berthing / un-berthing in adverse weather conditions due to the varying constraints of the individual vessels, berths and manoeuvres involved.

The following will all have a bearing on the ability of a vessel to navigate within the ABP South Wales and Newport Harbour Authority areas in adverse weather conditions.

- The configuration and limitations of the vessel and its equipment
- The particular limitations imposed by the intended manoeuvre
- The particular limitations imposed by the topography of the intended berth ( with special regard to the prevailing conditions)
- The experience of the Master/ Pilot /tugs crews.
- Limitations imposed by lock operations and or other traffic programmed for the tide

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- The availability of tugs and crews
- The boarding and landing of pilots within the operational limitations of the pilot vessels.

On compulsory piloted vessels, the pilot who is charged with the conduct of navigation, after a full assessment of the situation, (including but not limited to the above points) will make a recommendation to the Master regarding the proposed manoeuvre(s) If The Master of a compulsory piloted vessel chooses not to accept the recommendations of the authorised Pilot the Harbour Master may choose to use his powers to direct the Master of the vessel accordingly.

On non compulsory piloted vessels, non piloted vessels and on PEC holder vessels, the Harbour Master may also use his powers to direct the Master of that vessel if he feels that the proposed manoeuvres in adverse weather conditions are not safe.

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## **Guideline No 5**

### **Ordering of Services**

#### **Pilots**

- All Pilotage and Pilot Cutter Services for SE Wales and the River Usk are coordinated by Cardiff LPS.
- All Pilotage Services must be ordered through an appointed agent who is registered on the Agents Online portal [www.abpnotify.co.uk](http://www.abpnotify.co.uk)
- The notification email that is generated by Agents Online (AOL) and sent automatically to Cardiff LPS does not constitute an order for a pilot.
- To Make an order for a Pilot, an appointed Agent must ring Cardiff LPS directly,

#### **Procedure**

- In Order for the pilot rota to work efficiently, LPS need to collate the orders to make best use of the pilots, availability of locks, tugs and associated services then send the orders out at a time that is convenient and allows for pilots to get sufficient rest. It follows that LPS will try to accommodate timings for boarding's / sailings where possible but a particular time cannot be guaranteed nor is the tidal program formulated on a first come first served basis.
- All orders received by Cardiff LPS to be given out at 4 hours ebb of the preceding tide, or 1800 hours, whichever is the earlier.
- Where High Water of the next day's PM tide falls on, or before, 1430 hours then any orders for that tide shall be given out at 1800 hours.
- Where High Water of the next day's PM tide falls on, or after, 1431 hours then any orders for that tide shall be given out at 0900 hours on that day.
- Cardiff LPS will produce and promulgate an "orders time" spreadsheet on an annual basis

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### Late order and Cancellation charging criteria

- The Criteria for determining if an order is a chargeable late order or a chargeable cancellation is based on Low Water at Barry
- A vessel cancelled after Low Water of the preceding tide is deemed a chargeable cancellation
- A vessel ordered after Low Water of the preceding tide is deemed a chargeable late order
- Vessels cancelling a pilot order within 3 hrs of POB time is deemed a chargeable at the tariff level greater than the circumstances above
- Vessels cancelling a pilot once the pilot is onboard is deemed a chargeable as a full act of Pilotage
- The South Wales Tariff document should be consulted for up to date information and charging criteria

### Notes on Cancellations and late ordering

- There may be situations that pilots will need to be ordered late or cancelled. This is unavoidable
- Unnecessary late ordering, or cancelling after orders go out, detracts from the efficiency of the rota system and should be avoided wherever possible, even where such an order or cancellation is not chargeable under the criteria
- contrary to ensuring a pilot will be available, a speculative pilot order, made with the intention of cancelling it before the LW charging cut off has a negative effect on pilot availability

### Towage, Ropemen and Boatmen Services

All the above services are either third party suppliers or, in the case of River Usk Ropemen, employees of the individual berth operators. Cardiff LPS are not responsible for the ordering of the above services, it is for each vessel / agent to make the necessary arrangements.

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## **Guideline no 6**

### **The Pilot Boarding Area**

The Pilot Boarding Area is marked on the chart 1152 by a magenta no anchoring box that has a Westerly limit of a line drawn south from Breaksea point and an Easterly limit of a line drawn South from Bendrick Rocks, The southerly limit of the area is 3 cables South of the Breaksea buoy and the Northerly limit is the Southerly limit of Barry harbour limit with a section to the Eastern end to include the Merkur buoy.

Anchoring is not allowed in this area.

Mariners are advised to use extreme caution while navigating in this area as both inbound and outbound vessels are converging and / or manoeuvring to embark /disembark their pilots.

There are strong tidal streams in this area, the effect of which are accentuated by the slower speeds of vessels getting underway and manoeuvring for the pilot boarding area

There are 3 pilot Boarding positions Marked

(A) 51 20.9'N 003 23.3'W (Vessels with a draft greater than 12.5 M)

(B) 51 20.9'N 003 19.0' W (vessels with draft less than 12.5 M)

(C) 51 21.5'N 003 15.5'W (most small vessels directed to board at this area)

The pilot will usually disembark in an area to the East of the Merkur Buoy (depending on tide and draft)



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## **Guideline no 7**

### **Anchorage**

**Note: - South Wales Local Port Services of Newport, Cardiff and Barry do not designate anchorage positions for vessels using the South Wales ports. This is an onboard decision to be made by the Master.**

**There follows below, some anchorage information that Mariners may find useful. However the decision as to the suitability of a particular anchorage for a particular vessel is a decision for the Master of the Vessel. Details are available in the Admiralty publication NP37 West Coast of England and Wales Pilot.**

The principal anchorage for compulsory piloted vessels is at Breaksea (close to Barry,)

Larger vessels up to 10.5m draft have found suitable anchorage to the SW of the Breaksea Buoy. Smaller vessels up to 6.5m draft have found suitable anchorage to the west of the Merkur buoy and are close to the Pilot boarding area.

The area is not always suitable for larger vessels over 10.5 M and better holding ground can be found in the vicinity of Swansea Bay. Smaller vessels have sometimes found the anchorage unsuitable for longer periods over spring tides and / or strong West to South winds and have chosen to anchor in Blue Anchor Road 15 miles to the SW of Barry off the North Somerset Coast. **Vessels Masters and agents should note that there are subsea cables in the vicinity of Blue anchor Bay and should consult up to date and appropriate nautical publications and charts before determining their anchor position**

Non compulsory piloted vessels and / or PEC vessels bound for Cardiff have found good anchorage in Cardiff Roads, to the north of the Mid Cardiff Buoy and clear of the Cardiff Wrach approach channel.

Non compulsory piloted vessels and / or PEC vessels bound for Newport Dock or the Newport Harbour ( River Usk) have found good anchorage in Anchorages "A" or "B" to the West and North of the English and Welsh Buoys respectively

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## **Guideline No 8**

### **Passage planning between Barry and the River Usk**

The start of this section gives general Port Passage Planning Guidance based on the Port Marine Safety Code / IMO resolution A.285 (VIII)

As per this guidance it is for the Mariner to ensure that passage planning is completed berth to berth and to ensure that the plan is suitable for the specific passage of the specific vessel at the specific time.

SE Wales and Newport Harbour CHA Pilots will complete the following Pilots passage plan & Master / Pilot Exchange record form for each act of Pilotage that they perform.

There follows below some generic passage planning guidance for the area between Barry Roads / Cardiff and Barry Roads/ River Usk that the Mariner may find useful.

The following British admiralty charts are available for the intended passage

- BA 1179 The Bristol Channel
- BA 1182 Barry and Cardiff roads with approaches
- BA 1176 Severn estuary – Steep Holm to Avonmouth

The following publications should be consulted:-

- Admiralty tidal streams Atlas NP256 – Irish sea and Bristol Channel
- Admiralty sailing Directions NP 37- West Coast of England & Wales Pilot
- Admiralty List of Light and Fog Signals NP74 – Vol A
- Admiralty List Of Radio signals NP287 (1) Vol 6
- ABP South Wales [Notices to Mariners](#)

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## Merkur to Outer Wrach

<u>Pos Ref</u>	<u>Dist</u>	<u>Course</u>	<u>Total Run</u>	<u>To Go</u>	<u>Comments</u>
Merkur Buoy QR (pos C)	4.2	065	0	7.2	After 3.3nm Lavernock spit (Q6+Lfl10s) Abeam to Port (335 x 0.2) caution for vessels entering and leaving pilot boarding area caution for tide setting onto Lavernock Spit Buoy
Wolves (VQ) (103 x 0.35)	1.0	015	4.2	3	Caution tide set onto Wolves Buoy Pass welsh water Lavernock outfall (FI Y 5s) abeam to port (285 x 0.3) Pass Ranie buoy (FI(2)R 5s) abeam to Port (285 x 0.3) Call Cardiff Radio (VHF 68) confirm traffic and lock
South Cardiff (Q(6)+LFI 15s) (090 x 0.3)	2.0	350	5.2	2.0	Strong tide will be on port side until north of Lavernock point may be required to steer f Cardiff sector light and transit between Inner and outer Wrach will give good indication of set. Possible SW going flow at approaches and entrance to Wrach Channel
Outer Wrach(Q(9) 15s)	N/A	N/A	7.2	0	Report to Cardiff (68)

### Buoy to Buoy Courses and Distances

Merkur to Lavernock spit	070 x 3.4
Lavernock Spit to WWLO	042 x 1.25
WWLO to Ranie	015 x 0.3
S. Cardiff to Outer wrach	345 x 2.1

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## Merkur to Bell Buoy Main Channel Suitable for larger vessels

<u>Pos Ref</u>	<u>Dist</u>	<u>Course</u>	<u>Total Run</u>	<u>To Go</u>	<u>Comments</u>
Merkur Buoy QR (pos C)	4.5	089	0	16.8	After 2nm North one Fathom (Q) abeam to Stb (179 x 0.6) caution for vessels entering and leaving pilot boarding area.
Mackenzie (QR) (000 x 0.2)	1.0	069	4.5	12.3	Caution Mackenzie Shoal 0.2 nm NE Mackenzie Buoy
Holm middle (FIG 2.5s) (170 x 0.1)	2.6	046	5.5	11.3	Report to Bristol VTS (12) After 1.0nm pass Weston (FI(2) R 5s abeam to port (316 x 0.15)
Tail Patch QG (130 x 0.15)	1.7	040	8.1	8.7	
Hope (Q(3) 10s (270 x 0.4)	7.0	018	9.8	7	After 2.5nm pass E/W(FI 10s racon T) abeam to stb (108 x 0.55m) After 4.8nm pass Newport deep (FI(3) G 3s) abeam to Stb (108 x 0.4) Call Newport (71) Caution for Bristol traffic and anchored vessels Alpha and Bravo anchorages
Bell Buoy(QR)	N/A	N/A	16.8	0	Report to Newport Radio ( VF71)

### Buoy to Buoy Courses and Distances

Merkur to Mackenzie	092 x 4.8
Mackenzie to Holm middle	092 x 1.0
Holm middle to Tail Patch	046 x 2.6
Tail Patch to E/W	033 x 4.2
E/W to Newport Deeps	013 x 2.3
Newport Deeps to No1	013 x 2.2

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**Merkur buoy to Bell Buoy routing South of Monkstone (Avoiding Centre Ledge)**  
**Suitable for vessels up to 10.5 M draft bound for Newport / Usk boarding HW – 2.5hrs or**  
**sailing up to HW + 1 hr**

<u>Pos Ref</u>	<u>Dist</u>	<u>Course</u>	<u>Total Run</u>	<u>To Go</u>	<u>Comments</u>
Merkur Buoy QR (pos C)	4.2	065	0	15.9	After 3.3nm Lavernock spit (Q6+Lfl10s) Abeam to Port (335 x 0.2) caution for vessels entering and leaving pilot boarding area caution for tide set at Lavernock Spit Buoy
Wolves (VQ) (103 x 0.35)	2.5	085	4.2	11.7	Caution tide set onto Wolves Buoy Flatholm shelf and New Patch to South Pass Flatholm abeam to Stb (175 x 0.55)
Monkstone (FI 5s) (355x 1.5)	9.2	028	6.7	9.2	Report to Bristol VTS (12) First report to Newport Radio (71) to check traffic and lock Caution for Bristol traffic After 6.9nm pass Newport Deep (FI(3) G 10s Abeam to Stb (118 x 0.8) Report to Newport Radio ( VHF71)
Bell Buoy (QR)	N/A	N/A	15.9	0	Report to Newport (71)

**Buoy to Buoy Courses and Distances**

Merkur to Lavernock spit      070 x 3.4  
Lavernock Spit to Wolves      085 x 1.22  
Wolves to Tail Patch            082 x 3.3  
Tail Patch to Hope              025 x 1.5  
Hope to Bell Buoy                020 x 7.2

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**Merkur to Bell Buoy South of Monkstone**  
**Suggested for smaller vessels boarding after HW- 4hrs or sailing from**  
**Newport / Usk up to HW +2hrs**

<u>Pos Ref</u>	<u>Dist</u>	<u>Course</u>	<u>Total Run</u>	<u>To Go</u>	<u>Comments</u>
Merkur Buoy QR (pos C)	4.2	065	0	15.4	After 3.3nm Lavernock spit (Q6+Lfl10s) Abeam to Port (335 x 0.2) caution for vessels entering and leaving pilot boarding area caution for tide set at Lavernock Spit Buoy
Wolves (VQ) (103 x 0.35)	2.8	063	4.2	11.2	Caution tide set onto Wolves Buoy (this leg passes over centre ledge) Pass South Cardiff and Cardiff Spit Abeam to port (333 x 0.5)
Monkstone (Fl 5s) (333 x 0.5)	8.4	031	7.0	8.4	Report to Bristol VTS (12) Caution for Bristol traffic After 6.1nm pass Newport Deep (Fl(3) G 10s Abeam to Stb (121 x 0.9) Report to Newport Radio (VHF71)
Bell Buoy (QR)	N/A	N/A	15.4	0	Report to Newport (VHF71)

**Buoy to Buoy Courses and Distances**

Merkur to Lavernock spit	070 x 3.4
Lavernock Spit to Wolves	085 x 1.22
Wolves to Monkstone	045 x 2.5
Monkstone to Bell Buoy	035 x 8.0

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## **Guideline 9**

### **The Bristol Channel Tides**



The Bristol Channel has the second largest range in the world . There are several factors that have an effect on our tides as follows:

- The shape of the land
- The Mass of water to the west (Atlantic ocean)
- Topography of the land
- Influential permanent and semi permanent pressure systems

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### **The shape of the land**

As can be seen from the satellite picture above, the Bristol Channel is shaped like a funnel. As the earth rotates and the area makes it's twice daily passage through the tidal bulges (semidiurnal) the mass of water is squashed causing it to increase in both range and rate.

### **The Atlantic Ocean**

The greater the mass of water that influences the area then the greater the tidal range. As the Atlantic Ocean is directly to the west of the Bristol Channel it has a great effect not only on our tides but also our weather and climate, the effect on the tide is to increase the range.

### **Topography of the land**

The high ground to the south of the Bristol Channel (Exmoor) and the mountains in south Wales have the effect of funnelling the prevailing Westerly winds and increasing the speed, as the wind moves across the Sea surface the wind speed increases slightly due to reduced friction causing another increase in wind speed. Waves are formed and a mass of water will be moved up the channel causing an increase in tidal range

### **Pressure systems**

During the summer the most influential pressure system is the Azores high, once established this high pressure system is relatively constant and the high pressure influence will have the result of a decrease in tidal range. When the Azores high subsides (Autumn) the main influence is from Atlantic and Polar frontal depressions that track from West to east across the Atlantic having the dual effect of reduced air pressure (increasing tidal range) and moving a body of water eastward( storm surges) causing an increase in tidal range.

### **Tidal Rates**

#### **Spring rates of 6 knots can be experienced in the region of Lavernock Point and the Rannie shoal**

The funnelling effect of the land causes the mass of water to accelerate as it travels up the Bristol Channel. At Lavernock the tide splits (main channel and up to Cardiff Bay), as a result the ebb currents also rejoin at this point, squeezing the body of west going water causing an acceleration and the high flow rates.



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## **Counter Currents**

### **Barry**

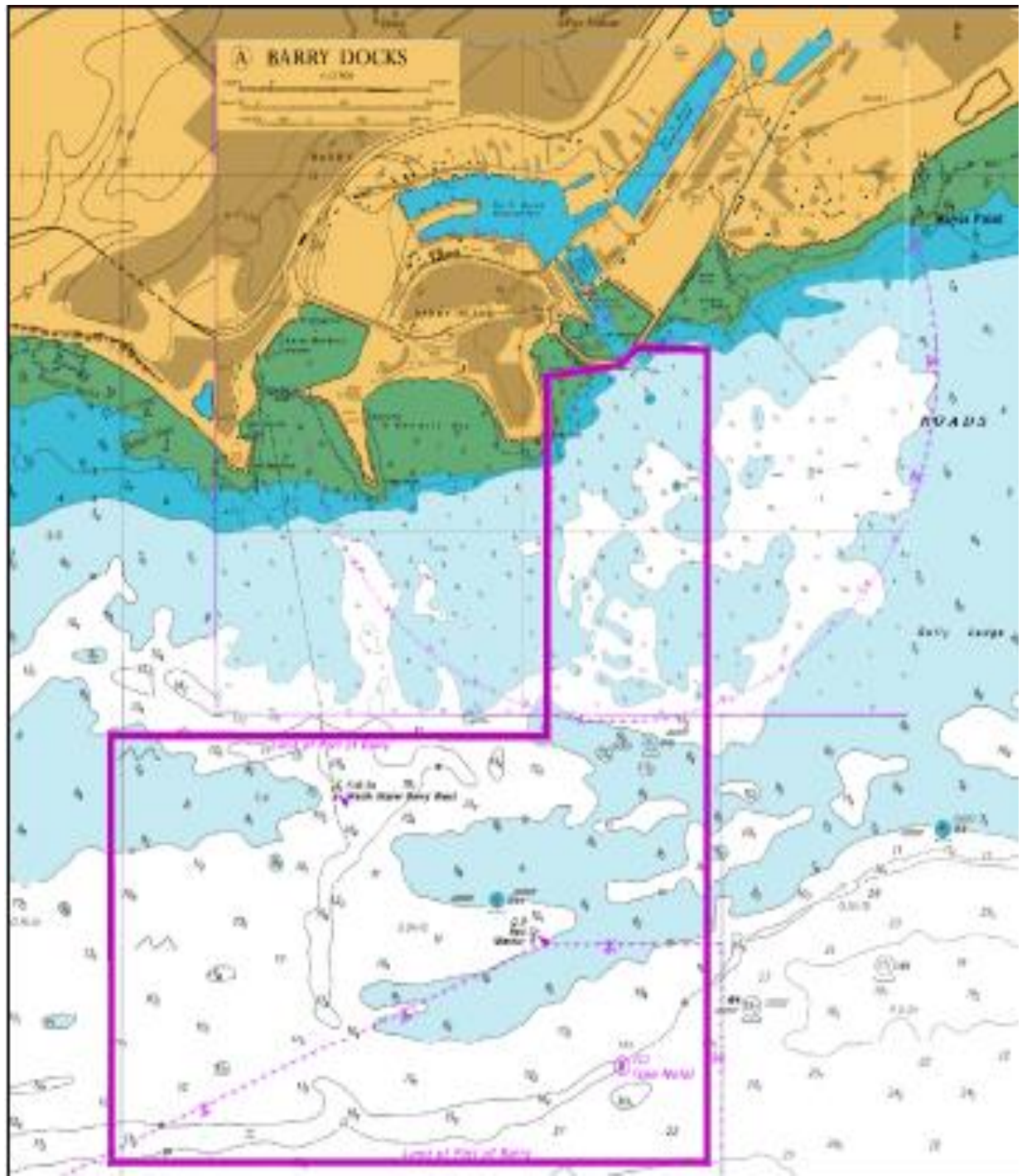
The entrance to Barry experiences strong currents across the entrance to the harbour. The effect is an constant ebb flow , even on flood tide. This counter current is a narrower band but stronger in rate during spring tides.

### **The Wrach Channel**

The approaches to and the Wrach Channel itself experience strong counter currents, (SW flow) starting as early as 2 hours before HW.

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Guideline No 10 Port of Barry



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## Port of Barry

The Port of Barry operates on a tidal basis (nominally 4 hrs before to 4hrs after HW)

There is a wealth of Information regarding ship acceptance and berth information on the [South Wales Ports Website](#)

Vessels should not proceed to or from the Lady Windsor lock or the No 3 dock Basin entrance without the permission of the Barry Marine lock controller. Full procedures are available in ALRS volume 6 (1)

Admiralty Publication NP 37 gives local Pilotage and anchorage information

Commercial vessels are usually berthed on the flood tide, vessels that are entering the docks via the basin (no 3 dock) are required to be secured alongside with the outer gates closed before HW.

Ebb tide dockings of vessels bound for Lady Windsor Locks will be considered on an individual basis by the HM and, if necessary, the Pilot who is (or is to be) charged with the conduct of the navigation.

Commercial vessels are locked in and out within the tidal window according to a tidal plan that is collated by Cardiff LPS with input from Barry Lock Controllers, the Harbour Master and Pilots. The tidal plan is not based upon a first come first served basis but will consider many parameters including but not limited to:

- Draft of Vessel
- Weather conditions
- Range of tide ( spring / Neap)
- Availability of tugs
- Considerations of owners/agents
- Ordering and availability of pilots and to make best use of those available pilots

There are strong currents in the vicinity of Barry Outer Harbour entrance. There is an omnipresent South westerly running flow, close to the harbour entrance.

The outer Harbour and lock / Basin entrance are very exposed to Easterly and South Easterly winds.

## Barry Harbour entrance from No 3 basin entrance



**Barry Harbour Entrance from Lady Windsor Lock**



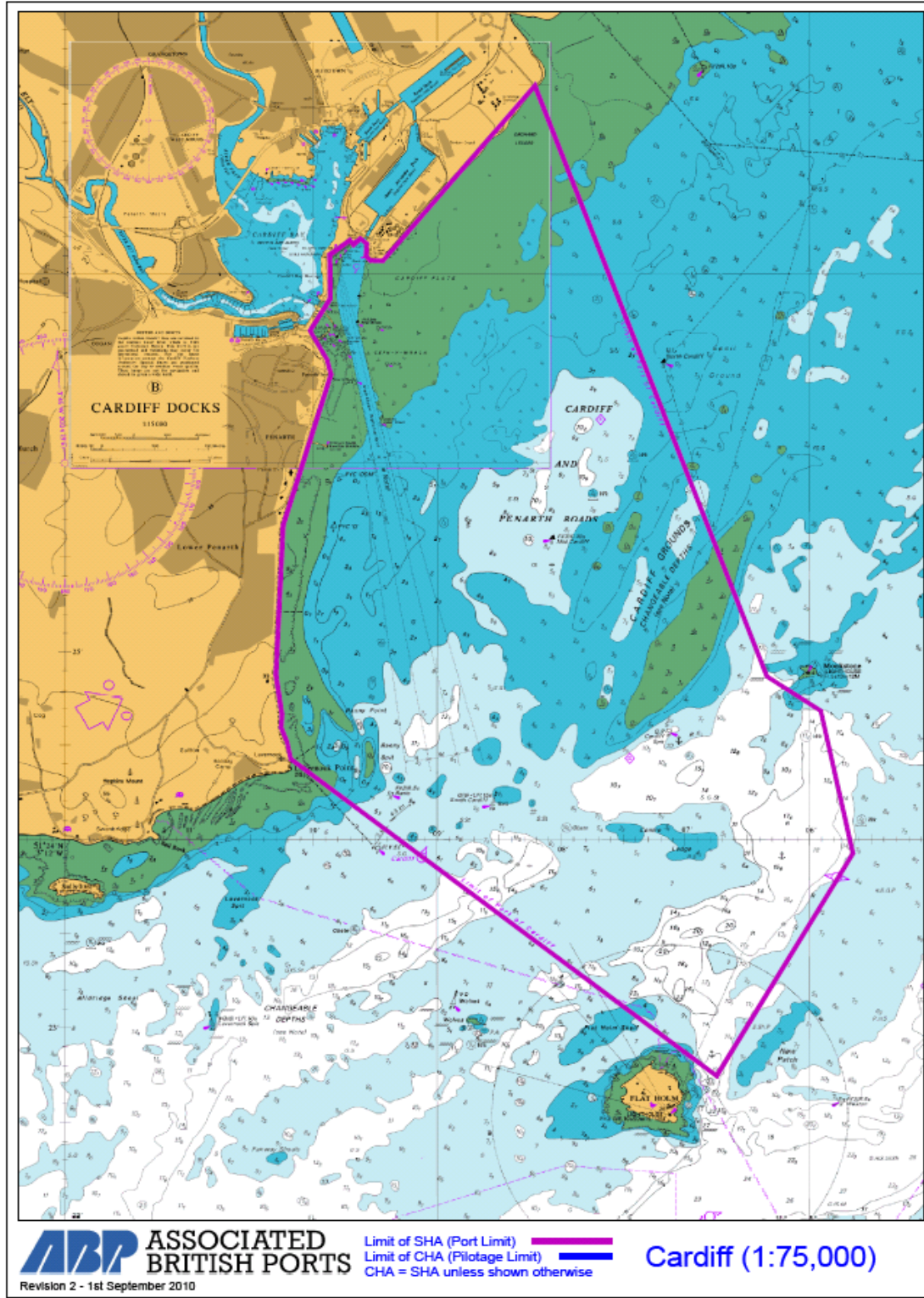
**No 3 dock Basin entrance**



**Approaching Barry Harbour**



**Guideline no 11 Port of Cardiff**



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## Port of Cardiff

The Port of Cardiff operates on a tidal basis (nominally 4 hrs before to 4hrs after HW)

There is a wealth of Information regarding ship acceptance and berth information on the [South Wales Ports Website](#)

Vessels should not proceed inwards of the outer Wrach buoy or outwards from the Queen Alexander Lock without the permission of Cardiff LPS. Full procedures are available in ALRS volume 6 (1)

Admiralty Publication NP 37 gives local Pilotage and anchorage information

Commercial vessels are locked in and out within the tidal window according to a tidal plan that is collated by Cardiff LPS with input from the Harbour Master and Pilots. The tidal plan is not based upon a first come first served basis but will consider many parameters including but not limited to:

- Draft of Vessel
- Weather conditions
- Range of tide ( spring / Neap)
- Availability of tugs
- Considerations of owners/agents
- Ordering and availability of pilots and to make best use of those available pilots

When vessels are in the locks outbound or reporting inbound, they will be advised of other traffic movements by Cardiff LPS. It is then the responsibility of each vessel to ensure that they have made suitable arrangements for passing. The following should be considered.

- Vessels will not usually pass in the Wrach Channel
- Vessels waiting for an outbound vessel should remain sufficiently clear of the entrance of the Wrach Channel so as not to impede the outbound vessel.

An inbound vessel that is not capable of turning and exiting the Wrach Channel should not pass the point of no return (a position to the South of the Wrach Channel that it can safely turn around given the constraints of the vessel, weather and tide) until it has been advised that the lock is ready in all respects and the QA bridge fully pulled back.

The approach to Cardiff Lock is particularly open to winds from the NW, and from E through to SW

There are various flows across the Wrach Channel and approaches at different states of tide. Sluicing from the Impounded water of Cardiff Bay often

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takes place on the Ebb tide and sometimes on the flood tide when levels are high. Occulting amber light denotes sluicing from the barrage.

**Cardiff Barrage from Cardiff Lock**



**Looking down Wrach Channel at Low Water**





**Entrance to Cardiff lock at LW**

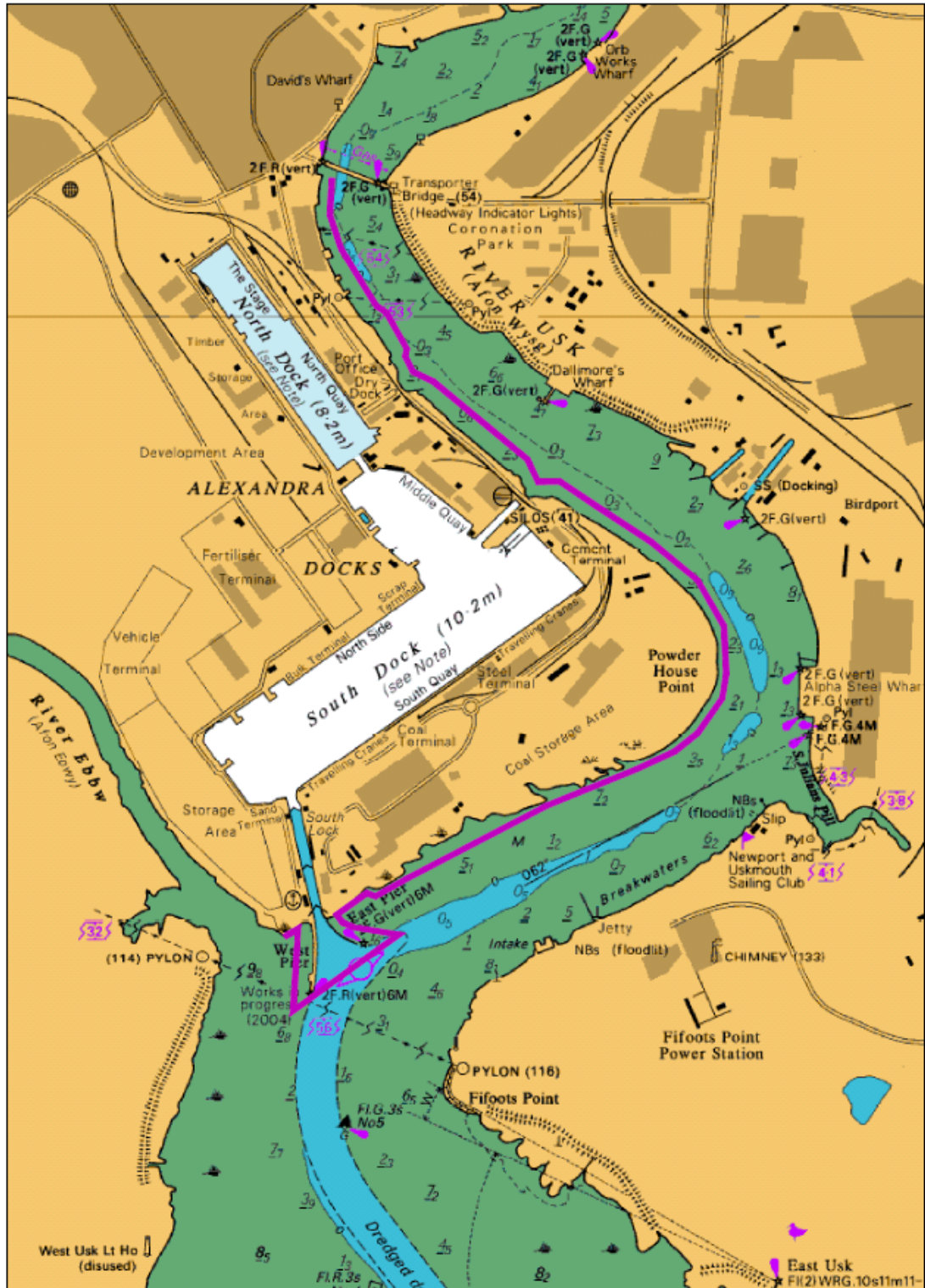


**Approach to Cardiff lock viewed from the Inner Wrach**



**Guideline no 12**

**Newport Dock**



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## Newport Dock

Newport Dock operates on a tidal basis (nominally 4 hrs before to 4hrs after HW)

There is a wealth of Information regarding ship acceptance and berth information on the [South Wales Ports Website](#)

Vessels should not proceed inwards of the Newport No1 buoy or outwards from the Lock without the permission of Newport radio (LPS). Full procedures are available in ALRS volume 6 (1)

Admiralty Publication NP 37 gives local Pilotage and anchorage information

Commercial vessels are locked in and out within the tidal window according to a tidal plan that is collated by Cardiff LPS with input from the Harbour Master, Newport LPS and Pilots. The tidal plan is not based upon a first come first served basis but will consider many parameters including but not limited to:

- Draft of Vessel
- Weather conditions
- Range of tide ( spring / Neap)
- Availability of tugs
- Considerations of owners/agents
- Ordering and availability of pilots and to make best use of those available pilots

When vessels are in the locks outbound or reporting inbound, they will be advised of other traffic movements by Newport Radio (LPS). It is the responsibility of each vessel to ensure that they have made suitable arrangements for passing, the following should be considered.

- The most constrained vessel to decide on the manner of the passing and at which one of the established passing places to perform it established passing places as follows
  - On the Channel straight between 2 and 4, 3 and 5 Buoys
  - To the North of Uskmouth PowerStation
- Vessels waiting for an outbound vessel should remain sufficiently clear of the entrance of the Newport approach Channel so as not to impede the outbound vessel.

Any vessel inbound for Newport Dock that is not capable of turning and exiting the River Usk should not pass the point of no return (a position nominally between the Newport Deeps Buoy and the Newport No1 buoy that it can safely turn around given the constraints of the vessel, weather and tide) until it has been advised that the lock is ready in all respects.

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The entrance to Newport Lock is on the bend of the river at the confluence of the rivers Ebbw and Usk. There are lead in jetties to the East and West of the lock entrance. These Jetties are piled and therefore the tide flows through them. Large vessels are stemmed for a HW entry so as to, not only ensure sufficient water, but to also make their approach to the lock in fairly slack conditions. The prevailing winds are from the South West.

**Entrance to Newport Lock with visible flow past no 5 buoy**



Not Contained

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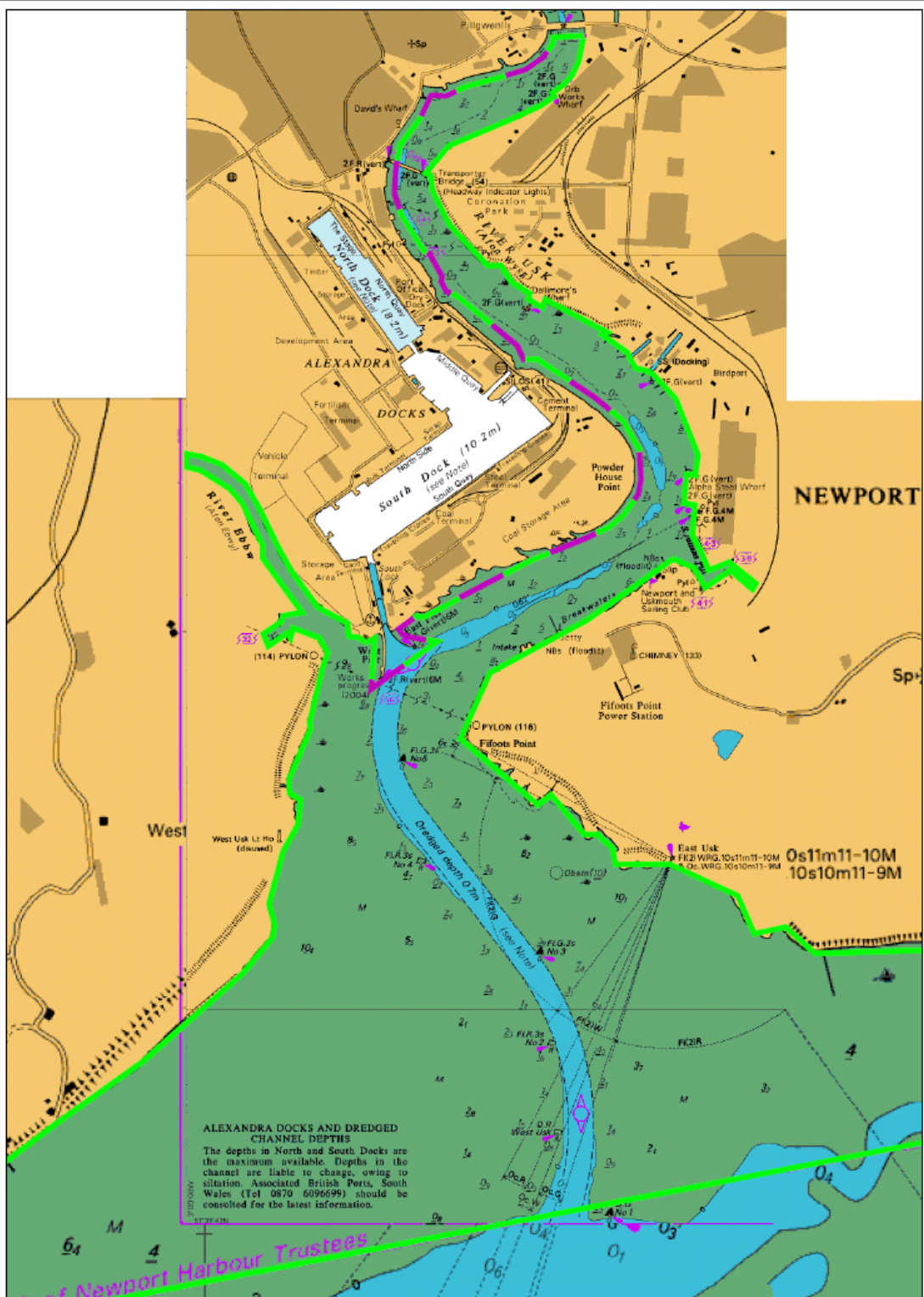
**Looking East from Newport lock**





**No 5 buoy from west pier showing extent of the mud at Fifoots Point**



**Guideline no 13Newport Harbour**



**ABP ASSOCIATED BRITISH PORTS** Limit of ABP SHA (Port Limit)  Limit of NHC SHA (Port limit)  Newport SHA Limits  
 Revision 2 - 1st September 2010 NB Approximate Limits Only

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## **Newport Harbour (River Usk)**

Newport Harbour operates on a tidal basis (nominally 4 hrs before to 4hrs after HW)

Vessels should not proceed inwards of the Newport No1 buoy or outwards from the independent berths of the River Usk without the permission of Newport radio (LPS). Full procedures are available in ALRS volume 6 (1)

Admiralty Publication NP 37 gives local Pilotage and anchorage information

Commercial vessels transit the river within the operational constraints of the Individual tidal berths according to a tidal plan that is collated by Cardiff LPS with input from the Harbour Master, Newport LPS and Pilots. The tidal plan is not based upon a first come first served basis but will consider many parameters including but not limited to:

- Draft of Vessel
- Weather conditions
- Range of tide ( spring / Neap)
- Availability of tugs
- Considerations of owners/agents
- Ordering and availability of pilots and to make best use of those available pilots

When vessels are alongside one of the Independent berths (intending to sail) or reporting inbound, they will be advised of other traffic movements by Newport Radio (LPS). It is the responsibility of each vessel to ensure that they have made suitable arrangements for passing, the following should be considered.

- The most constrained vessel to decide on the manner of the passing and at which one of the established passing places to perform it.  
Established passing places as follows
  - On the Channel straight between 2 and 4, 3 and 5 Buoys
  - To the North of Uskmouth PowerStation
- Vessels waiting outside the Newport Channel for an outbound vessel should remain sufficiently clear of the entrance of the Newport approach Channel so as not to impede the outbound vessel.

Any vessel inbound for one of the Independent berths on the River Usk that is not capable of turning and exiting the River Usk should not pass the point of no return (a position nominally between the Newport Deeps Buoy and the Newport No1 buoy, that it can safely turn around given the constraints of the vessel, weather and tide) before it is clear that the tide is on track to reach a tidal height that is sufficient to safely berth the vessel.

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## **Liberty Steel Wharf River Usk Newport** **Berth Information**

This is a self scouring N.A.A.B.S.A berth water totally dries out twice daily between tides vessel lies aground

### **GENERAL**

Mir Steel is situated on the outside of the bend in the river at Powder House Point. It is considered favourable to berth bow into the direction of flow. To this end, vessels are stemmed accordingly by Cardiff LPS.

### **LENGTH OF BERTH**

150.20M

### **HEIGHT**

River bed to quay floor 11.00M

### **RESTRICIONS**

#### **LOA**

Max 176,

#### **BEAM**

Not to Exceed 30.00m

#### **DRAFT**

For Max permissible laden draft it is necessary to deduct 2.5m (3.0m for vessels between 176 and 180m) from the predicted tidal height in ACD. (Refer to guideline No3 and bear in mind that atmospheric pressure, force and direction of wind exerts considerable influence).

All tidal predictions are subject to variation by reason of weather conditions and other circumstances and are not guaranteed (see Guideline No3)

### **SWINGING**

Vessels between 176m and 180m must berth Starboard Side to if loaded



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If Swinging during the hours of darkness, vessels exceeding 160m must employ a 2<sup>nd</sup> Pilot.

Looking south from Mir Berth build up of mud past extremity of berth



Looking West from Mir (mud restricts swinging room)



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Looking North along Mir berth



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## Birdport River Usk Newport Information

### GENERAL

- Birdport has a roughly NE/SW aspect, situated on the East bank of the River Usk, to the North and opposite of Powder house Point.
- It is a converted dry-dock with gates that provide 2 NAABSA berths the innermost of which is an all weather terminal
- Its situation means that it is entered at approximately 90 degrees to the tidal set and with the prevailing winds astern or on either quarter.
- To the NW of the Entrance there is a build up of mud and remnants of some disused wooden pilings.

(Birdport entrance viewed from the North, build up of mud very evident)



- The controlling depth is the entrance cill being 3.13 m above Admiralty Chart Datum. To this an allowance for UKC of 40cm is added to vessels up to 17m beam and 50cm for vessels over 17m beam giving allowances respectively of to apply to ACD tide height of 3.53 and 3.63m

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The Gantry Crane at Birdport restricts air draft. The underside of the lowest gantry crane is 31m above ACD the following outlines the calculation method to determine clearance:

Gantry height	31.0m above ACD
HOT ( predicted)	11.6m
WL to gantry	19.4m
Keel to truck	23m
Even keel draft	5m
Air draft	18m
Clearance	1.4m

### **BERTHING**

There are 2 parameters that govern entrance to Birdport

- **Height of tide** - Must be greater than the draft of the vessel plus the stemming allowance ( that includes a UKC allowance)
- **Tidal / current flow** -This can vary considerably, the following factors are significant:-
  - Spring or Neap Tide
  - The amount of top run in the river due to recent rain / snow melt
  - The effect that the direction of the wind / barometric pressure has on the “holding up” or “running away” of the tide

For the above reasons the accepted berthing window for Birdport is approximately 30 min before HW to 30 min after HW. Sailings have to be accommodated to realise these windows

### **UN- BERTHING**

Vessels are usually required to un-berth from Birdport moving astern.

There are 2 parameters that govern exit to Birdport

- **Height of tide** - Must be greater than the draft of the vessel plus the stemming allowance of 3.53m for vessels under 17m beam and 3.63 for vessels over 17m beam.
- **Tidal / current flow**

The flow of the river being 90 degrees to the berth is a consideration. One that

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Is made more important when it is considered that most vessels are right handed when going astern and the prevailing winds are usually on the stb side when head in at Birdport.

While a vessel may have plenty of water to sail early on the tide (if in ballast) the flow of the river on the middle of the flood is too strong to safely back out into the river. Busy tides at Birdport, when multiple vessels intend to un-dock and dock, require careful planning and timing to ensure that outbound vessels are underway as soon as there is sufficient water and it is safe to do so. 1 hour to HW has proved to be the optimum time, though at times of fast river flow it may be prudent to delay. In any case, any intended dockings will need to be completed on or around HW, this can sometimes be stretched to around 30 minutes after HW dependent on flow rates.

Vessels using the all weather terminal at Birdport that are required to lower their foremast are permitted to undertake this within the Harbour limits and transit the harbour area with masts lowered between dusk and dawn provided that it is safe to do so.

(Vessel preparing to back out of Birdport note disused wooden pilings to North)





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