Forth Ports Limited

Port of Dundee

Marine Guidelines and Port Information

February 2022

FORTH PORTS LIMITED	**Document ID** FPS PMSC OP 15/14	**Authorised By** HMFT	**Original Date** April 2019
Marine Guidelines and Port Information (Tay)	**Date Revised** February 2022	**Revised By** HMFT	**Review Due** February 2023

LIST OF AMENDMENTS

DATE	DETAILS OF CHANGES	PAGE NUMBER
23rd April 2019	NEW EDITION	
21st August 2019	New layout and addition of survey names and dates of surveys	19
5th December 2019	Addition of Dundee Passenger Vessel Guidelines to Section 1.3	6
August 2021	Full review, removal of RD & UKC, tug fleet updated	All
February 2022	Full review	All

Contents

APPLICATION

These guidelines apply to all vessels over 40m in length unless otherwise stipulated. Vessels under 40m in length when operating on the Tay should operate and maintain an appropriate safety management system.

1 DOCKING AND SAILING GUIDELINES

1.1 Introduction

The following guidelines have been drawn up for the Firth of Tay within the Forth Ports area of jurisdiction, including the Port of Dundee.

The guidelines form part of the formal risk assessment process and are continuously under review in the light of operational experience. Extensive consultation between all major stakeholders is imperative when producing these guidelines.

It is not intended that these guidelines are a rigid set of regulations or rules to be followed on all occasions, they are intended as guidance to ships Masters, Agents, Pilots, towage providers and the Port Authority to allow safe and effective scheduling of vessels.

Further discussions on some occasions may be required between the Duty Pilot, Forth and Tay Navigation Service, the Harbour Master and the vessel's Master, taking into account the prevailing weather and tidal conditions and any other special circumstances.

The Port Authority reserves the right to require a vessel to take a tug or comply with any special instruction which may be considered necessary according to the particular circumstances of the case.

The following assumptions have been made in preparing these guidelines:

- Favourable weather conditions.
- Tidal ranges within predicted limits.
- No adverse local activity and/or conditions.

Non-standard vessel will be assessed on an individual basis.

The guidelines are presented in a tabular form; the tables contain an identification letter indicating tidal constraints followed by a numerical indication of the number of tugs recommended.

1.2 Pre-Arrival

Shipping traffic in the Firth of Tay and within the port limits of the Port of Dundee, are managed by the Forth and Tay Navigation Service. Vessels must advise of their arrival by submitting a Proposed Vessel Movement form through their nominated agents.
Vessels must call Dundee Harbour Radio on VHF Channel 12 at least one hour from the Fairway Buoy.

All vessels over 90 metres and all laden tankers irrespective of size board their pilot at the fairway buoy. Vessels 90 metres or less, can board their pilot at the Lady Buoys.

Vessels bound for Perth will pass through the port limits and through the Tay Road and Tay Rail Bridges before changing the Dundee Pilot at Balmerino, which is the western limit of the Port of Dundee.

1.3 Berthing Requirements

General information:

- Tidal range: Spring 4.8m, Neap 2.2m
- Slack Water is HW - 6
- Scheduled times are: Inbound – Fairway buoy, Departure – from berth
- Minimum Under Keel Clearance: 0.5m
- Recommended Bollard Pull stated later in this document

Pilots to send a FTCR (First Time Caller Report) to FTNS on vessel manoeuvrability after first visit for comment entry into IPOS.

Towage for offshore support vessels, specialised vessels, deadship moves and vessels with deficiencies will be determined by the Harbour Master.

Project Cargo Vessel Guidelines

The information detailed below refers to **Project Cargo Vessels**, which are single screw. Standard meteorological conditions of maximum wind gusts not exceeding 25 knots and good visibility also apply.

U Unrestricted **F** Not during ebb
Numerical indicates tug numbers

These guidelines should be used to determine tug allocation and scheduling. Actual tug allocation may be increased if appropriate.

Project Cargo Vessels				
Vessel Length (metres)	Tugs #			
	Inbound		Outbound	
	Flood	Ebb	Flood	Ebb
<90m	U0	U0	U0	U0
90 – 120m	U0*	U0*	U0*	U0*
120 – 140m	U1**	U1**	U1	U1
140 – 180m	U2	F	U2	F
>180m	U3	F	U2	F

* No tug required unless vessel 90m –120m, which may require a tug for berthing port side to. This is to be agreed in advance with the Harbour Master.

** Vessels over 120m berthing port side to will require 2 tugs for berthing.

Standard Vessel Guidelines

The information detailed below refers to **Standard Vessels**, which are single screw with no bowthruster. Standard meteorological conditions of maximum wind **gusts** not exceeding 25 knots and good visibility also apply.

U Unrestricted **F** Not during ebb
Numerical indicates tug numbers

These guidelines should be used to determine tug allocation and scheduling. Actual tug allocation may be amended as appropriate.

Standard Vessels				
Vessel Length (metres)	Tugs #			
	Inbound		Outbound	
	Flood	Ebb	Flood	Ebb
<90m	U0	U0	U0	U0
90 – 120m	U0*	U0*	U0*	U0*
120 – 140m	U1**	U1**	U1	U1
140 – 180m	U2	F	U2	F
>180m	U3	F	U2	F
Oil Rigs	Rig Move Guidelines			

* No tug required unless standard vessel 90m –120m, which may require a tug for berthing port side to. This is to be agreed in advance between, Harbour Master.

** Vessels over 120m berthing port side to may require 2 tugs for berthing.

Passenger Vessel Guidelines

A passenger vessel is assumed to have a bow thruster, twin screw & rudders or Azipods.

Vessels not meeting these criteria will be categorized according to the Cruise Vessel Information Form which should be completed and returned before submission on a Proposed Vessel Movement (PVM) Form.

The following guidelines are based on Cruise Vessels with **no tugs**, further consideration/discussions can be given to scheduling arrival & departure times should a tug(s) be utilised. They are also subject to meteorological conditions with maximum wind gusts of **20** knots**.**

First time caller Passenger Vessels will take a tug(s) until the vessel is assessed and report submitted.

Dundee Times

Arrival: at the Fairway buoy (**POB - Berth - 1.5 hours, Flood tide)**
(POB - Berth - 2 hours, Ebb tide)

Departure: Depart Berth

Pilots to report (using FTCR) to FTNS on vessel maneuverability after first visit for comment entry into IPOS.

Class A - Length < 120m

Arr'	-6	-5	-4	-3	-2	-1	HW	+1	+2	+3	+4	+5	+6
Neap													
Spring													

Dep'	-6	-5	-4	-3	-2	-1	HW	+1	+2	+3	+4	+5	+6
Neap													
Spring													

Class B - Length 120 - 180m

Arr'	-6	-5	-4	-3	-2	-1	HW	+1	+2	+3	+4	+5	+6
Neap							*	*					
Spring							*	*					

Dep'	-6	-5	-4	-3	-2	-1	HW	+1	+2	+3	+4	+5	+6
Neap							*						
Spring							*						

Class C - Length > 180m (Arrival: POB HW -2 to -3, departure: sail on flood tide up to HW -1)

Arr'	-6	-5	-4	-3	-2	-1	HW	+1	+2	+3	+4	+5	+6
Neap													
Spring													

Dep'	-6	-5	-4	-3	-2	-1	HW	+1	+2	+3	+4	+5	+6
Neap													
Spring													

*** Amber segments requires Pilot consultation**
For vessels/tides which are borderline: consult Harbour Master.

1.4 Towage Minimum Bollard Pull Requirement

The following tables are a guide to the minimum combined bollard pull requirement for tug allocation. These tables are guidelines and certain vessels may require a higher level of towage than indicated below depending on the weather, manoeuvrability of the vessel and the state of the tide.

When allocating 2 or more tugs to a job, consideration must be given to the mix of tugs to ensure that there is an appropriate balance with the tugs employed.

	1 Tug	2 Tugs	3 Tugs
90m - 120m	N/A or 20t*	N/A	N/A
120m – 140m	20t	120t	N/A
140m - 180m	60t	120t	N/A
> 180m	N/A	120t	180t

* Vessels 90m – 120m may require a tug for berthing port side to

1.5 Tug Fleet

The following tugs operate on the Forth and Tay:

Company	Tug Name	Bollard Pull	Type	LOA	Beam	Draft
Targe Towing – Forth	Fidra	50t	Voith	30.0m	11.0m	5.3m
	Inchcolm	70t	ASD	22.8m	12.0m	5.7m
	Craigleith	70t	ASD	28.2m	13m	5.5m
Ineos FPS/Targe Towing – Hound Point	Hopetoun	124t	ASD	43.5m	13.5m	6.7m
	Dalmeny	62t	ASD	34.3m	10.5m	4.6m
	Corringham	68t	ASD	32.0m	11.7m	5.2m
	Queensferry	70t	ASD	24.4m	11.3m	5.5m
Targe Towing – Dundee/Aberdeen	Collie T	20t	Twin screw nozzles	26m	10m	4.0m
	Kittiwake	62t	ASD	24m	11.3m	5.1m
	Peterel	70t	ASD	24.4m	11.3	5.5m

Tugs operating west of the Fairway buoy will be provided by Targe Towing Ltd.

As per the Forth Ports ' Towage Guidelines, standard barges (90 x 30m)will take two harbour tugs for berthing / sailing/ shifting. Larger / specialised barges, or barges with large deck cargo may require three harbour tugs. This will be confirmed by the Harbour Master.

1.6 Abort Practice

The criteria set out within this document has been agreed following risk assessment and consultation with the appropriate parties. There may however be occasions when Masters or Pilots have concerns over the prevailing conditions. They may therefore consider that it would be prudent to abort the operation before the limits in these guidelines are reached. These decisions can only be made at the time by the Master and Pilot after assessing the situation and the circumstances of any particular case. Masters and Pilots are reminded that discussion and agreement of an appropriate abort position is an integral part of every passage plan. The intentions should then be communicated to FTNS and Dundee Harbour.

1.7 Vessel Operator Restrictions

Vessels are scheduled in to / out of ports on the Tay in accordance with the under keel clearance and scheduling criteria specified "Ruling Depths and Underkeel Clearances – Tay" document.
Vessel operators who require additional restrictions such as increased under keel clearance margins, over and above those required by the port, must ensure that these requirements are specified to FTNS at the time of booking the vessel's arrival/departure/shift. This is to ensure that vessels are booked for the correct time, and to ensure that unnecessary delays or impacts to the shipping schedule are avoided.

Agents are required to ascertain specific requirements prior to making arrival or departure bookings through FTNS.

2 WEATHER PARAMETERS

2.1 Minimum Visibility Criteria

Vessel Size (meters)	Berthing (Distance miles)	Sailing (Distance miles)
<90m	0.5	0.25*
90m – 150m	0.5	0.25*
> 150m	0.5	0.5
Oil Rigs	2.0	2.0

* Vessels transiting bridges minimum 0.5 miles

2.2 Wind Parameters

Wind speed is for a steady wind, measured from Dundee anemometer.

	Wind Parameters (knots)	
Vessel Size (meters)	Berthing	Sailing
<90m	At discretion of duty Pilot (transit vessels ≤ 40kts	
90m – 150m	At discretion of duty Pilot	
150m +	≤ 25kts	≤ 25kts
Oil Rigs	≤ 15kts	≤ 15kts

3 TAY ROAD BRIDGE

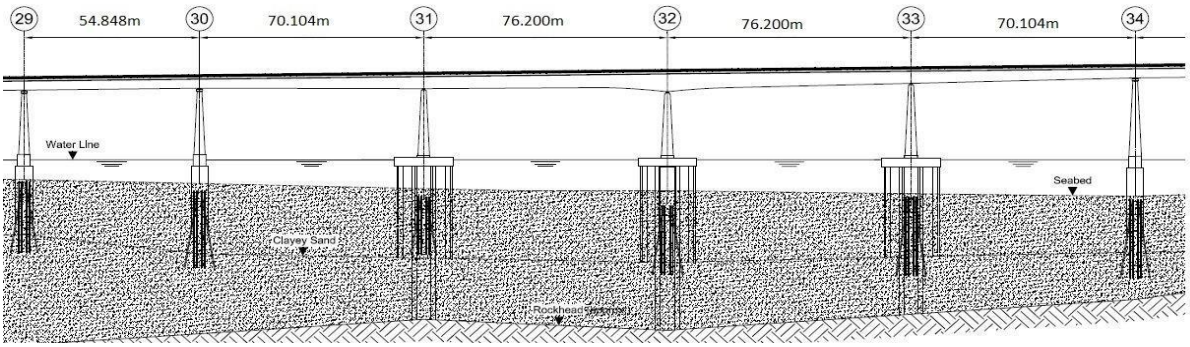
The maximum permissible air draft to transit the Tay Road Bridge is **less than 22m.**

The minimum visibility for vessels transiting the bridge is 0.5 nautical miles. When the Tay Road Bridge is not visible from Port Control visibility is less than 0.5 miles

The Road Bridge has additional fendering on the piers, which act as the main navigation channel numbered as below. The fendering is comprised of sacrificial concrete structures, which have low-level blue lighting to indicate their outline along with the charted navigation lights.

The channels between Piers 30 and 31 and between Piers 33 and 34 are not to be used except in an emergency.

North end *South end*

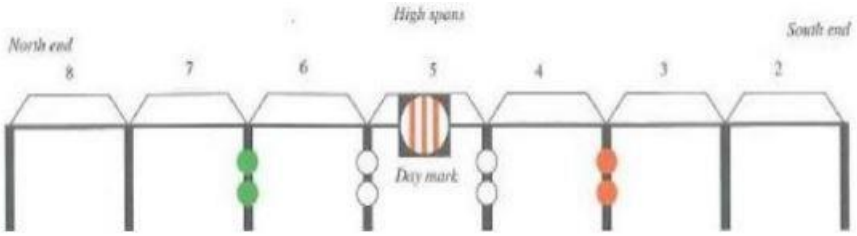


It should be noted that the transit between the bridges should not be attempted without local knowledge.

4 TAY RAIL BRIDGE

The maximum permissible air draft to transit the Tay Rail Bridge **is less than 22 metres**. The minimum visibility for vessels transiting the bridge is 0.5 nautical miles

The main navigation channel through the bridge is through the fifth raised span from the South end of the bridge. This span is marked with 2 fixed white lights and a day signal of a circle with red and white vertical stripes.



Obstructions exist in the vicinity of the 4th span and this span should only be used with caution. It should be noted that the transit between the bridges should not be attempted without local knowledge.

5 PRECAUTIONARY AREA, PIPELINES and CABLES

A military exercise area exists at Buddon Ness. Ranges fire west south west and south across Monifieth Bay and east across Carnoustie Bay. Firing is only undertaken when the area is clear of shipping

A natural gas pipeline runs from the north bank at Monifieth (56°28.83'N 002°47.92'W) to Tentsmuir Point (56°26.61'N 002°49.62'W) on the south and is marked by yellow beacons at either side.

There are two Submarine cable areas bounded within the following points:

Cable Area		North Side	Mid-Channel	South Side
West of the Road Bridge	West Boundary	56°26.22'N 002°56.79'W	56°26.78'N 002°58.81'W	56°27.14'N 002°58.88'W
	East Boundary	56°26.56'N 002°56.46'W		56°27.30'N 002°58.26'W
East of the Road Bridge	West Boundary	56°27.17'N 002°54.33'W		56°28.09'N 002°54.60'W
	East Boundary	56°27.17'N 002°53.96'W		56°28.02'N 002°54.07'W

6 PILOT VESSEL OPERATIONS IN RESTRICTED VISIBILITY

Forth Ports and terminal operators have parameters in place, which require ports, docks or terminals to be closed to shipping movements during periods of restricted visibility.
However, there will be times when despite ports, docks or terminals being closed to vessel movements Pilot Vessel operations will still be conducted in the river.

Restricted visibility is all circumstances where visibility is, or is expected to, reduce to a distance where the Pilot Vessels' normal ability to perform may be impaired. Such restrictions in visibility could be due to fog, mist, snow, rain, sleet or any other conditions that impair visibility. In circumstances where restricted visibility exists, or is likely to exist, the Pilot Vessel Coxswain shall as part of the passage plan and risk assessment process decide how the operation will be conducted, what dangers are associated with operating the Pilot Vessel in restricted visibility and what risk reduction measures should be applied. When completing this assessment the following points should be considered, along with others as deemed necessary in the circumstances:

Allocation of extra time for the Pilot Vessel operation:

- Conduct of the Pilot Vessel at a safe and appropriate speed.
- Posting of additional lookout(s) onboard the Pilot Vessel.
- Ensuring appropriate setup of navigational equipment on the Pilot Vessel.
- Alteration of passage plan to incorporate increased passing distances.
- Heightened risk when coming alongside a vessel.
- Heightened communication with both VTS and the attended vessel.

The Pilot Vessel Coxswain should inform the Pilot/Master of any concerns that he may have as to the safety of his vessel and the boarding/disembarking operation. If necessary, the Pilot Vessel Coxswain should, in consultation with the Duty Pilot or at night the next pilot on turn, abort the operation in conjunction with the "Suspension of Operations" procedure in the Pilotage Code of Practice. As per this procedure, the situation should be reviewed every hour to assess whether conditions are static, deteriorating or improving.

7 TOWAGE AND BARGE OPERATIONS

The Towage Guidelines for operations on the Forth and Tay can be found on the Forth Ports website.

When operations involving barges or vessels without propulsion and/or crew are booked; the agent or barge operator should provide a method statement. Port of Dundee requires the approved Barge Proforma to be completed, which can be found on the Forth Ports website or on request from FTNS.
To aid completion of the Barge Proforma please see Towage Guidelines on the Forth Ports website.

8 VESSELS WITHOUT APPROPRIATE NAVIGATIONAL CHARTS

Vessels are not permitted to enter Port of Dundee CHA limits without being in possession of an up to date edition of Admiralty Chart 1481 or International Chart 1543. In addition, vessels bound for Perth require Admiralty Chart 1479.

Pilots boarding vessels which do not have the appropriate charts should, for inbound vessels, put the vessel to the nearest and most appropriate anchorage and for sailing; vessels must not leave the berth.

Electronic Charts must be approved and have a backup (either a second approved electronic system or paper charts).

Foreign charts are acceptable if they conform to the international numbering system. While Russian charts do not conform to the above standard they are recognised by the Hydrographic Office and are therefore acceptable for use.

9 USE OF BOATMEN

The procedure for the Port of Dundee requires vessels making fast or letting go at all berths in the port to use the services of the licensed boatmen. Forth Ports operates the Licensed Boatmen, they will be arranged by the Port Authority for vessels booked through FTNS.
Small vessels may, in certain circumstance, be exempt if Section 11 is complied with.

10 TESTING ENGINES BEFORE ARRIVAL OR DEPARTURE

All vessels should test their engines astern before entering any lock system or berthing at port, harbour dock or terminal.
Any defects or failure of the engine to go astern should be reported to FTNS and the berthing or docking aborted.

Mariners are advised of the following precautions to be exercised prior to and when testing engines prior to departure.

- Ensure that the gangway is tended and access is prohibited during test or the gangway is removed.
- Cease cargo operations. Tanker manifolds must be disconnected. Shore cranes are boomed clear of the vessel
- No bunkering operations are underway and any hoses are disconnected.
- If necessary inform stevedores
- Test pitch at each console before engaging engines
- Ensure mooring lines are out and fast before engines are tested under load
- Tend mooring lines throughout.
- The proximity of other vessels and in particularly small craft is considered prior to the test.
- Ensure full understanding of the Emergency Stop procedure and be prepared to activate it should any fault be discovered whilst testing.

11 SAFE ACCESS AND SELF-MOORING

The Master of any vessel should ensure there is safe access before allowing anyone to step ashore. This is applicable irrespective of the form of mooring operation conducted.

Safe Access
No Forth Ports owned port has an area specifically designed to ensure safe access to and from small vessels.

Vessel operators should ensure they give notice of arrival to allow a berth to be allocated and the most suitable means of access to be identified and risk assessed. The industry's recommended hierarchy of access arrangements for small craft, starting with the safest first, is as follows:

- Gangway between small craft and the quay, quay steps, quay wall, pier or other vessel/small craft. Stepping directly (short step, level access) between the small craft and the quay, quay steps, quay wall, pier, other vessel/small craft or pontoon.
- Fixed ladder from the quay, quay wall, pier or jetty.
- *Portable ladder between the small craft and the quay, quay wall, pier or jetty.

*Only permitted where no other safe means of access is reasonably practicable.

Self-Mooring
Vessels should where possible utilise the services of licensed linesmen. However, it is recognised that the common occurrence in the small vessel sector. It is recognised that this may be a reasonably practicable operation provided that the hazards have been mitigated.

All vessels calling at a Forth Ports owned port should have a safe system of work (SSOW) if they plan to self-moor.

The SSOW should consider the following:

- Access - some quays/berths have additional risk; for example, working at height with unguarded edges and vertical ladders.
- The size and type of vessel including its manoeuvrability, ability to hold position alongside in the prevailing circumstances and the conditions for the transit of personnel to conduct the mooring operation.
- Potential dangers posed to personnel from the prevailing environmental conditions, communication between those involved and appropriate supervision by a competent person.
- As none of our berths have been designed for the conduct of self-mooring, a risk assessments should be carried out by the vessel wishing to use the berth to address the risks.
- Where crew numbers allow consideration should be given to posting a member of the crew, with good communication with the helmsman, to monitor that those leaving and returning to the vessel do so safely.
- Where the vessel side is guarded, personnel should not climb over bulwarks or transit along a rubbing band.
- The mooring arrangement is effective in restricting movement of the vessel for the foreseeable weather and tidal conditions.

  The Master of a vessel remains responsible for the safety of their crew during self-mooring operations.

Self-Mooring Hierarchy

The following self-mooring operations may be permissible, in order of hierarchy:

1	A means of self-mooring that can be conducted safely within the confines of the vessel using pre-rigged lines or lassoing bollards from the vessel. The vessel should be fully secured before opening the bulwark gate and/or transiting to the quay/berth
2	A safe and effective means of partially self-mooring within the confines of the vessel using not less than two lines before opening the bulwark gate and/or transiting to or from the quay/berth to complete the operation. In such circumstances, additional control measures may be necessary to address hazards regarding unrestrained movement of the vessel.
3	**Only if it is not possible to achieve full or partial mooring of the vessel prior to embarkation or disembarkation, in the manner detailed above**, should crew transit to or from the quay or berth while the vessel is unsecured. The risk assessment should account for the manoeuvrability of the vessel, its handling characteristics, the stability of the platform, the vessel's ability to hold position alongside in the prevailing circumstances and the conditions for the transit of personnel to conduct the mooring operation.

Where additional hazards have been identified or existing control measures have been assessed as impractical or ineffective given a change of condition or defect. The use of licensed linesmen should be used.