



Towage Manual

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1. Introduction

This booklet has been produced to provide a source of information on tugs and towage procedures for Masters of vessels using Warrenpoint Harbour. It should be read, as appropriate, in conjunction with the Port's Minimum Towage Guidelines which state minimum towage requirements for each berth within the port for various vessel sizes and types Navigating within the port limits and approaches.

Towage within Warrenpoint is provided commercially by 1 independent operator. Warrenpoint Harbour does not provide towage. Whilst stipulating minimum towage requirements and monitoring movements within the port through the Local Port Service (LPS) Warrenpoint Harbour Radio, under normal circumstances Warrenpoint Harbour are not involved with the contracting of towage services.

2. Minimum Towage Requirements

Mariners are advised of the following minimum Towage Requirements that are in operation within Warrenpoint Harbour and contained in Warrenpoint Harbour's Marine Safety Management System.

These Towage Guidelines are effective for average wind speeds up to 20kts. For wind speeds in excess of 20kts, Towage requirements will be assessed by the Ship's Master and Pilot and confirmed with the Harbour Master on behalf of the Harbour Authority.

These Minimum Towage guidelines have been jointly produced by Warrenpoint Harbour Authority and Carlingford Lough Pilots Ltd. The guidelines are designed to be flexible and to represent a guide to the minimum level of towage support applicable to each movement. Notwithstanding anything contained in these guidelines, the towage requirement for an individual vessel remains the prime responsibility of the Master after due consultation with the pilot and Harbour Master. These guidelines are not mandatory although the Harbour Authority may, in certain circumstances, use its power to direct vessels to take tugs as required, by assessment, to mitigate particular risks, this being particularly pertinent when a damaged or disabled vessel is to be moved within the port.

The guidelines are based on tugs with a **minimum bollard pull of 7 Tonnes**.

It is assumed that all the vessels manoeuvring equipment is operational and effective. Where this equipment is inadequate or defective additional towage may be applied

Bow and Stern thrusters if fitted are to be fully operational before being accepted as an alternative to a tug. Hi-lift rudders and azimuth capable main propulsion may also be taken into account when considering a vessels' manoeuvring capability, if these are fully operational.

The number of tugs required may be increased when unfavourable conditions exist or when the handling characteristics of the vessel are in doubt.

Cruise vessels and Specialised Ships will be individually risk assessed.

In assessing any variation from the guidelines, the following points will be taken into account;

- The draught of the vessel.
- The minimum under keel clearance during the planned passage.
- Range of the Tide on the date in question.
- Whether the berthing operation is going to take place on the flood or ebb of the tide.
- The forecast weather conditions, including visibility.
- Manoeuvring aids – Thrusters, size and number.
- Type of propulsion system – Controllable Pitch, Fixed Pitch, Water jet or Azipod.
- Type of Steering system – Single, twin or triple rudders, and whether high-lift or not.
- The windage area of the vessel.
- The Gross Registered Tonnage in relation to the vessels principal dimensions.
- Unusual design of vessel.
- Any reported defects to the vessel.
- Type of main Engine – Air start, Gas Turbine, Diesel Electric, Gearbox
- Any physical restrictions or reductions in available manoeuvring space in the approaches to the port or at the berths

There may be other circumstances such as abnormal berthing arrangements or a reduction in available towage assets, which would also call for a more detailed assessment of a proposed shipping movement.

NOTE: The Master of a vessel retains the right to ask for towage in excess of these Guideline

All towage operations within Harbour Limits are subject to UK Standard Conditions for Towage and other services (revised 1986).

Vessel Length	Minimum Tugs	Additional Notes
< 86 m	0	Tug required if vessel has any defect affecting navigational safety.
86m to 115m Bow Thruster	0	Tug required if vessel has any defect affecting navigational safety.
86m to 115 m No Bow Thruster	1	Tugs may be increased or decreased depending on vessel manoeuvring characteristics, weather etc...
115m to 150m No Bow Thruster	2	Tugs may be increased or decreased depending on vessel manoeuvring characteristics, weather etc...
115m to 150m Bow Thruster	1	Tugs may be increased or decreased depending on vessel manoeuvring characteristics, weather etc...
115m to 150m Bow Thruster and Twin Screw fitted	0	Tugs may be increased or decreased depending on vessel manoeuvring characteristics, weather etc...
> 150m	Apply to WHA	Individual vessel assessment required

3. Training of Tug Crews

Carlingford Lough Pilots are the service providers for pilots for Warrenpoint Harbour Authority. They are also the owners of the tugs used for berthing and unberthing large vessels at Warrenpoint.

During these operations, the tug masters are all qualified seafarers and are, or have been, Carlingford Lough pilots. It follows, therefore, that the tug crews, also qualified seamen, are constantly under the guidance and instruction of the pilots.

4. Procedure for Obtaining Towage Services

Towage within Warrenpoint Harbour is arranged through the local Shipping Agents.

The towage provider operating within the port can provide tug assistance at two hours' notice. Therefore the Master should request any tugs he/she requires through his/her Agent taking this notice period into consideration.

Direct contact details for the Towage Providers are provided in Annex I of this booklet.

In exceptional circumstances, should Port Control be asked to contact tugs on behalf of the Master, the type, size and number of tugs should be clearly stated.

In cases of emergency, that is when the Master or Pilot of a vessel deem that towage is required to safely execute a transit or manoeuvre **that has already commenced**, the Port Controller may in allocate any towage resources immediately available to go to the assistance of that vessel.

Nothing in this procedure prevents the Harbour Master from allocating towage to any vessel as he/she considers appropriate.

Except in cases of emergency or otherwise as directed by the Harbour Master, an inbound vessel requiring a tug for arrival will not be permitted to pass the Fairway Buoy until the tug has confirmed it is ready to be mobilised.

5. Tug Types Available Within the Port

There are currently 3 tugs permanently based within the port approaches, these fall into one established categories:

Conventional tugs (x 3)

1. **Conventional Tugs**

Single screw, twin screw or triple screw tugs, all called conventional tugs, are less manoeuvrable compared to tugs with omni-directional propulsion units.

Manoeuvrability of conventional tugs can be upgraded by installing specific rudder systems and/or bow thrusters. Another alternative is the use of steerable nozzles, which also increase manoeuvrability.

Details of each individual tug in the Port, including a description of their propulsion systems are provided in Annex II to this booklet.

6. Methods of Tug Usage

Warrenpoint Harbour Minimum Towage Guidelines specify the minimum number of tugs.

Escorting:

Active Escorting or indirect towing – (when the tug is dragged through the water by the tow line during transit) is not currently undertaken within the Port.

Passive Escorting, whereby a tug shadows the progress of a ship during the transit, is undertaken at Master's / Pilot's discretion.

Push / Pull

The push-pull operation means that the tug is connected to the assisted vessel by a short line and remains in close proximity to the vessel.

This enables the tug to push on the vessel, but then check/control the vessel by pulling-back on the short line.

Should only pushing be required, a tow line may not be necessary.

Due to the limited power of conventional tugs when running their propellers astern, their ability to pull-back on the line will be limited. As a rule of thumb, the maximum astern bollard pull of conventional tugs is approximately 65% of the ahead bollard pull.

When in Push / Pull use on conventional tugs will normally be bow-to the vessel.

On the line

On the line towing (also referred to as the European method as this is the traditional method of tug assistance in European ports) involves the towline being connected to the tug by a towing hook or towing winch. The location of the towing point will vary between tug types: conventional, ASD or Tractor.

When made fast to a vessel's bow:

The effectiveness of tugs towing on a line will decrease with increasing headway. This is because, as headway increases, more of the tugs power is used in maintaining its position relative to the vessel, as opposed to being applied as an assisting force through the towline.

When configured in a stern-to-stern tow:

The following safety matters should be taken into account by the ship:

- Speed of the ship should be kept low, preferably less than 3 knots and never over 4 knots.
- Ship's propeller use to be limited to Dead Slow Ahead/Dead Slow Astern; should more engine power be needed this should be done in consultation with the Tug's Master.
- Similarly, ship's rudder use should be such that it does not cause any problem for the tug.
- When approaching the berth the ship's speed is to be lowered to approximately 1 knot in good time to enable the tug to reposition / drop gob rope to assist in mooring.
- Beware that tug may need to release tow line at short notice should a risk of girting arise*.

***There are dangers associated with towing on the line; namely risk of girting and capsizing. Girting happens when the towline comes at right-angles to the tug. The tug is pulled bodily sideways through the water by its tow, which can lead to deck-edge immersion, flooding and capsize - unless the towline is released in good time. As a safety measure, all conventional tugs operating within Warrenpoint Harbour are equipped with gob rope systems and on load release hooks. A gob rope system (or similar system) keeps the tow line low and fixed to the after end of the tug and, when operating stern to stern, can prevent the tug veering off course and presenting a dangerous aspect to the direction of travel reducing the risk of girting.**

4. Towage other than Harbour Towage

The Master of a vessel engaged in towing or pushing, other than those engaged in harbour towage operations, shall give a minimum of 60 minutes notice to Port Control and shall specify the details of the tow.

Dead ship tows require the authorisation of the Harbour Master and are to be conducted in hours of daylight.

Vessels engaged in towing / pushing may only tow / push one other vessel / object at a time.

Tugs and tows will be subject to the Harbour's directions with regard to Pilotage.

5. Preferred VHF Etiquette When Working With Tugs

Establishing Communications:

Bridge to Bridge Communication between the vessel being assisted and the tugs should primarily be established on the port operations frequency, VHF Channel 12. Thereafter a working channel should be selected by the Pilot / Master of the vessel being assisted for all subsequent tug and berthing communications – Usually VHF Ch. 13 On changing to the working channel, all vessels should radio check with the Pilot / Master.

Prior to the berthing manoeuvre, the plan pertaining to each tug should be passed by the Master/Pilot. This will include:

- The position of the tug relative to the vessel.
- If lines are to be used and whether they will be tugs lines or ships lines (Note: tugs in Warrenpoint: Mourne Venture normally uses own line, Mourne shore and Valley use ships Lines).
- Method of use, eg. On the line, push/pull, escorting.
- Berthing instructions and whether the vessel will swing prior to berthing.

Tug Position

Throughout the manoeuvre the Master/Pilot should endeavour to keep the Tug's Master fully updated, with particular reference given to the desired position of the tug relative to the vessel. It should be borne in mind that it will take time for a tug to reposition during the operation, for example:

- From pushing to pulling (and vice versa).
- Pulling on stbd bow to pulling on port bow, etc.

This will mean the ship's Master / Pilot needs to anticipate the next required tug movement and communicate this to the tug in order to allow the Tug Master time to reposition:

- If working on the line, the tug may need time to change sides of the vessel or to change direction of thrust in the case of conventional tugs.
- If working in push/pull mode, the tug will need advance warning to either be **“out on the line”** ready to take the weight, or to **“come in ready to push”**.

Tug Pushing/Pulling instructions

In order to avoid possible confusion between differing bollard pull strengths of varying tugs, any instructions to tugs should state **force in Tonnes**.

<i>Examples of preferred VHF instructions between vessel and tug</i>	
Master/ Pilot	Mourne Venture, stand by to pull on stbd quarter
Tug	Mourne Venture ready to pull on stbd quarter
Master/ Pilot	Mourne Venture, 10 tonnes pull on stbd quarter
Tug	When power is on Mourne Venture pulling 5 tonnes
Master/ Pilot	Mourne Venture, increase to 10 tonnes pull
Tug	Increase to 15 tonnes When power has been increased Mourne Venture pulling 15 tonnes
Master/ Pilot	Mourne Venture, ease to 5 tonnes..... Pull 5 tonnes on stbd beam
Tug	When in new position and at new power setting Mourne Venture pulling 5 tonnes on stbd beam
Master/ Pilot	Mourne Venture, stop
Tug	When power is off Mourne Venture all stopped

Note:

The tug master will keep that power setting and position relative to the ship until instructed to do otherwise by the Master / Pilot.

Instructions with PORT or STARBOARD in them refer to the port or starboard side of the vessel being towed.

Annex I

Contact details for Towage Providers within the Port

Towage Provider	Contact Details
Carlingford Lough Pilots Ltd	Email: carlingfordloughpilots@yahoo.com +44 (0) 7831680934 (24 Hours) +44 (0) 7988139642

Note: *Tug ordering is undertaken by ship's agent under normal circumstances*

Annex II

Tug Information.

1. Mourne Venture
2. Mourne Shore
3. Mourne Valley

Mourne Venture



Main Details

Owners: Carlingford Lough Pilots Ltd.

Flag: UK IMO No: 8017384 O/N: 921438 GT: 168.5

NT: 36.69

LOA: 25.0M Loadline Length: 23.60M Breadth: 8.4M Draft: 4.1M Max

Built: 1981

Classification: RINA, C* Motorship, Unrestricted Navigation. Service Notation: Escort Tug.

Certification: UK Workboat Category 2 , UK Load Line Exemption.

Main Engine: MAN B&W Diesel V14T23LU, 1493KW Power.

Bollard Pull: 32.9T.

Propulsion: CPP Propeller.

External Fire Fighting Capabilities: Yes

Deck Equipment: Towing Hook (SWL 45T)

Mourne Shore



Main Details

Owners: Carlingford Lough Pilots Ltd.

Flag: UK O/N: 716979 GT: 101.0 NT: 89.0

LOA: 21.07M Breadth: 7.02M Draft: 3.0M Max Built: 1964, Germany.

Certification: UK Load line exemption certification.

Main Engine: Deutz Diesel, 6 Cylinder Turbo, 1077HP (788KW)

Bollard Pull: 14T

Propulsion: R/H 4 Blade fixed pitch propeller, Renk Gearbox.

Deck Equipment: Towing Hook (SWL 15T), Towing Winch with 200M wire.

Mourne Valley



Main Details

Owners: Carlingford Lough Pilots Ltd.

LOA: 17.67M Breadth: 5.13M Draft: 1.9M GT: 36.43

Built: 1961, UK.

Certification: UK Workboat Code, Category 3 (MECAL Ltd)

Main Engine: Lister Blackstone, 500HP.

Bollard Pull: 7T

Propulsion: Fixed 4 Blade R/H propeller, through Hindmarch MWD Gearbox.

Deck Equipment: Towing Hook, Towing winch with wire, A Frame and Plough for seabed levelling.

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